# APA handbook of clinical psychology


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APA Handbook of

# Clinical Psychology

*APA Handbook of Clinical Psychology: Applications and Methods*, edited by J. C. Norcross, G. R. VandenBos, D. K. Freedheim, and R. Krishnamurthy

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# APA Handbook of Clinical Psychology

VOLUME 3

## Applications and Methods

**John C. Norcross, Gary R. VandenBos, and Donald K. Freedheim,** ***Editors-in-Chief***

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# Volume Introduction



Welcome to Volume 3 of the five-volume *APA Handbook of Clinical Psychology,* which focuses on applications and methods. The contents of this volume represent the broad reach of our professional work. The applications of clinical psychology range from traditional, well-established expertise in assessment and psychotherapy to important contributions to prevention, research, education, and training. Clinical psychology also extends to relatively newer areas of consultation, administration, advocacy, and public policy. Each of these activities requires the use of psychological science and evidence-based methods, which lend substantial credibility to our specialty.

Our goal in this volume is to convey the vibrant status of clinical psychology in its many applications and methods within the broader arena of health care. In the process, readers will discover both substantial continuities with the profession's origins and new expressions and advances. We hope Volume 3 will enable readers to appreciate the strength of psychological methods and the breadth of psychology's application as we progress further into the 21st century.

## CONTENT AND FORMAT

Volume 3 is organized into four parts: Assessment, Treatment, Prevention, and Other Professional Activities. Part I, Assessment, appropriately begins with a chapter on the clinical interview, followed by a chapter on behavioral observations, reflecting the typical sequence of psychological assessment. The psychometrics chapter sets the stage for subsequent coverage of frequent assessment domains—mental ability, personality, psychopathology, neuropsychology, and forensics. Next are chapters devoted to other specific assessment applications, including vocational, couple and family, and health psychology. This section ends with chapters on case formulation and treatment planning and assessment with racial/ethnic minorities and special populations, both of which provide a useful segue into Part II.

Part II, Treatment, encompasses a broad range of current treatments conducted by clinical psychologists. It begins with chapters on the traditional modalities of individual, group, couple, and family therapies, incorporating recent developments in each, and then describes both pharmacological and biomedical treatments. Also represented are crisis intervention, community interventions, and self-help programs. The concluding chapters discuss positive psychology interventions and the newer areas of telehealth and eHealth, speaking to emerging needs and future directions.

Part III, Prevention, addresses prevention activities in three important areas—mental disorders, substance abuse, and interpersonal violence. These chapters underscore the relevance of clinical psychology in averting the development of individual and societal problems. Part IV, Other Professional Activities, rounds out the volume with the professional activities of clinical psychologists. The chapters consider consultation, administration, teaching, advocacy, and public policy. These activities have macro-level impacts, and several of these applications have moved our profession into new territories.

The 32 chapters of Volume 3 use a uniform format for reading ease and comprehensive scope. Each chapter begins with a description and definition of the topic and ends with a review of key accomplishments and future directions. All chapters are infused with content on three overarching themes: diversity, evidence-based practice, and international contributions.

Beyond these common components, some variations in chapter headings are based on the particular topic. Chapters in Parts I and II additionally describe principles and applications, major methods (tests, interventions), and limitations of the approaches. Research evidence and landmark contributions are presented in each chapter of the latter sections, discussed in the contexts of the knowledge base in Part III and landmark studies in Part IV. Part IV also describes core activities of clinical psychologists.



## ACKNOWLEDGMENTS

This volume is truly the product of an excellent collaboration. I express my sincere thanks to the contributing authors for providing their expert knowledge through their eloquent and engaging writings. I appreciate their patience with the inevitable multiple steps involved in publishing. Their timely responses, despite their busy schedules and numerous professional activities, are commendable. I am immensely grateful to the Editors-in-Chief—John C. Norcross, Gary R. VandenBos, and Donald K. Freedheim—for inviting me to participate in developing this volume. I admire their sharp vision and have much regard for their individual and collective perspectives on clinical psychology. I also greatly appreciate their collegiality, which brought a lightheartedness to our work along with the requisite task focus. Our project editor, Katherine Lenz, has been a delightful support throughout this process. Katherine's timely reminders in the form of gentle but firm nudges reveal her to be a master of tact and efficiency. Finally, I give my heartfelt thanks to my professional mentors. They led me to this place in my career where I enjoy a bird's-eye view of the beauty of my profession.

This volume is one in a series of five. In citing a chapter in this multivolume work, the following template is recommended:

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Radhika Krishnamurthy
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PART I

# ASSESSMENT

Chapter 1

# CLINICAL INTERVIEW

*John Sommers-Flanagan*

In one form or another, the clinical interview is unarguably the headwaters from which all mental health interventions flow. This remarkable statement has two primary implications. First, although clinical psychologists often disagree about many important matters, the status of clinical interviewing as a fundamental procedure is more or less universal. Second, as a universal procedure, the clinical interview is naturally flexible. This flexibility is essential because achieving agreement regarding its significance among any group of psychologists would otherwise be impossible.

Numerous factors affect how a particular clinical interview looks, sounds, and feels. These factors include, but are not limited to, (a) theoretical orientation; (b) clinician and patient preference; (c) clinical setting; (d) the purpose or goals of assessment, psychotherapy, or both; (e) patient diagnosis; (f) culture and acculturation; (g) treatment modality (e.g., individual vs. family; psychotherapy vs. pharmacotherapy); and (h) patient status (e.g., mandated vs. voluntary; adult vs. child). Despite this inherent variability, it is still possible to discern specific characteristics that are consistent across different clinical interviewing approaches. In this chapter, I focus on these unifying characteristics and summarize the collective knowledge about the clinical interview, including its empirical status, multicultural adaptations, specific assessment foci, applications with children and parents, and future directions.

## DESCRIPTION AND DEFINITION

The clinical interview has many different names. It can be referred to as an *intake interview, diagnostic interview, clinical assessment, assessment interview, psychiatric interview, initial interview*, or *first contact*. Other idiosyncratic terms are undoubtedly used in specific settings. However, each of these alternative names speaks to the placement of a clinical interview at the opening of treatment or referral. In this sense, the clinical interview is common parlance used to identify an initial contact that includes varying proportions of psychological assessment and biopsychosocial intervention. Thus, in the context of an interpersonal process, a given clinical interview may emphasize development of the therapeutic relationship, information gathering, case formulation and treatment planning, biopsychosocial interventions, or assessment and referral.

### Theory-Based Variations

As a procedure that flexes in the hands of individual clinicians, different definitions of clinical interviewing have been articulated. These definitions vary as a function of professional discipline (e.g., psychiatry vs. clinical psychology vs. professional counseling vs. social work); they also vary by theoretical orientation. For example, psychologists or psychiatrists who adhere to the medical model are likely to use clinical interviewing as a method for analyzing patient symptoms and diagnosing mental disorders. In these cases, professionals refer to their procedure as a psychiatric or diagnostic interview and structure the process using many specific questions from an outline or protocol (Sommers-Flanagan, Zeleke, & Hood, 2015).

In contrast, Murphy and Dillon (2011) defined the clinical interview from a social constructionist

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and social justice perspective. Consistent with their philosophical foundations, they referred to an interview as a conversation and emphasized the development of an egalitarian relationship. They wrote,

> We mean a conversation characterized by respect and mutuality, by immediacy and warm presence, and by emphasis on strengths and potential. . . . The emphasis on the relationship is at the heart of the "different kind of talking" that is the clinical interview. (p. 3)

The clinical interview is so flexible that clinicians frequently rename it to fit their theoretical perspective. For example, behavior therapists refer to it as a *behavioral interview*. The behavioral interview is a clinical interview that focuses on direct observation of patient behavior as well as patient behavioral self-report. In behavioral interviews, depending on clinician idiosyncrasies and preferences, relational factors may be deemphasized and are not at the heart of the interview process.

## Integrating Multicultural Competencies

Cultural diversity is a ubiquitous phenomenon that affects all interpersonal relationships. Consequently, psychologists are now expected to integrate multicultural competencies into all forms of assessment and treatment, including the clinical interview (Sommers-Flanagan & Heck, 2013). Expected multicultural competencies include (a) clinician self-awareness, (b) multicultural knowledge, and (c) culture-specific skills.

**Awareness.** Individuals from dominant cultures—including psychologists—are frequently unaware of their own culture while consistently noticing how individuals from minority cultures are different. This tendency can be problematic, especially because clinical interviews involve making judgments and diagnosing mental disorders. Clinicians who remain unaware of their own culture and cultural biases may inaccurately judge or label culturally specific behaviors as representing psychopathology instead of as variations from the dominant cultural norm (Sue & Sue, 2013). It is now consensus among researchers that, when clinicians receive multicultural training, treatment outcomes can be enhanced (Griner & Smith, 2006).

**Knowledge.** Culturally sensitive clinicians not only work to develop self-awareness, they also actively seek knowledge to educate themselves about diverse cultures. This education may include reading, supervision, consultation, and cultural immersion experiences (Hays, 2008). Without adequate cultural knowledge, clinicians will remain ignorant of many variables related to positive outcomes. Alternatively, some clinicians without adequate knowledge may find themselves turning to their patients for general cultural education, which is inadvisable. It is the professional psychologist's responsibility to obtain cultural education and then apply it sensitively in ways that are respectful of the patient's cultural background and unique individual characteristics.

**Skills.** Culture-specific skills are essential for working effectively with diverse patients. These skills can be as simple as using *charlar* (small talk) with Latino/a patients or as complex as initiating a spiritual ritual with an African patient. Treatment methods are relational acts (Norcross & Lambert, 2011), and using culturally specific skills is not only technically important but also critical for enhancing the therapeutic relationship.

# PRINCIPLES AND APPLICATIONS

Several overlapping principles and applications guide psychologist behavior during the clinical interview. These include (a) the general interview goals, (b) specific interview objectives, (c) interview stages, (d) specific interviewing strategies, and (e) cultural adaptations.

## General Interview Goals

Two overarching goals characterize the clinical interview: clinical assessment and therapeutic helping. These goals are inseparable. Although some interviews focus more on assessment and less on helping and others focus more on helping and less on assessment, both activities are always happening during a clinical interview.

Assessment and helping are two sides of the same coin. Assessment is a foundation of effective helping, and therapeutic helping is the whole point of assessment. Some clinicians are inclined toward more implicit assessment processes. In these cases, the assessment procedure being used may not be perfectly clear. Nevertheless, all clinicians are engaging in one form of assessment or another, and their assessment informs what they say and do during a given interview. Similarly, it sometimes appears that a clinician is focusing purely on assessment (e.g., conducting a mental status examination). However, because assessment implies that helping is on the way, helping is always happening, even if only in the form of activating patient hope that assessment will shed light on the problem and thus provide a guide for treatment.

## Specific Interview Objectives

Beyond the general goals of assessment and helping, during an interview clinicians focus on one or more of five specific objectives:

1. the initiation of a therapeutic relationship or working alliance;
2. information gathering;
3. case formulation and treatment planning;
4. implementation of biopsychosocial interventions; and
5. assessment and referral.

Every clinical interview will inevitably address relationship development, clinical assessment, or both. Depending on the clinician's theoretical orientation and other factors, case formulation or implementation of a biopsychosocial intervention may be added to basic relational and assessment goals. For example, psychologists operating from a solution-focused model minimize relational, assessment, and case formulation objectives; instead, they quickly focus on solutions (a psychosocial intervention).

In other situations, a single clinical interview may address the whole range of interviewing objectives. For example, a psychologist working in an emergency mental health setting may need to quickly establish rapport, gather information, formulate a treatment plan (and collaboratively discuss this plan with the patient), and then implement an intervention or make a referral (Sommers-Flanagan et al., 2015).

**Building the therapeutic relationship.** As an entry point for psychological treatment, clinical interviewing includes a focus on and nurturing of the therapeutic relationship (e.g., Bordin, 1979; Norcross, 2011). Efficacious psychotherapy not only involves the implementation of evidence-based methods or techniques but also integrates evidence-based relational behaviors into the process.

Most psychotherapy textbooks and clinical lore correctly attribute an increased focus on the psychotherapy relationship to Carl Rogers (Rogers, 1957; Sommers-Flanagan & Sommers-Flanagan, 2012). Rogers articulated three core conditions of psychotherapy that he believed were directly linked to positive outcomes: (a) congruence, (b) positive regard, and (c) empathic understanding. Rogers (1961), as well as his daughter Natalie Rogers (Sommers-Flanagan, 2007), emphasized that these conditions are not simple behavioral skills but that they also include attitudinal components. What this means is that when clinicians want to establish a therapeutic relationship during a clinical interview, they enter into the relationship with these three attitudes.

Rogers's (1961) core conditions also have direct behavioral implications for interviewing. Congruence involves open disclosure, including disclosure about clinician approach, intent, and expected procedures. Congruence involves honest communication. Openness and self-disclosure appear to be especially important when clinicians from a dominant cultural paradigm work with minority patients. Without open disclosures that signal acceptance or positive regard, minority patients may not perceive a clinician from the dominant culture as trustworthy (Sue & Sue, 2013). These disclosures may also be nonverbal or symbolic, as in situations in which clinicians use office decor to express cultural sensitivity.

When clinicians use positive regard, they communicate acceptance of patients' emotions and experiences. This does not mandate an endorsement of all patient behaviors as acceptable but instead an acceptance of all patient emotions. Patient behaviors may be accepted as representing patients' sincere efforts at dealing with personal experiences, but they may also be confronted as discrepant with patients' feelings or intentions.

Empathy has been written about extensively in the psychotherapy literature and has many dimensions. During an initial interview, empathic responding may include technical skills, such as using paraphrasing and reflection of feeling. In addition, empathic interviewers sometimes resonate with patients in ways that cause them to feel emotions along with their patients.

Beyond Rogers's (1961) core conditions, psychologists also engage in a variety of behaviors and procedures to develop therapeutic relationships. One of the most important of these behaviors is informed consent. Informed consent involves the patient's right to know about and consent to specific medical or psychological treatments. Regardless of patient status (e.g., adult, minor, voluntary, or mandated), informed consent requires that clinicians educate patients about what to expect during initial interviews and ongoing psychotherapy. Originally a feminist principle, it now represents an ethical requirement (American Psychological Association, 2010) and an essential relational dimension of all initial interviews (Brown, 2010). Informed consent involves verbal and written disclosure of the psychotherapy process and likely outcomes.

At a minimum, informed consent can be reduced to having patients sign Health Insurance Portability and Accountability Act forms. Alternatively, when discussed openly and interactively, informed consent can enhance rapport and contribute to a collaborative working relationship between psychologist and patient. This distinction is important in the clinical interview because empathy, goal consensus, and collaboration contribute to favorable psychotherapy outcome (Norcross, 2011). Consequently, if psychologists are integrating evidence-based principles, informed consent during the clinical interview should be open, engaging, and collaborative.

Collecting patient feedback and systematically monitoring patient progress are relatively recent developments in psychotherapy (Norcross, 2011). Progress monitoring essentially involves clinicians developing a process for consistently asking patients, "How effective is our work addressing your problems? How satisfied are you with the treatment method and the therapy relationship?" Evidence has accumulated showing that patients respond better to treatment when they have opportunities to provide feedback about their satisfaction with and response to treatment (Lambert & Lo Coco, 2013; Lambert & Shimokawa, 2011). Foundations for integrating patient feedback and progress monitoring into psychotherapy should be built during initial clinical interviews.

**Information gathering or clinical assessment.** The natural question associated with assessment is "What information should be gathered?" The answer to this question varies broadly. In some situations, psychologists are expected to quickly formulate and establish psychiatric diagnoses based on *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* (*DSM–5*; American Psychiatric Association, 2013) or *International Classification of Diseases, 10th Edition* (World Health Organization, 1992) criteria. Consequently, a protocol might include specific diagnostic-related questions or use of a standardized, structured diagnostic interview. In other situations, the focus is on assessment of patients' cognitive or mental functioning, and a mental status examination may be administered. In still other situations, clinicians use specific assessment models or instruments consistent with their theoretical orientation or past clinical training. For example, a common opening assessment question from a solution-focused perspective is "If we have a successful session today, what will have happened?" Alternatively, clinicians may use an informal approach to assessment consistent with evidence-based practice (e.g., "What seems to be the most pressing problem that you'd like to focus on during our time together today?").

**Case formulation, treatment planning, and biopsychosocial intervention.** Although integrating case formulation, treatment planning, and biopsychosocial intervention in clinical interviewing is desirable when possible, traditional interviews involve more assessment and less treatment. Therefore, in the remainder of this chapter, I focus on the assessment dimension of clinical interviewing—with an acknowledgment or infusion of relational and intervention principles as appropriate. Many psychologists acknowledge that it is impossible to draw a line between where assessment ends and treatment begins.

## Interview Stages

All clinical interviews have a general structure or process that clinicians follow. Shea (1998) articulated this structure and identified five atheoretical stages common to a traditional interview: (a) introduction, (b) opening, (c) body, (d) closing, and (e) termination. Shea's generic model is flexible and can be applied to all interviewing situations.

## Specific Interview Strategies

The basic strategies that clinicians use during a clinical interview range from the simple and straightforward to the complex and subtle. Every interview includes a unique mix of nonverbal and verbal listening, questioning, and directing behaviors. Several writers have offered strategies for organizing the range of responses available to clinical interviewers. Hill (2014) organized interviewer responses into three broad categories based on the patient behavior the interviewer is trying to facilitate: (a) exploration, (b) insight, and (c) action. Sommers-Flanagan and Sommers-Flanagan (2014) organized interviewer methods into (a) attending behaviors, (b) nondirective listening behaviors, (c) directive listening behaviors, and (d) directives or action skills. The Hill and Sommers-Flanagan models are similar, with the latter model focusing more on interviewer behaviors and discriminating between listening behaviors that are less and more directive. In Table 1.1, interviewer strategies are briefly summarized into a system that distinguishes between interviewer nonverbal and verbal behaviors (see Hill, 2014; Sommers-Flanagan & Sommers-Flanagan, 2014).

## Cultural Adaptations

A clinical interview is a first impression, and first impressions are powerful influences on later relational interactions. Following recommendations and guidance from psychotherapy research on cultural adaptations can help clinicians establish more positive connections with diverse patients during an initial interview. Guidelines for multicultural adaptations include

- using small talk and self-disclosure with some cultural groups;
- when feasible, conducting initial interviews in the patient's native language;
- seeking professional consultations with professionals familiar with the patient's culture;
- avoiding the use of interpreters except in emergency situations;
- providing services (e.g., childcare) that help increase patient retention;
- oral administration of written materials to patients with limited literacy;
- being aware of and sensitive to client age and acculturation;
- aligning assessment and treatment goals with clients' culturally informed expectations and values;
- regularly soliciting feedback regarding progress and client expectations and responding immediately to client feedback; and
- explicitly incorporating cultural content and cultural values into the interview, especially with patients not acculturated to the dominant culture (see Griner & Smith, 2006; Hays, 2008; Smith, Domenech Rodríguez, & Bernal, 2011).

Cultural awareness, cross-cultural sensitivity, and making cultural adaptations are especially important to assessment and diagnosis, partly

TABLE 1.1

**Clinical Interviewing Behaviors or Strategies**

| Nonverbal | Verbal |
|---|---|
| **Listening** | |
| Silence | Minimal encouragers (e.g., "uh huh," "yes," "go on") |
| Head nodding | Paraphrasing |
| Open body posture | Reflection of feeling |
| **Questioning** | |
| Leaning forward | Open questions |
| Raising eyebrows | Closed questions |
| Anticipatory gaze | Presuppositional questions |
| | Projective questions |
| **Directing** | |
| Pointing (e.g., to a seat) | Suggesting |
| Holding up a hand (as a stop signal) | Giving advice |
| | Providing information or psychoeducation |

because mental health professionals have a long history of inappropriately or inaccurately assigning psychiatric diagnoses to cultural minority groups (Paniagua, 2014). To address this challenge, the *DSM–5* (American Psychiatric Association, 2013) includes a Cultural Formulation Interview (CFI) protocol to aid the diagnostic interview process.

The CFI is a highly structured brief interview. It is not a method for assigning clinical diagnoses; instead, its purpose is to function as a supplementary interview that enhances the clinician's understanding of potential cultural factors. It may also aid in the diagnostic decision-making process. The CFI includes an introduction and four sections (composed of 16 specific questions). The four sections include

1. cultural definition of the problem;
2. cultural perceptions of cause, context, and support;
3. cultural factors affecting self-coping and past help seeking; and
4. cultural factors affecting current help seeking.

Questions in each section are worded in ways to help clinicians collaboratively explore cultural dimensions of their clients' problems. Question 2 is a good representation: "Sometimes people have different ways of describing their problem to their family, friends, or others in their community. How would you describe your problem to them?" (American Psychiatric Association, 2013, p. 481).

Clinicians are encouraged to use the CFI in research and clinical settings. There is also a mechanism for users to provide the American Psychiatric Association with feedback on the CFI's utility. It may be reproduced for research and clinical work without permission.

## Applications With Children and Parents

The purpose, principles, and stages of the clinical interview are generally consistent across different treatment populations. For both adult and child patients, it remains imperative for psychologists to intentionally focus on general interview goals and specific objectives while weaving interviewing strategies and cultural adaptations into the typical interview stages as needed. However, clinical work with children and parents includes several unique considerations.

When interviewing children and parents, it may be difficult to answer the simple question "Who is the client?" This is because children and their parents or caretakers often have competing needs and interests and may be in the midst of substantial conflict. Consequently, beginning with the initial contact, clinicians must balance the needs and interests of parents with the needs and interests of the child.

Because of the potential relational benefits and pitfalls associated with having an initial interview alone with parents, alone with a child, or with parents and child together, psychologists need to establish a clear initial interviewing rationale and procedures. Decision making about whom to interview first is usually based on the child's age and clinician theoretical orientation. Generally, the younger the child, the more likely it is for clinicians to begin with a parent interview. In contrast, when working with preadolescents or adolescents, meeting separately with a parent for an initial interview is likely to adversely affect the later development of a therapeutic alliance with the child. In addition, many family therapy treatment models require that initial interviews include the whole family. Whatever approach is selected, psychologists need to be clear about their rationale and be able to explain it to the parent and child.

Establishing unambiguous informed consent and ethical boundaries is essential to child and parent interviews. With minor children, the parents hold rights to their child's mental health records and must sign the informed consent. Children should also assent to treatment, which may involve the signing of an official document. For both parents and children, informed consent and child assent should clearly spell out expected communication boundaries. At a minimum, informed consent and assent should include both written and verbal explanations of the following issues:

- the nature of confidentiality (including how telephone or email communications from parent and child will be handled);
- how paper and electronic records will be kept secure;

- specific discussions of when and how, if needed, confidentiality will be breached; and
- specific discussion of when and why a family or individual session might be convened.

In some cases, an assessment interview may be conducted with a child and parents in which the sole purpose is to recommend a specific treatment or provide a referral. For example, psychologists may provide a one- or two-session clinical interview along with psychological testing for assessing violence potential, disability, learning disorders, attention deficit disorder, or other specific problems. In these and all cases, using interpersonal and cultural sensitivity to offer collaborative feedback to parents and children is a central part of the clinical interviewing process.

## LIMITATIONS OF THE CLINICAL INTERVIEW

Most critiques of clinical interviewing focus on the limitations of interviewing as an assessment procedure. Although all assessment approaches have limitations, interviewing in general and less structured interviewing approaches in particular do not meet scientific standards for reliability and validity. From the medical and diagnostic perspective, the only interview approach that is objective enough to have acceptable psychometric properties is the structured diagnostic interview. Even so, adequacy of the reliability and validity of diagnostic interviewing has also been questioned. In the domain of psychological assessment, there has long been evidence indicating that actuarial prediction methods are superior to clinical methods, such as the clinical interview (Faust, 2013; Meehl, 1954).

Several problems inherent to clinical interviewing tend to reduce its reliability and validity. These same problems can also reduce its effectiveness or efficacy as a therapeutic strategy. These problems include (a) patients providing inaccurate historical or symptom-related information (possibly because of cultural factors, social desirability, or intentional efforts to deceive); (b) clinician countertransference; (c) diagnostic complications, such as comorbidity; (d) confounding cultural or situational factors; (e) lack of clinician cultural competence; and (f) clinicians who are disinclined to use structured diagnostic protocols. Each of these limits the reliability, validity, and efficacy of the clinical interview as a method for clinical assessment or therapeutic helping.

## MAJOR METHODS

As an assessment procedure, the clinical interview has four primary variations:

1. intake interview (also known as psychosocial history)
2. suicide assessment
3. mental status examination (MSE)
4. structured diagnostic interview

These assessment foci may overlap out of necessity. For example, if a patient has suicide risk factors or discloses suicide ideation during an intake interview, the focus may shift to suicide assessment and then back to traditional intake interviewing content.

Clinical interviews are often categorized on the basis of their structure. For example, a psychodynamically oriented interview is considered unstructured because clinicians frequently prompt patients to say whatever comes to mind. In contrast, the MSE is categorized as a semistructured interview. In a semistructured interview, clinicians follow fairly tight guidelines and ask predetermined questions, but there can be flexibility and spontaneity within the structure. Finally, a structured clinical interview is a protocol or process wherein clinicians ask a series of predetermined questions, including predetermined follow-up questions. In the following sections, variations on the clinical interview are described in order of increasing structure.

### Intake Interview or Psychosocial History

Historically, intake interviewing involved an interactive therapist–patient process lasting from 1 to 4 hours. This process was distinct and preceded formal psychological treatment. However, the assessment function of clinical interviews is now usually briefer. In particular, in managed care and in other

time-limited health care settings, there may be little time and reimbursement for formal assessments. Despite these recent developments, most therapeutic approaches still include some psychosocial history taking. Formal clinical assessment typically encompasses one 90-minute session or two 50-minute sessions.

The intake interview includes three overlapping objectives: (a) identifying, evaluating, and exploring the patient's chief complaint and associated therapy goals; (b) obtaining data related to the patient's interpersonal style, interpersonal skills, and personal (or psychosocial) history; and (c) evaluating the patient's current life situation and functioning (Sommers-Flanagan & Sommers-Flanagan, 2014).

**Chief complaint and patient goals.** Most patients come to initial sessions in distress and make efforts to articulate their distress. This communication about the particulars of their distress is typically referred to as the patient's chief complaint. To help facilitate patients' communication about their chief complaint, clinicians often begin sessions with a variant on the questions "What brings you here at this time?" or "How can I help you?"

Intake interviewing includes collaborative goal setting. Although focusing on patient distress and problems can increase motivation, too much focus on problems can cause discouragement. Consequently, it is also important for clinicians to help patients identify and look toward future goals. Clinicians help patients articulate both the distress they want alleviated and the goals toward which they are striving.

**Psychosocial history.** Depending on professional setting and theoretical orientation, the psychosocial history may become either the biggest or smallest focus during an initial clinical interview. For example, a solution-focused therapist working within a time-limited model will have little focus on the patient's psychosocial history. In contrast, clinicians working from a psychodynamic model with patients who are paying privately may obtain a more detailed psychosocial history.

After gathering information about the chief complaint, clinicians typically make a transition statement, thereby refocusing the interview on the psychosocial history, for example,

> So far, we've spent most of our time discussing the concerns that led you to come for counseling. Now I'd like to try to get a better sense of you. One of the best ways for me to do that is to ask questions about your past. (Sommers-Flanagan & Sommers-Flanagan, 2014, p. 215)

At this point, a psychodynamic interviewer is likely to use a nondirective lead (e.g., "Tell me about whatever you recall from your childhood"). In contrast, if cognitive–behavioral therapists focus on historical material, they gather concrete information pertaining to the history of the presenting problem (e.g., "Describe the first time you noticed you had an anger problem and walk me through it like we are watching it on a video recording").

Clinicians who gather psychosocial history information often use a comprehensive outline to guide their questioning. They do so because it is difficult for clinicians to recall all the different psychosocial and historical domains that might be relevant to treatment. Table 1.2 includes an outline and sample questions for many history content areas.

**Patient's current situation.** A common temporal flow during an intake interview is from the present (chief complaint and goals), to the past, and then back to the patient's current situation. Returning to a description of the patient's current situation toward the end of an intake interview may feel repetitive. However, it also reorients patients back to their present situation and future goals. In addition, helping patients talk in detail about their current life situation broadens the scope from a narrower focus on chief complaint or problem to the whole of the patient's daily experiences. Finally, returning to an exploration of the current situation also includes a reorientation to current psychotherapy tasks, such as scheduling the next appointment, providing referral recommendations, or prescribing homework assignments.

## Suicide Assessment Interviews

Clinical psychology naturally involves working with patients who are in emotional distress and possibly suicidal. When this matter arises, it is customary

TABLE 1.2

**Psychosocial History Categories and Sample Clinical Interview Questions**

| Content areas | Sample questions |
|---|---|
| 1. First memories | What is your first memory? |
| 2. Descriptions of parents or caretakers | Give me three words to describe your mother (or father). |
| 3. Descriptions of siblings | Do you have any brothers or sisters? (If so, how many?) |
| | What memories do you have of time spent with your siblings? |
| 4. Elementary school experiences | What was your favorite (or best) subject in school? |
| | Describe the worst trouble you were in during school. |
| 5. Peer relationships (in and out of school) | What did you do for fun with your friends? |
| | Did you get along better with boys or girls? |
| 6. Middle school, high school, and college experiences | Were you in any special or remedial classes? |
| | Who was your favorite (or least favorite) teacher? |
| | What made you like (or dislike) this teacher so much? |
| 7. First employment and work experience | What positive and negative job memories do you have? |
| | Have you ever been fired from a job? |
| 8. Military history and experiences | What was your final rank? Were you ever disciplined? |
| | What was your offense? |
| 9. Romantic relationship history | What do you look for in a romantic partner? |
| 10. Sexual history (including first sexual experience) | What is important to you in sexual relationships? |
| | Have you had any bad or difficult sexual experiences? |
| 11. Aggression history | When was your last physical fight? |
| | Have you ever used a weapon in a fight? |
| 12. Medical or health history | Did you have any childhood illnesses or diseases? |
| 13. Mental health history | Have you been in therapy before? |
| | Have you ever taken medication for psychiatric problems? |
| 14. Alcohol and drug history | When did you last use alcohol or drugs? |
| 15. Legal history | Have you been arrested or ticketed for an illegal activity? |
| 16. Recreational history | What is your favorite recreational activity? |
| 17. Developmental history | What was your birth weight? |
| 18. Spiritual or religious history | What is your religious background? |
| | What are your current religious or spiritual beliefs? |

*Note*. From *Clinical Interviewing* (5th ed., pp. 220–223), by J. Sommers-Flanagan and R. Sommers-Flanagan, 2014, Hoboken, NJ: Wiley. Copyright 2014 by John Wiley & Sons, Inc. Adapted with permission.

practice for clinicians to immediately shift to conducting a suicide assessment interview.

Suicide assessment involves using one of three main approaches: suicide-related self-report questionnaires, suicide risk assessment, and suicide assessment interviewing. To some extent, these three approaches overlap. For example, suicide risk factor assessment is incorporated into self-report questionnaires as well as suicide assessment interviewing. Nevertheless, these approaches have distinct qualities. Although clinicians conducting suicide assessments may use self-report questionnaires and suicide risk factor checklists, the clinical suicide assessment interview is characteristically relational. In particular, Jobes (2006) developed an approach emphasizing interpersonal connection titled *collaborative assessment and management of suicide*. This approach focuses on collaboratively using an assessment device, the Suicide Status Form, to understand the specific nature of patient distress and develop plans to address this distress.

Standard suicide assessment interviewing protocols include an evaluation of five components: (a) suicide risk factors (including an assessment of depression and hopelessness), (b) suicide ideation, (c) suicide plan, (d) suicide intent, and (e) patient self-control/agitation. In addition, because clinical assessment interviews include intervention components, suicide assessment interviews also include brief suicide interventions. These interventions

may be wide ranging but most commonly include collaborative development of a safety plan (Jobes, 2006; Shea, 2002; Sommers-Flanagan & Sommers-Flanagan, 2014).

## Mental Status Examination

The MSE is designed to quickly and efficiently organize, evaluate, and communicate information about a patient's current mental state (Strub & Black, 1999). It provides a snapshot of patient functioning at a particular moment in time. An MSE is neither a diagnostic interview nor a formal intellectual (or cognitive) assessment. However, it can provide information relevant to diagnosing mental disorders and formal cognitive assessments.

The demanding nature of an MSE can adversely affect relationship development. To use an MSE to facilitate collaborative relationships, it is important to explain and frame the purpose of the MSE. This makes it especially important to engage in friendly small talk before formally initiating an MSE. The following introductory comments are provided as an example:

> In a few minutes I'll start a more formal method of getting to know you that involves asking you lots of questions. It will include easier and harder questions, some questions that might seem different or odd, and even a little mental math. This interview is just a standard process to help me to get to know you better and for me to understand a little more about how your brain works. As we go through this interview you can ask me questions at any time and I'll try my best to answer them. Do you have any questions before we start? Are you ready? *[Hopefully you will get an affirmative answer here. If not, keep answering questions and chatting or conversing about the process and anything else that seems necessary.]* (Sommers-Flanagan & Sommers-Flanagan, 2014, p. 528)

MSEs are organized and reported using a consistent format. This format varies slightly depending on setting. In some settings, the focus may be neurological; other settings may have a psychiatric focus. In this section, I describe a traditional psychiatric MSE. The following nine items are the main categories covered in a psychiatric MSE, and they are listed in the order in which they are typically covered in an MSE report:

1. appearance
2. behavior or psychomotor activity
3. attitude toward examiner (interviewer)
4. affect and mood
5. speech and thought
6. perceptual disturbances
7. orientation and consciousness
8. memory and intelligence
9. reliability, judgment, and insight.

During an MSE, clinicians obtain information related to each of the preceding categories. This information is gathered through direct questioning and inferred through observation. For example, the examiner does not ask any questions pertaining to appearance but only makes observations about patients' appearance.

The result of an MSE is typically a summary of the patient's functioning—in an assessment note, in a report, or at least in the clinician's head. Here is a sample summary of a MSE conducted on a patient with positive functioning:

> Lucia Rodriguez, a 24-year-old Latina woman, was open, pleasant, and cooperative during the interview. She was well groomed and looked somewhat younger than her stated age. She was fully oriented ×3 and alert. Her speech was clear, coherent, and of normal rate and volume. Her affect was euthymic and stable. She rated her mood as an 8 on a 0–10 scale, with 0 being completely down and depressed and 10 being as happy as possible. She indicated that she is typically a "positive person." Lucia reported no current obsessional thoughts, psychotic symptoms, or suicide ideation. She has no significant mental health history. Her intellectual ability is probably in the above-average to superior range. She completed serial sevens and other

concentration tasks without difficulty. Her cognitive skills, including memory and abstract thinking, were intact. Her responses to questions pertaining to social judgment were positive and well developed. Overall, she appeared forthright and reliable. Her insight and judgment were good.

## Structured Diagnostic Interviews

As a data-gathering method, clinical interviews are judged by the same psychometric standards as standardized assessment instruments. Consequently, to enhance the clinical interview as a method for making diagnostic decisions, specific interviewing protocols referred to as structured interviews have been developed. The central focus of a structured diagnostic interview is on gathering reliable and valid assessment data to enable accurate diagnosis of mental disorders.

Structured diagnostic interviews usually include a series of questions (protocols) focusing on symptoms associated with specific mental disorders. Diagnostic interviewing protocols are strictly followed, and clinicians read questions verbatim. Although this process may sound straightforward, diagnostic interviews also rely heavily on clinician judgment. For example, the clinician must determine the meaning of the patient's response and then determine, on the basis of that response, which question should be asked next. Although the vast majority of questions are preestablished, it is up to clinicians to decide if and when to move to a new line of questioning and if and when to move to another branch of a diagnostic decision tree. In most cases, training and supervision in diagnostic interviewing are required to ensure diagnostic reliability. Structured diagnostic interviews show greater diagnostic reliability and validity than unstructured clinical interviews (Lobbestael, Leurgans, & Arntz, 2011).

There are two main structured diagnostic interview subtypes: broad or comprehensive interview protocols keyed to the *DSM* system and more narrow or circumscribed interview protocols for use with specific symptom clusters or mental disorders. The Structured Clinical Interview for *DSM–IV* Axis I Disorders (SCID–I; First et al., 1997) is an example of a broad and comprehensive structured diagnostic interview. It is designed to assess for the presence of the major Axis I *DSM* mental disorders (of course, because the *DSM–5* no longer uses multiaxial diagnoses, it would be more accurate to say the SCID–I focuses on the assessment of all *DSM* mental disorders, other than the personality disorders).

The SCID–I is a good structured diagnostic interview prototype. Two forms of the SCID–I exist: (a) the Clinician Version for *DSM–IV* Axis I Disorders and (b) the Research Version for *DSM–IV* Axis I Disorders. There is also a SCID for *DSM–IV* Axis II (personality) disorders.

The SCID is nearly completely structured. The only deviations from protocol during SCID administration are "parenthetical questions" to be asked as needed and sections in which clinicians are prompted to use the patient's own words when constructing required or parenthetical questions. Otherwise, questions on the SCID are asked verbatim.

The SCID's development and utility illustrates past and potential future conflicts between clinical interviewing research and practice. The purpose of the SCID's development was to establish a reliable and valid approach to psychiatric diagnoses. Initially, the SCID was a compromise designed for both clinicians and researchers. However, researchers found the initial version lacking in structure and detail, and clinicians believed it was too cumbersome for routine clinical practice. Consequently, the separate clinical and research versions for Axis I disorders were developed. This is an example of how the needs for clinical research and clinical practice are sometimes in conflict; obviously, both perspectives are important and can inform one another. Unfortunately, even as a simplified protocol, the clinical version of the SCID is not often used for routine practice, partly because it takes approximately 45 to 90 minutes to administer.

Narrower or circumscribed structured and semistructured diagnostic interview protocols are available for use within clinical interviews. Many of these are symptom or disorder specific (rather than keyed to the *DSM*), briefer, and more easily integrated into clinical practice. For example, the Hamilton Rating Scale for Depression is a 17-item scale that can be used repeatedly to evaluate the range and depth of

patients' depressive symptoms. In a 49-year meta-analysis of 409 studies, an international research group concluded that the Hamilton Rating Scale for Depression was a reliable assessment procedure for clinical depression with an overall interrater reliability alpha coefficient of .937 (Trajković et al., 2011).

Diagnostic clinical interviews are also available for use with children and parents. In many ways, this is a challenging proposition, particularly with regard to achieving adequate interview reliability and validity. This is partly because it is unusual for parent–child dyads to completely agree on family dynamics, daily activity reporting, or patient symptoms. Nevertheless, researchers have created diagnostic interviewing protocols that include both child and parent versions. These protocols are used to collect assessment data for diagnosing mental disorders. Examples include broad diagnostic protocols such as the Child Assessment Schedule (Hodges et al., 1982), as well as more narrow mental disorder–specific diagnostic interviews (e.g., the Anxiety Disorders Interview Schedule for Children; Silverman & Nelles, 1988).

## KEY ACCOMPLISHMENTS

Substantial advancements have been made in clinical interviewing research and practice. These advances include the application of clinical interviewing approaches across a wide range of settings and populations. As a consequence, clinical interviews can now be brief or extensive; they can be highly structured, semistructured, or unstructured; they also focus on virtually every potential psychiatric diagnosis as well as conditions outside current diagnostic nomenclature; and they are applied to populations across the life span (e.g., children, adolescents, adults, couples, parents and caregivers, elderly people).

In addition, there have been five key accomplishments in the clinical interviewing field:

- Theoretical integration: As an approach to assessment and therapeutic helping, there are now several generic or theoretically neutral models for conducting clinical interviews. These models can be viewed as a first step toward developing more sophisticated integrated interviewing approaches.
- The availability of structured diagnostic interviewing protocols: These protocols hold great promise for future research and for improving interview reliability.
- Motivational interviewing: Research and development of motivational interviewing (Miller & Rollnick, 2013) as a interview-based and evidence-based approach to treating substance-related disorders and other psychiatric conditions is a substantial advancement.
- Collaborative suicide assessment interviewing: There has been a major transformation of suicide assessment and intervention from medical-model approaches to patient-centered, relational-based interviews (Sommers-Flanagan & Sommers-Flanagan, 2014).
- Integration of evidence-based relationships: There has been a crucial shift toward greater use of the therapeutic relationship when conducting clinical interviews (Norcross, 2011).

## FUTURE DIRECTIONS

The clinical interview is a flexible and practical tool for assessment and therapeutic helping. As such, it has a strong and robust future. The clinical interview in its many forms will continue to be the preferred method for initiating psychotherapy, pharmacotherapy, and other health care interventions. It will also continue to be the primary vehicle through which clinicians (a) establish a therapeutic relationship, (b) gather assessment information, (c) engage in case formulation and treatment planning, (d) implement biopsychosocial interventions, and (e) provide assessments and offer referrals.

Future directions are likely to be driven, at least in part, by the inherent tension between quantitative (nomothetic) and qualitative (idiographic) clinical interviewing dimensions. For example, as we have seen in recent years, there will be a continued push toward developing procedures to address specific symptoms and diagnostic conditions. On this side of the dialectic, we will see more detailed protocols for diagnosis, assessment, and treatment. On the other

side of the dialectic, clinicians embracing more idiographic assessment and therapeutic approaches will push for clinical interviewing to remain an interpersonally rich process for initiating psychotherapy.

There is a danger that proponents of each perspective (the quantitative vs. the qualitative) will summarily dismiss and discount competing perspectives, creating increased polarity of views within professional psychology. The alternative future is one that instead emphasizes dialectical learning and integration. If this alternative future prevails, then clinical interviewing knowledge and skill will be deeply informed by both qualitative and idiographic as well as quantitative and nomothetic perspectives. In particular, integration of a deeper understanding of the complex multicultural ways of being into the clinical interview will become increasingly present.

It is likely that accurate diagnosis of mental disorders will remain vitally important to effective treatment. Although this is most likely to be the case in medical settings, the medical model will continue to influence practice standards in other settings (e.g., community, school). As a consequence, the future will undoubtedly include a greater focus on the science of assessment, especially as it pertains to diagnostic reliability and validity. This will move many practitioners toward using, to some extent, more structured diagnostic assessment procedures. These trends will also result in a closer commingling of formal psychological testing, including the collection and integration of actuarial data to drive clinical interviewing assessment feedback and referral options.

Although some traditional psychologists and mental health providers will resist, the future will include greater access to online clinical services. If ethical and legal standards are designed that keep pace with public access to online clinical services, then there will be a growing number of online providers who use valid and reliable clinical interviewing methods to inform the treatments they provide.

When it comes to predicting the future of the clinical interview, neuroscience is the wildcard. At present, it remains difficult to predict how the current popularity and progress of neuroscience will affect clinical assessment, psychotherapy, and referral alternatives. However, no matter how the future integration of neuroscience into clinical practice unfolds, the clinical interview, along with its traditional interpersonal components, will retain, at least to some extent, its central role in all forms of mental health assessment and intervention.

## References

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: American Psychiatric Publishing.

American Psychological Association. (2010). *Ethical principles of psychologists and code of conduct, including 2010 amendments*. Retrieved from http://www.apa.org/ethics/code/index.aspx

Bordin, E. S. (1979). The generalizability of the psychoanalytic concept of the working alliance. *Psychotherapy: Theory, Research, and Practice*, *16*, 252–260. http://dx.doi.org/10.1037/h0085885

Brown, L. S. (2010). *Feminist therapy*. Washington, DC: American Psychological Association.

Faust, D. (2013). Increasing the accuracy of clinical judgment (and thereby improving patient care). In G. P. Koocher, J. C. Norcross, & B. A. Greene (Eds.), *Psychologists' desk reference* (3rd ed., pp. 26–31). New York, NY: Oxford University Press.

First, M. B., Spitzer, R. L., Gibbon, M., & Williams, J. B. W. (1997). *Structured Clinical Interview for* DSM–IV *Axis I disorders (SCID–I)*. New York, NY: Biometric Research Department.

Griner, D., & Smith, T. B. (2006). Culturally adapted mental health intervention: A meta-analytic review. *Psychotherapy: Theory, Research, Practice, Training*, *43*, 531–548. http://dx.doi.org/10.1037/0033-3204.43.4.531

Hays, P. A. (2008). *Addressing cultural complexities in practice: Assessment, diagnosis, and therapy* (2nd ed.). http://dx.doi.org/10.1037/11650-000

Health Insurance Portability and Accountability Act of 1996, Pub. L. No. 104-191, 42 U.S.C. § 300gg, 29 U.S.C. § 1181–1183, and 42 U.S.C. § 1320d–1320d9.

Hill, C. E. (2014). *Helping skills: Facilitating, exploration, insight, and action* (4th ed.). http://dx.doi.org/10.1037/14345-000

Hodges, K., McKnew, D., Cytryn, L., Stern, L., & Kline, J. (1982). The Child Assessment Schedule (CAS) diagnostic interview: A report on reliability and validity. *Journal of the American Academy of Child Psychiatry*, *21*, 468–473. http://dx.doi.org/10.1016/S0002-7138(09)60796-2

Jobes, D. A. (2006). *Managing suicidal risk: A collaborative approach*. New York, NY: Guilford Press.

Lambert, M. J., & Lo Coco, G. (2013). Simple methods for enhancing patient outcome in routine care: Measuring, monitoring, and feedback. *Research in Psychotherapy: Psychopathology*, *Process and Outcome*, *16*, 93–101.

Lambert, M. J., & Shimokawa, K. (2011). Collecting client feedback. *Psychotherapy*, *48*, 72–79. http://dx.doi.org/10.1037/a0022238

Lobbestael, J., Leurgans, M., & Arntz, A. (2011). Inter-rater reliability of the Structured Clinical Interview for *DSM-IV* Axis I Disorders (SCID–I) and Axis II Disorders (SCID–II). *Clinical Psychology and Psychotherapy*, *18*, 75–79. http://dx.doi.org/10.1002/cpp.693

Meehl, P. E. (1954). *Clinical versus statistical prediction: A theoretical analysis and a review of the evidence*. http://dx.doi.org/10.1037/11281-000

Miller, W. R., & Rollnick, S. (2013). *Motivational interviewing: Helping people change* (3rd ed.). New York, NY: Guilford Press.

Murphy, B. C., & Dillon, C. (2011). *Interviewing in action in a multicultural world* (2nd ed.). Belmont, CA: Thomson Brooks/Cole.

Norcross, J. C. (Ed.). (2011). *Psychotherapy relationships that work: Evidence-based responsiveness* (2nd ed.). http://dx.doi.org/10.1093/acprof:oso/9780199737208.001.0001

Norcross, J. C., & Lambert, M. J. (2011). Psychotherapy relationships that work II. *Psychotherapy*, *48*, 4–8. http://dx.doi.org/10.1037/a0022180

Paniagua, F. A. (2014). *Assessing and treating culturally diverse clients* (4th ed.). Thousand Oaks, CA: Sage.

Rogers, C. R. (1957). The necessary and sufficient conditions of therapeutic personality change. *Journal of Consulting Psychology*, *21*, 95–103. http://dx.doi.org/10.1037/h0045357

Rogers, C. R. (1961). *On becoming a person*. Boston, MA: Houghton Mifflin.

Shea, S. C. (1998). *Psychiatric interviewing: The art of understanding* (2nd ed.). Philadelphia, PA: Saunders.

Shea, S. C. (2002). *The practical art of suicide assessment interviewing: A guide for mental health professionals and substance abuse counselors*. Hoboken, NJ: Wiley.

Silverman, W. K., & Nelles, W. B. (1988). The Anxiety Disorders Interview Schedule for Children. *Journal of the American Academy of Child and Adolescent Psychiatry*, *27*, 772–778. http://dx.doi.org/10.1097/00004583-198811000-00019

Smith, T. B., Domenech Rodríguez, M., & Bernal, G. (2011). Culture. *Journal of Clinical Psychology*, *67*, 166–175. http://dx.doi.org/10.1002/jclp.20757

Sommers-Flanagan, J. (2007). The development and evolution of person-centered expressive art therapy: A conversation with Natalie Rogers. *Journal of Counseling and Development*, *85*, 120–125. http://dx.doi.org/10.1002/j.1556-6678.2007.tb00454.x

Sommers-Flanagan, J., & Heck, N. (2013). The initial interview with diverse populations: Introduction to the special issue. *Journal of Contemporary Psychotherapy*, *43*, 1–2. http://dx.doi.org/10.1007/s10879-012-9226-4

Sommers-Flanagan, J., & Sommers-Flanagan, R. (2012). *Counseling and psychotherapy theories in context and practice: Skills, strategies, and techniques* (2nd ed.). Hoboken, NJ: Wiley.

Sommers-Flanagan, J., & Sommers-Flanagan, R. (2014). *Clinical interviewing* (5th ed.). Hoboken, NJ: Wiley.

Sommers-Flanagan, J., Zeleke, W. A., & Hood, M. E. (2015). The clinical interview. In R. Cautin & S. Lilienfeld (Eds.), *The encyclopedia of clinical psychology* (pp. 1–9). London, England: Wiley–Blackwell.

Strub, R. L., & Black, W. (1999). *The mental status examination in neurology* (4th ed.). Philadelphia, PA: F. A. Davis.

Sue, D. W., & Sue, D. (2013). *Counseling the culturally diverse: Theory and practice* (6th ed.). Hoboken, NJ: Wiley.

Trajković, G., Starčević, V., Latas, M., Leštarević, M., Ille, T., Bukumirić, Z., & Marinković, J. (2011). Reliability of the Hamilton Rating Scale for Depression: A meta-analysis over a period of 49 years. *Psychiatry Research*, *189*, 1–9. http://dx.doi.org/10.1016/j.psychres.2010.12.007

World Health Organization. (1992). *The ICD–10 classification of mental and behavioural disorders: Clinical descriptions and diagnostic guidelines*. Geneva, Switzerland: Author.

CHAPTER 2

# BEHAVIORAL OBSERVATIONS AND ASSESSMENT

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The assessment of behavior is a broad field, as suggested by the definition of *behavior* as "the way in which one acts or conducts oneself, especially towards others" (*Oxford English Dictionary*, 1989). Behavioral observations and related assessment methods received a popularity boost concurrent with the rise of behaviorism in the 1960s. Psychologists began focusing on smaller, observable units of analysis, or behaviors, as the building blocks for new therapeutic and research methods.

> Behavior is differentiated from traits or dispositions because the latter may only be seen if behavior is aggregated over relatively long periods of time and in a number of environmental contexts. Classical examples of observed behaviors . . . include tantrum behavior among young children, aggressive interactions with peers, attempts at conversation initiation, and so forth. (Martin, 1988, p. 13)

In this chapter, we focus on behavioral assessment but, as is demonstrated throughout, modern behavioral assessment measures increasingly resemble trait-based assessments, with many of the characteristics of other psychological tests. Specifically, we define behavioral observations and assessments, summarize their core principles and applications, and present the major tests and measures. We conclude by reviewing the major accomplishments of behavioral observations and offering future directions.

## DESCRIPTION AND DEFINITION

Behavioral observation involves directly observing and recording target behaviors, or those behaviors defined by the psychologist, client, parent, teacher, caregiver, or other as the behaviors that serve as presenting complaints or goals. Any number of behaviors can be observed, allowing the observation protocol to be tailored to the client's needs and difficulties. Observations may occur in both community and controlled settings, which provides an opportunity to gather information about the antecedents and consequences of specific behaviors in various contexts. More important, behavioral observations require an objective definition of the focal behavior, therefore limiting the influence of any subjective perceptions of the observer and the introduction of unwanted error, or unreliability, into the assessment process. Behavioral observations are used for a variety of purposes, including information gathering, diagnosis, research, formulating interventions, progress monitoring, assessing the psychologist–client relationship, measuring treatment fidelity, health promotion, and prevention (e.g., McLeod et al., 2015).

Laboratory observational assessments requiring sophisticated timing and sampling tools and technologies are also being deployed widely for research purposes (Lo, Vroman, & Durbin, 2015). In this chapter, however, we focus on psychology practice, an equally thriving area of development and refinement of behavioral assessment.

An alternative to behavioral observations began to emerge in the 1960s in the form of informant rating scales, which collect behavioral data via ratings

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of a client's behavior on the basis of observations by a nurse, psychiatric staff member, or even an interviewer. The Hamilton Depression Rating Scale (HDRS; Hamilton, 1967) ushered in the era of using rating scales for assessment of client–patient behaviors by other informants. This form of behavioral assessment soon became dominant because rating scales have been found to be practical given the constraints of time and expense on modern practice (Frick, Burns, & Kamphaus, 2009).

## CORE PRINCIPLES AND APPLICATIONS

Although considerable variability exists, the core procedures and considerations for conducting a behavioral observation typically include:

1. *Defining the behavior to be observed in the form of an operational definition*. An operational definition describes as many parameters of the behaviors to be observed as possible to ensure that accurate observations may be made. An imprecise definition (e.g., depressed, on task) versus a precise one (e.g., cries, works continuously on her or his worksheet for at least 15 seconds) will affect the accuracy or, in measurement terms, reliability of the observation. The reliability of the observation is usually assessed by having independent observers watch the same client, in the same setting, at the same time and evaluating agreement between the two observers via statistical means.All subsequent utility of the behavioral observations rests on this definition; thus, this stage of the observational process should receive the most attention by the observer. It is atypical to observe a single behavior in practice because of the topography of most presenting problems. Presenting problems are complex and often numerous. An individual who is anxious, for example, may present with a number of behaviors,such as sweatiness, shortness of breath, and avoidance of specific stimuli (e.g., people, things, contexts), which makes it necessary to specify a variety of behaviors for observation. It may be possible to focus exclusively on bed wetting (enuresis) for a young child, but even this constrained behavioral problem is unusual. In virtually all situations, the psychologist will have to specify multiple behaviors for observation and carefully define each one.
2. *Deciding on a behavioral observation sampling methodology*. New permutations are constantly being created by behavioral assessment researchers, but some general approaches apply. Event recording involves observing for the occurrence of the predefined behavior and recording each occurrence (e.g., curses, turned in homework on time). However, event sampling is prone to problems of unreliability. In a similar approach, whole-interval time sampling, the clinician observes for the predefined behavior within a predefined interval of time (e.g., yawning during a 30-minute interview). Despite the existence of the constraint of time, whole-interval time sampling also suffers problems with reliability. Momentary time sampling attempts to improve reliability by observing for a behavior, or a defined set of behaviors (e.g., yawns, curses, cries), at specified time intervals, usually frequently (e.g., every 15 seconds, observe for 1 second), and records the occurrence of any or all of these behaviors during the time-sampling interval. This approach has become the norm for a variety of purposes because it produces better reliability across observers. The trade-off is practicality in the form of precise timing and attention to task required on the part of the observer. Other permutations of sampling methods include partial-interval time sampling and work sampling, and the universe of procedures is still expanding (Frick, Burns, & Kamphaus, 2009).
3. *Choosing the context for observation*. Often, the context is dictated by the observer. For a clinical psychologist, the most practical context may be an office consultation, therapy group, or individual therapy session. For a psychologist working in schools, the child's classroom or the school playground may serve as a readily available context for observational assessment. For geropsychologists, the long-term care facility may be most practical and appropriate. Generally, the context in which the behavioral concern exists is the most appropriate for observation because this is the context in which assessment is

needed to inform treatment. However, the assessment context may also limit the generalizability of results of the observation. In some scenarios, multiple observations across multiple contexts will be necessary to fully address the presenting problems, especially for the purposes of informing treatment and intervention.

Observations taken to inform treatment have specific characteristics. Functional behavioral assessment (FBA), for example, is designed to "develop a hypothesis about environmental variables that evoked or maintained problem behavior" (Anderson, Rodriguez, & Campbell, 2015, p. 338). This methodology requires a relatively controlled setting (context) to implement because the focal behavior has to be exhibited in this context. Schools or institutional settings are common contexts for observation.

As the name implies, an individual's problem behavior is assumed to be functional in the sense that it produces desired consequences. An FBA observation is undertaken to identify the antecedents, behaviors, and consequences that contribute to the maintenance, and strength, of a problem behavior. In a school setting, for example, when faced with seatwork activities (antecedent stimulus), a child may resort to teasing others (behavior), which results in teacher reprimands (consequences). An FBA may reveal that teacher reprimands may, in fact, be reinforcing the teasing behavior because they are rewarding attention-seeking behavior on the part of the child. Because of the requirement of a controlled context in which the focal behavior of interest is routinely displayed and, therefore, can be analyzed, most FBA research has been conducted with individuals with intellectual disabilities (21% of studies; Anderson et al., 2015).

Considerations in behavioral observation differ somewhat for the purpose of assessment of treatment effectiveness (or progress monitoring). Behavioral observation for this purpose requires decisions about the number of observations to be made because this variable is linked to reliability. Realistically, and commonly, an observational assessment is done at the beginning of therapy or intervention and at the cessation of treatment to create a pretest–posttest design. If treatment is relatively longer (e.g., 2–4 months), then a midtreatment observational assessment becomes practical. An observation at some interval after treatment is also desirable to assess maintenance of therapeutic gains. Often, however, it is difficult to gather enough behavioral observations to assess treatment progress reliably. Optimally, 10 or more observations are advised to accurately plot both slopes and intercepts of change (Maric et al., 2015). Although this standard is often met in research, it is rarely achieved in practice because of the professional time required, much of which is not likely to be reimbursed or remunerated.

Diagnosis represents a less common, but nevertheless important, specialized use of behavioral observations. Behavioral observations would not seem to be well suited to the diagnostic process because they are typically not norm referenced. Unlike norm-referenced measures of intellect, reading, or mathematics achievement; adaptive behavior; personality; and so forth, behavioral observations do not compare an individual's behavior with national, local, or subgroup norms. They do not provide percentile ranks or other derived scores that may be used to assess deviance for the purposes of making a diagnostic decision. Behavioral observations typically use the individual as her or his own norm in that assessment relies heavily on results from prior observations and hypotheses or conclusions that can be drawn from comparing previous observations with the current one.

Behavioral observations for diagnostic purposes are made in special cases. For example, the Autism Diagnostic Observation Schedule (Lord et al., 2000) is a semistructured assessment of social interaction, communication, and play designed to measure symptoms of autism in children and adults. It contains four modules, which are designed for use according to the developmental and language level of the individual. Modules 1 and 2 are most commonly used with preschool-age children: Module 1 is appropriate for children with only single words or no speech, and Module 2 is intended for use with young children with phrase speech. Although they are coded, repetitive behaviors and stereotyped interests are not included in the scoring algorithm.

Interrater reliability of items ($k \geq 0.6$), and disagreements between raters most often occurred when differentiating between diagnoses of autistic disorder and pervasive developmental disorder—not otherwise specified. When discriminating between autism and nonautism, Lord et al. (2000) reported sensitivities of 1.00 and .95 for modules 1 and 2, respectively, and sensitivities of .94 and .89 when differentiating pervasive developmental disorder—not otherwise specified from nonspectrum cases. These latter data have made the Autism Diagnostic Observation Schedule a methodology of choice for the diagnosis of autism.

Numerous efforts have been made in the past 50 years to better integrate behavioral assessment into practice by making the assessment of behavior more practical. One such effort has been to assess behavior of individuals through indirect methods, which are "those in which information was gathered via an informant, rather than observing the individual emit the target response and included interviews, checklists, and rating scales" (Anderson et al., 2015, p. 338). These indirect methods have quickly become a behavior assessment method of choice because of their brevity, lower cost, good psychometric properties, and practicality for collecting data on multiple occasions and from multiple informants (Frick, Burns, & Kamphaus, 2009).

Rating scale measures of behavior have also received theoretical and empirical support from the burgeoning scientific literature on dimensional conceptualizations of behavioral organization. Dimensional assessment is based on the premise that the individual's behavioral adjustment is organized along dimensions that can be identified through methods such as factor analysis, and the fact that there are no clear breaks between the number of problems along a dimension that would suggest a diagnostic threshold. In fact, considerable research has suggested that individuals suffer impairment in daily behavioral functioning even if their problems are subthreshold (Cantwell, 1996) as defined by a *Diagnostic and Statistical Manual of Mental Disorders* (*DSM*) diagnostic cutoff.

The HDRS and similar rating scales are now receiving empirical support for their dimensional models of classification, long after their original development. For example, one large-scale longitudinal study followed 12,059 individuals for seven assessment waves between ages 4 and 40 years (van der Ende, Verhulst, & Tiemeier, 2012). The main finding was that behavioral rating scale results were essentially invariant from childhood through adulthood. The assessment of externalizing and internalizing problems was consistent, and the importance of using multiple informants was evident at every age level, in that multiple informants provided unique and important additive information for the case conceptualization and diagnostic process.

The universe of modern behavioral assessment methods, both observational and informant rating, may also be cross-tabulated by level of analysis—discrete behaviors—versus tallies of multiple behaviors (or symptoms) which, in turn, are combined to produce test scores (e.g., HDRS). This latter approach has served as the foundation for the creation of the modern informant rating scale methodology.

Beyond method of assessment (observation vs. rating) and unit of analysis (discrete behavior vs. aggregated behaviors associated with an obtained score), the purpose of assessment is an important dimension of behavioral assessment. The purpose can include one or more of the following: (a) diagnosis or classification, (b) treatment, (c) accountability or administrative, (d) program evaluation, (e) screening, (f) treatment effectiveness, (g) treatment or progress monitoring, and (h) fidelity measurement.

Several assessment purposes can be identified within diagnosis and classification alone. First, accurate classification promotes understanding and enhances communication across stakeholders (e.g., Blashfield, 1998). Once a specific diagnosis or classification is determined, psychologists can better communicate with mental health professionals, educators, employers, spouses, administrators, parents, and others who are interested in the person's well-being. Second, diagnosis and classification serve critical roles in the provision of services and choice of interventions that could be useful for a particular condition or set of symptoms. Third, a common language and common criteria allow researchers and clinicians to better record, report, and compare information across patients, settings, and research studies (e.g., Scotti & Morris, 2000).

## LIMITATIONS OF THE APPROACH

As with any other method, several limitations are inherent in behavioral observation. To achieve adequate reliability across observers and observation points, a great deal of observer training is required. In addition, when the client being observed is aware of the presence of the observer, problems with reactivity may also arise (Harris & Lahey, 1982). Those who are observing often have to judge how frequent observations should be to adequately capture the behavior being assessed, which makes observations especially difficult when assessing low-frequency behaviors (e.g., fighting) versus high-frequency behaviors (e.g., talking). Hitting or threatening others, crying, or suicidal behaviors are generally low-frequency behaviors that are hard to assess via observation. Direct observation also does not permit gathering information about internal activities such as thoughts and emotions, which are often critical aspects of a social–emotional evaluation. Finally, behavioral observation may be expensive and time consuming because it is a labor-intensive process. The personnel costs of behavioral observation associated with transportation, coordination, and actual observation can be prohibitive, particularly if numerous observations are required to meet desirable standards of reliability and validity. For this reason, behavioral observation is rarely used in isolation for diagnosis, classification, screening, or outcome assessment.

The size of the behavioral sample needed for an observation remains a considerable liability. Although it is more truism than psychometric reality, the notion that longer test length produces greater reliability also applies to behavioral observation. A recent study (Gabrielsen et al., 2015) illustrated the challenge of obtaining an adequate behavioral sample. These researchers had experienced licensed child psychologists take two 10-minute behavioral observations under the most favorable of conditions. The observers viewed 10-minute video samples of autism evaluations for children ages 15 to 33 months. The researchers then asked the expert observers to indicate their referral impressions for each case and compared these results for screening and developmental testing results. The sample allowed for comparison of observer referral recommendations for two groups of children: typically developing and those with a positive screen for autism. Diagnostic evaluations were then undertaken to form three groups of children: those with autism, language delay, or typical development. The results were not encouraging: "Expert raters missed 39% of cases in the autism group as needing autism referrals based on brief but highly focused observations. . . . Brief clinical observations may not provide enough information about atypical behaviors to reliably detect autism risk" (Gabrielsen et al., 2015, p. e330).

Behavior rating scales have their limitations, too (Merrell, 2008). Rating scales depend on the informants' perceptions of behavior and may therefore be subject to problems with bias and subjectivity (Merrell, 2008). Also, rating scales may be constructed on the basis of different models; therefore, although many rating scales measure similar constructs, their operationalization of those constructs varies from one scale to another. When selecting a particular rating scale, it is critical to understand how the scale was constructed and for what purposes. For example, one rating-scale measure of inattention might have been constructed on the basis of *DSM* criteria, and another scale might have been based on a theoretical model of inattention, resulting in the likelihood of differing results being obtained for the same client.

Both self-report and informant rating methods have similar limitations. Among these are concerns about (a) veracity of responses; (b) response sets of raters that may be due to a variety of sources, for example, psychopathology (e.g., parental or spousal depression); (c) reading comprehension skills of patients and raters; and (d) difficulty interpreting disagreement among raters or informants. The comparison of informant ratings becomes more challenging for youths, for whom the three common informants are parents, teachers, and the student him- or herself; however, alternate informants such as peers, teacher's aides, and others might be included in the assessment. Although it is common to believe that the inclusion of more informants provides the optimal amount of information, little empirical evidence has supported combining

raters to make a classification decision (Johnston & Murray, 2003; McFall, 2005). Support for this conclusion may be found in studies (e.g., Biederman, Keenan, & Faraone, 1990; Lochman, 1995) that have found that adding another informant added little accuracy to the identification process beyond that provided by the first informant.

A lack of consistency often exists among raters, as evidenced by small to moderate correlations (Achenbach, McConaughy, & Howell, 1987), suggesting that perhaps different raters provide different yet valuable information. Agreement tends to be even lower when rating internalizing problems compared with when rating externalizing behavior, perhaps because of the internal nature of these difficulties (Grietens et al., 2004). Research has supported earlier findings, which have shown that teachers rate externalizing and internalizing problems as well as or better than parents (Mattison et al., 2007).

Ultimately, the use of rating-scale methodology, although practical, does not provide the information yield associated with behavioral observations. The observation process allows the psychologist to view and evaluate the interplay of a variety of contextual variables on the client's behavior. Observations offer much more information than rating scales because they provide the opportunity to (a) evaluate an individual's influence on another, as is the case in dyadic counseling; (b) evaluate the effects of group context on an individual, as in group therapies or work and classroom settings; and (c) assess the role that environmental context, such as work versus community, may play in maintaining or interfering with behavioral adjustment. In other words, observations maintain the psychologist's ability to develop and test hypotheses about the impact of antecedents and consequences on behavior.

## PRINCIPAL TESTS AND METHODS

### Observations

A recent study serves as a modern example of the use of behavioral observations for research on psychotherapy (Hogue et al., 2015). The researchers observed two groups of therapists providing family therapy and motivational interviewing and cognitive–behavioral therapy to urban adolescents exhibiting conduct problems and substance use. Trained observers rated the therapist's implementation of both types of therapy. Among other findings, Hogue et al. (2015) concluded that therapists overestimated their implementation fidelity for both types of therapy.

Another recent investigation evaluated the use of the Therapy Process Observational Coding System for Child Psychotherapy Strategies scale (McLeod & Weisz, 2010) for assessing treatment differentiation. The five subscales (Cognitive, Behavioral, Psychodynamic, Client-Centered, Family) were evaluated for their ability to detect differences in the application of various therapy methods for 89 children being treated for a primary anxiety disorder. The authors concluded that empirical support was evident for Cognitive and Behavioral subscale scores, but not for the Psychodynamic, Family, and Client-Centered subscale scores. Overall, this study provided some support for the use of this observational system as a tool for assessing treatment differentiation in implementation research. Observational assessment is ideally suited for answering this and many other research questions about clinical psychology practice and helps to guide psychologists' practice of psychotherapy, assessment, consultation, and other services.

Observational methods are more widely used in child services because of the availability of the school context, which provides a ready venue in which to collect behavioral observations. In fact, the use of observations as a core assessment methodology is included in federal special education implementation regulations (Individuals With Disabilities Education Improvement Act of 2004) and in some state regulations. Observation targets in the classroom typically include fidgeting, inattention, talking out of turn, and following teacher directives.

Numerous decisions enter into the behavioral observation process, including those associated with operational definition of behaviors to be observed, sampling plan or methodology, and context or setting for the observation. To make behavioral observations more practical, these decisions have been incorporated into the development of prepackaged behavioral observation protocols where all of this preparatory work has already been accomplished,

thus easing administration and interpretation. The aforementioned Therapy Process Observational Coding System for Child Psychotherapy—Revised Strategies scale (McLeod & Weisz, 2010) is just one example of a coding system that takes much of the behavioral observation decision making out of the hands of individual practitioners, thus easing their burden. This conversion of behavioral observation methodology into testlike assessments has also been used to make the routine collection of behavioral observations of students in classrooms more practical.

For example, the Direct Observation Form (Achenbach & Rescorla, 2004) was designed for classroom use and requires the observer to record the behavior observed during 10-minute intervals. A total of 96 behaviors are recorded, using a 4-point response scale that indicates presence, severity, and temporal duration of the behavior. Unlike most observational methods, this observation system has been norm referenced on a group of children ages 5 to 14 years. Consistent with the other measures in the Achenbach System of Empirically Based Assessments family, the Direct Observation Form provides internalizing, externalizing, and Total Problems scores. Several studies have found evidence of adequate psychometric properties (Achenbach, 2001).

A newer alternative to the Direct Observation Form, the Behavioral Assessment System for Children, Second Edition (BASC–2) Student Observation System (SOS) is a 15-minute observational system designed for use in school classroom settings. The SOS may be lengthened in increments of 15 minutes if longer observations are desired, but there is no evidence of significant associated increases in reliability and validity (Lett & Kamphaus, 1997). The SOS consists of 65 a priori defined target behaviors that are grouped into 13 dimensions, including four dimensions of adaptive behavior (e.g., social skills, working on school subjects) and nine dimensions of problem behavior (e.g., inattention, depression), that are based on research (Reynolds & Kamphaus, 2004). The SOS has three components: a 15-minute momentary time-sampling procedure in which the observer observes every 30 seconds for 30 intervals; a rating scale used after the observation period in which all 65 behaviors are rated on frequency; and a qualitative form for answering questions about antecedents and consequences observed. Reliability estimates are provided for the momentary time-sampling portion, but no norms or significant validity evidence is offered. Users are advised to observe a child on several occasions, including before and after intervention, thus using the child's previous behavior as a point of comparison.

## Interviews

The Diagnostic Interview Schedule for Children—Version IV (DISC–IV) serves as a premier example of a structured interview behavioral assessment in which behaviors and symptoms are considered equivalent (Shaffer et al., 2000). Child and parent versions are available; each includes between 200 and 300 items and takes approximately 1 hour to administer. The DISC–IV results in scores in 27 areas that correspond to *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision* (American Psychiatric Association, 2000) classifications. Because of its highly structured format, the DISC–IV requires little training time for administration and scoring. The Voice DISC is also available, which allows the interview to be conducted via computer, completely eliminating the need for a trained interviewer. However, the assessor still needs to be familiar with the appropriate interpretation of scores on the Voice DISC. Several studies have found adequate reliability and validity information (e.g., Costello et al., 1984; Edelbrock & Costello, 1988).

## Behavior Rating Scales

Rating scales can be traced to the 1950s, when they were developed for use by hospital staff to rate the adjustment of psychiatric patients (Frick, Burns, & Kamphaus, 2009). By answering a number of questions in a rating format (often ranging across 3 to 5 points with response anchors such as *never* and *always*), a psychologist can gain summary information about an individual's behavioral adjustment in a time-efficient manner. Behavior rating scales can be used for a wide variety of purposes, including diagnosis, outcome assessment, and more general information gathering as part of an assessment plan.

An exemplar of the methodology is the HDRS, which is one of the most commonly used rating scales to assess depression. The original version contains 17 items (symptoms) associated with depression and asks whether the individual has experienced them over the past week. Although the original scale was designed for completion after an unstructured clinical interview, the method has become more formalized in that several semistructured interview protocols are now available. One often-cited limitation of the HDRS is "that atypical symptoms of depression (e.g., hypersomnia, hyperphagia) are not assessed" (Hamilton, 1960, p. 28). Cut scores for diagnosis have been created for the various versions of the HDRS through comparisons of clinical and nonclinical samples. For the shorter form, which consists of 17 items, a score from 0 to 7 is considered to be in the normal range. Depression is considered to be present in cases with a score of 20 or higher.

The HDRS is widely used in selecting individuals for clinical trials and for identifying medication or other therapeutic effects in research studies (Martiny et al., 2015). Because it has become the gold standard for the behavioral assessment and diagnosis of depression, the measure has been translated into multiple languages including French, German, Italian, Thai, and Turkish. Numerous adaptations have been created to ease administration and scoring, including an Interactive Voice Response method, a seasonal affective disorder version, and a structured interview version.

Child and youth rating scales have become so popular as to dominate assessment practice among child psychologists. Several surveys of practitioners have found that behavior rating scales have supplanted behavioral observations as central components of the child assessment process. A recent survey of New Jersey school-based psychologists found that 99% acknowledged that they routinely used the BASC–2 as their primary measure of behavioral adjustment (Dietz, 2013).

## Screening

Although screening measures have been available for about a century, the approach is just now gaining considerable traction, which is also resulting in a flurry of new behavioral rating scales. Assessing behavioral risk for developing mental health disorders is becoming the standard of practice for many U.S. school districts (Kettler et al., 2014). The goals of behavioral risk screening are twofold: Identify risk for a disordered behavioral development to prevent the onset of disorder, and identify individuals with disorders that have not yet been detected through routine health care service delivery (Stiffler & Dever, 2015).

Screening is growing in part because of the requirements of the Individuals With Disabilities Education Improvement Act of 2004. Universal services are provided to all students to promote positive development; selected services are provided only to those students who are identified as being at risk; finally, indicated services are reserved for those students with the most need for intervention (Durlak, 1997). This multitiered approach is also the basis for the response to intervention approach to psychological service delivery in schools, which consists of interventions or treatment based on data gathered (Reschly & Bergstrom, 2009).

There are a number of related considerations for evaluating screening assessments (Glover & Albers, 2007). A good screening assessment is appropriate for the intended use, technically adequate, and usable. To determine whether the measure is appropriate, the screener should have evidence of use with the population of interest, align with the constructs of interest, and have theoretical and empirical support. Technical adequacy is demonstrated through sound psychometric evidence, including norms, reliability, validity of key score inferences, sensitivity, specificity, positive predictive value, and negative predictive value. Finally, a screener is considered usable when the associated costs are reasonable, screening is feasible and acceptable to stakeholders, resources are available to carry out the screening procedure, and the outcomes are considered useful.

The impracticality of many screening measures has largely contributed to their lack of adoption for universal screening in both pediatric and school settings (Flanagan, Bierman, & Kam, 2003). Even popular comprehensive behavior rating scales are not feasible for widespread screening because of the

time and monetary resources needed to assess thousands of children in a given school (Flanagan et al., 2003). Yet, comprehensive behavior rating scales, which use 50 to 100 items or more and take 25 to 45 minutes to complete, are commonly identified and used as screeners (Najman et al., 2008; Levitt et al., 2007).

One prominent example is the Strengths and Difficulties Questionnaire (Goodman, 2001), a brief, 25-item behavioral, emotional, and social screening test for youths ages 11 through 17 years. Teacher, parent, and student self-report forms are available, and their use has generated some longitudinal screening research. Respondents rate items on a 3-point scale ranging from 0 (*not at all*) to 2 (*very much or all the time*). The Strengths and Difficulties Questionnaire contains five scales, each consisting of five items: Emotional Symptoms, Conduct Problems, Hyperactivity/Inattention, Peer Relationship Problems, and Prosocial Behavior.

Alternative measures are the Student Risk Screening Scale (Drummond, 1994), a 7-item teacher rating scale designed to detect antisocial behavior in children in kindergarten through sixth grade, and the BASC–2 Behavioral and Emotional Screening System (Kamphaus & Reynolds, 2007), a screening system with parent, teacher, and self-report forms to identify behavioral and emotional resources and risks among students in kindergarten through 12th grade. Put succinctly, behavioral risk screening measures should be easy to complete, brief, affordable, and reasonably accurate (O'Connell, Boat, & Warner, 2009).

## MAJOR ACCOMPLISHMENTS

Clinical psychologists are practicing today with far better measures of behavior than a generation ago, and they are capable of assessing far more dimensions of human behavior with more validity to support score inferences. Behavioral observation measures are increasingly structured and organized to the point that they now increasingly resemble the typical psychological test in terms of item and indicator alignment with psychological and mental health constructs, organization of items into interpretable scales, and a rising bar for reliability and validity standards. One can make that case that a merger of behavioral observation and measurement science has taken root.

With regard to informant rating scales, norm-referenced scores are frequently offered, the assessment of fairness and bias is routine for widely used measures, and the HDRS, among others, are routinely used to make diagnostic decisions to support both research and practice. All of these accomplishments have implications for the field going forward.

## FUTURE DIRECTIONS

It is likely that both behavioral observations and rating scales will emulate psychological tests. These measures will increasingly be viewed as tests by reviewers and practitioners alike. To be viewed as tests and held to the same psychometric standards (American Educational Research Association, American Psychological Association, & National Council on Measurement in Education, 2014), future behavioral assessment methods will need to fully explore and document assessment fairness for diverse cultural, linguistic, socioeconomic, and other groups of examinees. Relatively few studies of behavioral observation fairness, or bias, are available.

Behavioral assessment developers should routinely include analyses examining group equivalence in their guides and manuals (Tyson, 2004). If the measurement invariance of an assessment of behavioral problems across linguistic, ethnic, gender, and socioeconomic status groups is not verified, any mean-level group differences that are detected may not be meaningful because of potential differences in measurement properties that vary across these groups. Therefore, it is essential that the psychometric properties of such assessments be examined within and across the groups of interest before using these assessments to make decisions for members of these groups.

Differential item functioning is shown when characteristics of an individual item vary across members of the subgroups who have similar mean levels of behavioral adjustment; therefore, the condition of measurement invariance is not upheld across these subgroups (Bond & Fox, 2007). Interpretations should be made with caution when measures

are variant, or not equivalent, across the groups of interest; in fact, revisions of the assessment to increase the appropriateness for different groups should be considered.

Although the translation of behavioral assessments into different languages is a first step to culturally appropriate assessment, variations in cultural experiences and acculturation may lead to continued differences in the interpretations of, and performance on, these assessments (Padilla, 2001). In an investigation examining the measurement invariance of a behavioral risk screener (Kamphaus & Reynolds, 2007) for 142 limited-English-proficient and 110 English-proficient students, the majority of screening items were found to be invariant across language proficiency groups on the basis of item response theory analyses (Dowdy et al., 2011). This study provided some evidence to suggest that at least partial measurement invariance is likely to be found for teacher screeners across language proficiency groups; however, these findings need to be replicated across various samples of culturally diverse students. Future research on measurement invariance and related issues would provide a great service to the field and the increasingly diverse clientele psychologists serve.

Another future direction may be a movement to assess behavior unobtrusively and automatically, thus obviating the need for behavioral observations and rating scales. We already see the emergence of digital measures of human activity that require no input from examiners, observers, or examinees. This routine and automated assessment of behavior will prove a boon to clinical psychologists.

Cameras mounted in eyeglasses and accelerometers are but two examples of recent technology-supported behavioral observation tools. The "camera glasses" were deployed to study aggressive interactions between youths in a correctional facility (Wettstein & Scherzinger, 2015) and were successful at accurately recording aggressive interactions. Of greatest importance, their use did not seem to be intrusive in that there was little evidence of reactivity to the video observation. The creation of any observational assessment technology that mitigates reactivity will constitute a significant step forward for the methodology.

In another recent example, accelerometers were used as criterion variables to study children's after-school nutrition and physical activity (Lee et al., 2014). Yet another recent investigation tested the validity of an accelerometer (ActiGraph GT3X+) as a proxy for video analysis of activity for the assessment of the work activities of airline employees under both partially standardized and nonstandardized conditions (Stemland et al., 2015). Estimates of both sensitivity and specificity were quite good for a substantial range of activities, resulting in useful estimates of employee time spent in a variety of activities. Methodologies such as these will be applied to a variety of types of clinical practice, including compliance with recommendations to exercise in conjunction with other evidence-based practices for the treatment of depression.

These examples provide a mere glimpse of the vibrancy of observational assessment research. This research and development lays the foundation for the refinement and creation of observational methods with concomitant improvements in two crucial areas needed to support clinical psychology in the future: validity and practicality.

## References

Achenbach, T. M. (2001). *Manual for the ASEBA school-age forms and profiles*. Burlington, VT: Research Center for Children, Youth, and Families.

Achenbach, T. M., McConaughy, S. H., & Howell, C. T. (1987). Child/adolescent behavioral and emotional problems: Implications of cross-informant correlations for situational specificity. *Psychological Bulletin*, *101*, 213–232. http://dx.doi.org/10.1037/0033-2909.101.2.213

Achenbach, T. M., & Rescorla, L. A. (2004). The Achenbach System of Empirically Based Assessment (ASEBA) for ages 1.5 to 18 years. In M. E. Maruish (Ed.), *The use of psychological testing for treatment planning and outcomes assessment: Volume 2: Instrument for children and adolescents* (pp. 179–213). Mahwah, NJ: Erlbaum.

American Educational Research Association, American Psychological Association, & National Council on Measurement in Education. (2014). *Standards for educational and psychological assessment*. Washington, DC: Author.

American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., text revision). Washington, DC: Author.

Anderson, C. M., Rodriguez, B. J., & Campbell, A. (2015). Functional behavior assessment in schools: Current status and future directions. *Journal of Behavioral Education*, *24*, 338–371. http://dx.doi.org/10.1007/s10864-015-9226-z

Biederman, J., Keenan, K., & Faraone, S. V. (1990). Parent-based diagnosis of attention deficit disorder predicts a diagnosis based on teacher report. *Journal of the American Academy of Child and Adolescent Psychiatry*, *29*, 698–701. http://dx.doi.org/10.1097/00004583-199009000-00004

Blashfield, R. K. (1998). Diagnostic models and systems. In A. A. Bellack, M. Hersen, & C. R. Reynolds (Eds.), *Comprehensive clinical psychology: Vol. 4. Assessment* (pp. 57–80). http://dx.doi.org/10.1016/B0080-4270(73)00225-X

Bond, T. G., & Fox, C. M. (2007). *Applying the Rasch model: Fundamental measurement in the human sciences* (2nd ed.). Mahwah, NJ: Erlbaum.

Cantwell, D. P. (1996). Classification of child and adolescent psychopathology. *Journal of Child Psychology and Psychiatry, 37*, 3–12. http://dx.doi.org/10.1111/j.1469-7610.1996.tb01377.x

Costello, E. J., Edelbrock, C. S., Duncan, M. K., & Kalas, R. (1984). *Testing of the NIMH Diagnostic Interview Schedule for Children (DISC) in a clinical population*. Pittsburgh, PA: University of Pittsburgh, Department of Psychiatry.

Dietz, V. A. (2013). A survey of New Jersey school psychologists regarding the measures they use to assess students. *Dissertation Abstracts International: Section A. Humanities and Social Sciences*, *73*(12). (UMI No. AAI3518901)

Dowdy, E., Dever, B. V., DiStefano, C., & Chin, J. (2011). Screening for emotional and behavioral risk among students with limited English proficiency. *School Psychology Quarterly*, *26*, 14–26. http://dx.doi.org/10.1037/a0022072

Drummond, T. (1994). *The Student Risk Screening Scale (SSRS)*. Grants Pass, OR: Josephine County Mental Health Program.

Durlak, J. A. (1997). *Successful prevention programs for children and adolescents*. http://dx.doi.org/10.1007/978-1-4899-0065-4

Edelbrock, C., & Costello, A. J. (1988). Convergence between statistically derived behavior problem syndromes and child psychiatric diagnoses. *Journal of Abnormal Child Psychology*, *16*, 219–231. http://dx.doi.org/10.1007/BF00913597

Flanagan, K. S., Bierman, K. L., & Kam, C. M. (2003). Identifying at-risk children at school entry: The usefulness of multibehavioral problem profiles. *Journal of Clinical Child and Adolescent Psychology*, *32*, 396–407. http://dx.doi.org/10.1207/S15374424JCCP3203_08

Frick, P. J., Burns, C., & Kamphaus, R. W. (2009). *Clinical assessment of child and adolescent personality and behavior* (2nd ed.). New York, NY: Springer.

Gabrielsen, T. P., Farley, M., Speer, L., Villalobos, M., Baker, C. N., & Miller, J. (2015). Identifying autism in a brief observation. *Pediatrics*, *135*, e330–e338. http://dx.doi.org/10.1542/peds.2014-1428

Glover, T. A., & Albers, C. A. (2007). Considerations for evaluating universal screening assessments. *Journal of School Psychology*, *45*, 117–135. http://dx.doi.org/10.1016/j.jsp.2006.05.005

Goodman, R. (2001). Psychometric properties of the Strengths and Difficulties Questionnaire. *Journal of the American Academy of Child and Adolescent Psychiatry*, *40*, 1337–1345. http://dx.doi.org/10.1097/00004583-200111000-00015

Grietens, H., Onghena, P., Prinzie, P., Gadeyne, E., Van Assche, C., Ghesquiere, P., & Hellinckx, W. (2004). Comparison of mothers', fathers', and teachers' reports on problem behavior in 5- to 6-year-old children. *Journal of Psychopathology and Behavioral Assessment*, *27*, 89–100.

Hamilton, M. (1960). *Hamilton Rating Scale for Depression* [Database record]. http://dx.doi.org/10.1037/t04100-000

Hamilton, M. (1967). Development of a rating scale for primary depressive illness. *British Journal of Social and Clinical Psychology*, *6*, 278–296. http://dx.doi.org/10.1111/j.2044-8260.1967.tb00530.x

Harris, F. C., & Lahey, B. B. (1982). Subject reactivity in direct observational assessment: A review and critical analysis. *Clinical Psychology Review*, *2*, 523–538. http://dx.doi.org/10.1016/0272-7358(82)90028-9

Hogue, A., Dauber, S., Lichvar, E., Bobek, M., & Henderson, C. E. (2015). Validity of therapist self-report ratings of fidelity to evidence-based practices for adolescent behavior problems: Correspondence between therapists and observers. *Administration and Policy in Mental Health and Mental Health Services Research*, *42*, 229–243. http://dx.doi.org/10.1007/s10488-014-0548-2

Individuals With Disabilities Education Improvement Act of 2004, Pub. L. No. 108-446, 20 U.S.C. §§ 1400–1482.

Johnston, C., & Murray, C. (2003). Incremental validity in the psychological assessment of children and adolescents. *Psychological Assessment*, *15*, 496–507. http://dx.doi.org/10.1037/1040-3590.15.4.496

Kamphaus, R. W., & Reynolds, C. R. (2007). *BASC–2 Behavioral and Emotional Screening System*. Minneapolis, MN: Pearson Assessment.

Kettler, R. J., Glover, T. A., Albers, C. A., & Feeney-Kettler, K. A. (Eds.). (2014). An introduction to universal screening in educational settings. In R. J. Kettler, T. A. Glover, C. A. Albers, & K. A. Feeney-Kettler (Eds.), *Universal screening in educational*

*settings: Evidence-based decision making for schools* (pp. 3–16). http://dx.doi.org/10.1037/14316-001

Lee, R. M., Emmons, K. M., Okechukwu, C. A., Barrett, J. L., Kenney, E. L., Cradock, A. L., . . . Gortmaker, S. L. (2014). Validity of a practitioner-administered observational tool to measure physical activity, nutrition, and screen time in school-age programs. *International Journal of Behavioral Nutrition and Physical Activity*, *11*, 145. http://dx.doi.org/10.1186/s12966-014-0145-5

Lett, N. J., & Kamphaus, R. W. (1997). Differential validity of the BASC Student Observation System and the BASC Teacher Rating Scale. *Canadian Journal of School Psychology*, *13*, 1–14. http://dx.doi.org/10.1177/082957359701300101

Levitt, J. M., Saka, N., Hunter Romanelli, L., & Hoagwood, K. (2007). Early identification of mental health problems in schools: The status of instrumentation. *Journal of School Psychology*, *45*, 163–191. http://dx.doi.org/10.1016/j.jsp.2006.11.005

Lo, S. L., Vroman, L. N., & Durbin, C. E. (2015). Ecological validity of laboratory assessments of child temperament: Evidence from parent perspectives. *Psychological Assessment*, *27*, 280–290. http://dx.doi.org/10.1037/pas0000033

Lochman, J. E.; Conduct Problems Prevention Research Group. (1995). Screening of child behavior problems for prevention programs at school entry. *Journal of Consulting and Clinical Psychology*, *63*, 549–559. http://dx.doi.org/10.1037/0022-006X.63.4.549

Lord, C., Risi, S., Lambrecht, L., Cook, E. H., Jr., Leventhal, B. L., DiLavore, P. C., . . . Rutter, M. (2000). The Autism Diagnostic Observation Schedule—Generic: A standard measure of social and communication deficits associated with the spectrum of autism. *Journal of Autism and Developmental Disorders*, *30*, 205–223. http://dx.doi.org/10.1023/A:1005592401947

Maric, M., de Haan, E., Hogendoorn, S. M., Wolters, L. H., & Huizenga, H. M. (2015). Evaluating statistical and clinical significance of intervention effects in single-case experimental designs: An SPSS method to analyze univariate data. *Behavior Therapy*, *46*, 230–241. http://dx.doi.org/10.1016/j.beth.2014.09.005

Martin, R. P. (1988). *The Temperament Assessment Battery for Children*. Brandon, VT: Clinical Psychology Publishing.

Martiny, K., Refsgaard, E., Lund, V., Lunde, M., Thougaard, B., Lindberg, L., & Bech, P. (2015). Maintained superiority of chronotherapeutics vs. exercise in a 20-week randomized follow-up trial in major depression. *Acta Psychiatrica Scandinavica*, *131*, 446–457. http://dx.doi.org/10.1111/acps.12402

Mattison, R. E., Carlson, G. A., Cantwell, D. P., & Asarnow, J. R. (2007). Teacher and parent ratings of children with depressive disorders. *Journal of Emotional and Behavioral Disorders*, *15*, 184–192. http://dx.doi.org/10.1177/10634266070150030501

McFall, R. M. (2005). Theory and utility—Key themes in evidence-based assessment: Comment on the special section. *Psychological Assessment*, *17*, 312–323. http://dx.doi.org/10.1037/1040-3590.17.3.312

McLeod, B. D., Smith, M. M., Southam-Gerow, M. A., Weisz, J. R., & Kendall, P. C. (2015). Measuring treatment differentiation for implementation research: The Therapy Process Observational Coding System for Child Psychotherapy Revised Strategies scale. *Psychological Assessment*, *27*, 314–325. http://dx.doi.org/10.1037/pas0000037

McLeod, B. D., & Weisz, J. R. (2010). The Therapy Process Observational Coding System for Child Psychotherapy Strategies scale. *Journal of Clinical Child and Adolescent Psychology*, *39*, 436–443. http://dx.doi.org/10.1080/15374411003691750

Merrell, K. W. (2008). *Behavioral, social, and emotional assessment of children and adolescents* (3rd ed.). Mahwah, NJ: Erlbaum.

Najman, J. M., Heron, M. A., Hayatbakhsh, M. R., Dingle, K., Jamrozik, K., Bor, W., . . . Williams, G. M. (2008). Screening in early childhood for risk of later mental health problems: A longitudinal study. *Journal of Psychiatric Research*, *42*, 694–700. http://dx.doi.org/10.1016/j.jpsychires.2007.08.002

O'Connell, M., Boat, T., & Warner, K. (2009). *Preventing mental, emotional, and behavioral disorders among young people: Progress and possibilities*. Washington, DC: National Academies Press.

*Oxford English dictionary*. (1989). Oxford, England: Oxford University Press.

Padilla, A. M. (2001). Issues in culturally appropriate assessment. In L. A. Suzuki, J. G. Ponterotto, & P. J. Meller (Eds.), *Clinical, psychological, and educational applications* (2nd ed., pp. 5–28). San Francisco, CA: Jossey-Bass.

Reschly, D. J., & Bergstrom, M. K. (2009). Response to intervention. In T. B. Gutkin & C. R. Reynolds (Eds.), *The handbook of school psychology* (4th ed., pp. 434–460). Hoboken, NJ: Wiley.

Reynolds, C. R., & Kamphaus, R. W. (2004). *Behavior Assessment System for Children* (2nd ed.). Circle Pines, MN: American Guidance Service.

Scotti, J. R., & Morris, T. L. (2000). Diagnosis and classification. In M. Hersen & R. T. Ammerman (Eds.), *Advanced abnormal child psychology* (2nd ed., pp. 15–32). Mahwah, NJ: Erlbaum.

Shaffer, D., Fisher, P., Lucas, C. P., Dulcan, M. K., & Schwab-Stone, M. E. (2000). NIMH Diagnostic Interview Schedule for Children—Version IV (NIMH DISC–IV): Description, differences from

previous versions, and reliability of some common diagnoses. *Journal of the American Academy of Child and Adolescent Psychiatry*, *39*, 28–38. http://dx.doi.org/10.1097/00004583-200001000-00014

Stemland, I., Ingebrigtsen, J., Christiansen, C. S., Jensen, B. R., Hanisch, C., Skotte, J., & Holtermann, A. (2015). Validity of the Acti4 method for detection of physical activity types in free-living settings: Comparison with video analysis. *Ergonomics*, *58*, 953–965. http://dx.doi.org/10.1080/00140139.2014.998724

Stiffler, M. C., & Dever, B. V. (2015). *Mental health screening at school: Instrumentation, implementation, and critical issues*. New York, NY: Springer.

Tyson, E. H. (2004). Ethnic differences using behavior rating scales to assess the mental health of children: A conceptual and psychometric critique. *Child Psychiatry and Human Development*, *34*, 167–201. http://dx.doi.org/10.1023/B:CHUD.0000014996.26276.a5

van der Ende, J., Verhulst, F. C., & Tiemeier, H. (2012). Agreement of informants on emotional and behavioral problems from childhood to adulthood. *Psychological Assessment*, *24*, 293–300. http://dx.doi.org/10.1037/a0025500

Wettstein, A., & Scherzinger, M. (2015). Using camera-glasses for the assessment of aggressive behaviour among adolescents in residential correctional care: A small-scale study. *Journal of Aggression, Conflict, and Peace Research*, *7*, 33–46. http://dx.doi.org/10.1108/JACPR-04-2014-0117

CHAPTER 3

# PSYCHOMETRICS AND TESTING

*Thomas P. Hogan and William T. Tsushima*

Basic psychometric concepts in clinical psychology and other areas of psychology emerged with the earliest attempts to measure psychological constructs, especially in the work of Spearman, Binet, Cattell, and other pioneers of the early 20th century. By the 1920s, a host of new psychological measures found common applications in clinics, schools, and businesses. In fact, most of the tests widely used in the United States today first appeared in a burst of activity in the relatively brief span of 25 years from about 1915 through 1940.

The technical manuals for these tests, as well as a growing number of professional journals, such as *Psychometrika* (first published in 1936) and *Educational and Psychological Measurement* (first published in 1941), established the outlines of what is now called *classical test theory* (CTT), containing most of the bread-and-butter technical foundations of today's tests. The mid-century mark allowed for consolidation of all this work, as represented by the appearance of Gulliksen's (1950) *Theory of Mental Tests* and the predecessors of the current *Standards for Educational and Psychological Testing*, one developed by the American Psychological Association (APA) in 1954 and another by the American Educational Research Association Committee on Test Standards and the National Council on Measurements Used in Education in 1955.

The publication of Lord and Novick's (1968) *Statistical Theories of Mental Test Scores* ushered in the era of item response theory (IRT), which provided the technical foundations for a whole new range of methods for the development and application of testing, including such procedures as computer adaptive testing. Elaborations of IRT continue apace today, and CTT procedures typically dominate everyday psychometric applications.

## DESCRIPTIONS AND DEFINITION

Psychometrics consists of a set of principles and procedures that serve as the technical foundation of all types of psychological tests. In this chapter, we describe these principles and procedures, with an emphasis on their implications for clinical practice.

At a general level, a test is any systematic source of information about a psychological construct. As such, the psychometric principles and procedures described in this chapter apply to all of the specific types of tests and assessments considered in this volume of the handbook. In this context, a host of other terms may substitute for the term *test*, for example, *measure, assessment, evaluation*, and *examination*. Some sources have drawn distinctions among these terms, but there is much redundancy and circularity among them. For example, the glossary of the *Standards for Educational and Psychological Testing* (hereinafter the *Standards;* American Educational Research Association, APA, & National Council on Measurement in Education, 2014) defines a test as "an evaluative device" (p. 224) and adds to the definition "assessment . . . sometimes used synonymously with *test*" (p. 216). Although not gainsaying some legitimacy to distinctions drawn among the alternative terms in some sources, in this chapter

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we use the term *test* in a broad sense to encompass all the various shades of meaning.

A psychological test is a source of information. In their day-to-day work, clinicians draw on a great variety of sources of information. Information may come from employer and school records, interviews with family members as well as with the client, and assorted medical tests, among numerous other sources. A psychological test is distinguished from other sources of information primarily by its reliance on the very psychometric principles and analyses described in this chapter: reliability, validity, standardization and norms, and attention to fairness. To some extent, such principles and analyses can, at least theoretically, apply to all sources of information used by the clinician. For example, one needs to worry about the validity and reliability of employer records or interviews with family members, but such technical information is often not available for these other sources of information. In contrast, such information should always be available for a psychological test. The distinction admittedly becomes fuzzy around the edges. For example, an interview with a client may be quite informal (no standardization of questions or scoring of responses), it may follow one of the formal structured interview schedules, or it may combine elements of both. School records may include results of standardized tests, with psychometric information, and results of teacher-made tests, without such information. Similarly, behavioral assessment techniques may range in their degree of standardization and psychometric analysis.

Three major topics have traditionally defined the field of psychometrics: reliability, validity, and norms. More recently, the topic of test fairness has emerged as a main entry. At its root, fairness is an aspect of test validity, but it may be described separately. Underlying all of these topics, from a practical perspective, are test development and item analysis—how a test gets developed so that it will ultimately be reliable, valid, fair, and appropriately normed.

## KEY SOURCES

Before introducing the major subtopics of psychometrics, it is useful to identify five key sources of information. The first has already been identified: the *Standards*, its most recent version appearing in 2014. New versions have appeared about every 15 years since the mid-1950s. Over the years, the *Standards* has served as a sort of bible of psychometric principles and practices. Test manuals routinely refer to the *Standards* when describing a test's technical characteristics.

The second source is the series of Buros Mental Measurements Yearbooks, often referred to simply as *Buros* or *MMY*. First appearing in 1938, new editions now arrive about every 3 years, the most recent being the 19th (Carlson, Geisinger, & Jonson, 2014). Each yearbook provides reviews of published tests, concentrating on their psychometric characteristics although also covering such practical matters as ease of administration, physical appearance, and score reports. The Buros series serves as the unofficial conscience of testing professionals regarding published tests.

The third source is the American Psychological Association's (2010) *Ethical Principles of Psychologists and Code of Conduct*. The code does not attempt to explicate specific psychometric principles and standards. However, it refers repeatedly, especially in Standard 9, Assessment, to the key concepts of reliability, validity, norms, and fairness. Thus, knowledge of these matters is not just helpful; it is a matter of professional ethics for the psychologist. Other professional associations, for example, the American Counseling Association and the National Association of School Psychologists, have similar statements.

Fourth, the Educational Testing Service (2015) online Test Collection merits note. It provides basic information regarding approximately 25,000 tests, both published and unpublished. Although it does not provide an evaluation of the tests (as does the Buros), the test collection serves as an easily accessible list of what tests may be available for a particular purpose.

Finally, in 2011, the APA launched PsycTESTS, a database containing information about tests and, in some instances, the actual tests. It concentrates on "unpublished" tests, that is, those not commercially available but appearing in some published source such as a journal article. Thus, in effect, this source

supersedes the *Directory of Unpublished Experimental Mental Measures*, published in print form for many years by APA. The PsycTESTS website (http://www.apa.org/pubs/databases/psyctests/index.aspx) says that it also includes commercially available tests, with links to a test's publisher, but efforts on that front are limited at present. As of 2014, PsycTESTS contained approximately 20,000 tests. Each entry includes basic information about the test, but no independent evaluative review. Like other APA databases (e.g., PsycINFO and PsycARTICLES), PsycTESTS can be accessed only by subscription.

## VALIDITY

Validity holds the central place in the pantheon of psychometric deities. Absent respectable validity, all other technical characteristics are not meaningless, but they are worthless. Excellent norms, high reliability, perfect fairness—all fail to be useful without good validity. The classic question of validity is this: Does the test measure what it purports to measure? That question is too general. The more precise question is to what extent a score on a test serves a particular purpose. Thus, it is not appropriate to ask whether the Symptom Checklist–90–Revised is valid, but it is appropriate to ask to what extent the score on the measure's Depression scale is valid for identifying individuals with sufficient symptoms of depression to warrant a particular therapeutic regimen. The first, more general question invites a yes-or-no response, which is virtually never adequate; it refers to the inventory as a whole rather than to a particular score, and it identifies no purpose. The second, more focused question suggests that the answer may be a matter of degree; it identifies a specific score, and it refers to a particular purpose. To present another example, rather than asking "Is the SAT valid," ask "To what extent is the SAT Mathematics score valid for predicting freshman year GPA?"

### Conceptual Framework

Contemporary descriptions of test validity depend heavily on the notion of overlap between the target construct for the test and what the test actually measures. Constructs include such matters as anxiety, depression, nonverbal intelligence, creativity, conscientiousness, and working memory. These are the types of variables psychologists want to measure. Figure 3.1 illustrates the concept of overlap between the test and its target construct; the figure introduces two terms used in discussions of validity: construct underrepresentation and construct-irrelevant variance. The area of overlap in Figure 3.1 represents the test's valid measurement. However, the test misses part of the target construct. This is construct underrepresentation. For example, a test of depression may underrepresent (miss) some of the affective component of depression. The test may also measure some variables not of interest, thus contributing construct-irrelevant variance.
For example, a test intended to measure mathematics problem-solving ability may be partially dependent on reading ability because of the heavy vocabulary load in the items. The terms *construct underrepresentation* and *construct-irrelevant variance* remind the test user to ask these questions about the validity of any test: What part of the target construct might the test be missing and what is the test measuring in addition to its intended target construct?

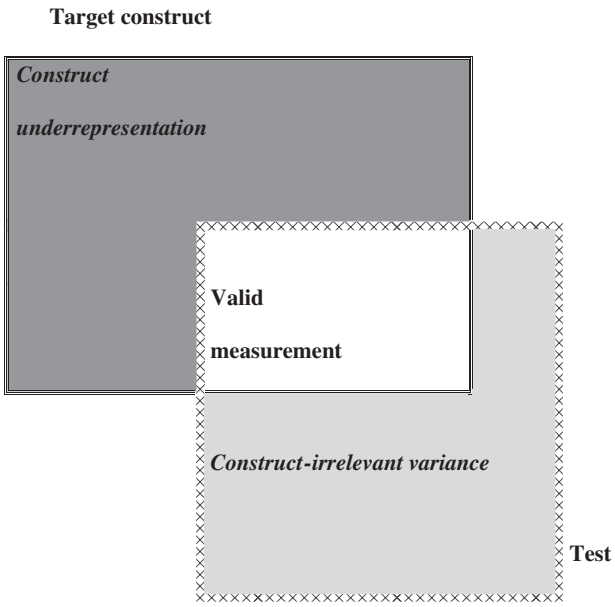



**FIGURE 3.1. Construct underrepresentation and construct-irrelevant variance in the relationship between a test and its target construct. From *Psychological Testing: A Practical Introduction* (3rd ed., p. 152), by T. P. Hogan, 2014, Hoboken, NJ: Wiley. Copyright 2014 by John Wiley & Sons, Inc. Adapted with permission.**

The psychometric literature has identified a host of methods to help establish the degree of validity of test scores. Many sources categorize the methods as content, criterion-related, and construct validity methods. The *Standards* use the term *relations to other variables* for criterion-related validity and list several types of information relevant to the more general term *construct validity*. The current *Standards* also include consequential validity, a notion introduced in the 1999 *Standards*. At a general level, all types of validity can be lumped under construct validity—the extent to which a test (or test score) is a meaningful indicator of its target construct—but, from a practical viewpoint, most reports of test validity fall under the terms listed above.

## Content Validity

Content validity involves matching the content of a test with the content of some well-defined body of material. Such material may consist of an area of knowledge (e.g., U. S. history before 1850 or Algebra 1) or a set of skills (e.g., rapidly processing insurance claims or using Excel). Content validity is much more than face validity, which refers to whether a test merely looks like it measures the test construct. Content validity means that the content of the test relates to the content of the relevant domain. In clinical psychology, test content is often matched with symptoms identified in the *Diagnostic and Statistical Manual of Mental Disorders* (*DSM*) or the *International Classification of Diseases* (*ICD*). For example, the Beck Depression Inventory–II consists of statements that match the symptoms of mood disorders listed in fourth edition of the *DSM* (*DSM–IV*). The Millon family of inventories orient themselves around the *DSM*, as do several structured interviews for clinical use.

Content validity is widely used with achievement tests, including all types of tests for certification and licensing. Some target constructs, for example, nonverbal intelligence or extraversion, do not have any well-defined body of content and hence are not subject to meaningful content validity analysis. The degree of content validity is usually expressed with verbal descriptors rather than numerical indexes.

## Criterion-Related Validity

Criterion-related validity involves comparing performance on the test with standing on some external criterion considered to be a good index of the target construct. For example, the average ratings given by three clinicians after 30-minute interviews might define the criterion for degree of depression and then correlate scores on the depression test with these averages. Freshman-year GPA might define academic success (the target construct); then, scores on the admissions test correlate with the GPA. The Minnesota Multiphasic Personality Inventory (MMPI), originally published in 1942, was a pioneer in the development of the criterion key approach to test development. Its successor, MMPI–2, also used the criterion-key method, but its alternate version, the MMPI–2 Restructured Form, relied on factor analysis and content approaches.

In some cases, another test, especially a longer or more widely recognized test, may serve as the external criterion for determining the criterion-related validity of a shorter or less well-known test. For instance, the validity of the 12-minute Wonderlic Personnel Test (now known as the Wonderlic Cognitive Ability Test) has found remarkable support in its high correlations with the Wechsler Adult Intelligence Scale. Results from the latter examples are expressed with the familiar correlation coefficient, in which case the result is called a validity coefficient.

Within the context of criterion-related validity, a distinction is sometimes made between predictive validity and concurrent validity. In predictive validity, as suggested by its name, a test aims to predict status on some criterion that will be attained in the future. For example, one may use a measure of suicidal ideation to predict the likelihood of a suicide attempt at some future time. In concurrent validity, one checks the agreement between test performance and current status on some other variable. For example, one may determine the relationship between scores on a test of depression and clinicians' ratings of current depression level. The difference between predictive and concurrent validity is strictly one of timing for the criterion variable. From all other perspectives, the two concepts are the same.

Discussions of criterion-related validity often include reference to convergent and discriminant validity. *Convergent validity* refers to circumstances when a high correlation is desired, for example, between scores on two tests of anxiety. *Discriminant validity* refers to circumstances when a low correlation is desired, for example, showing that the score from a test of introversion is not correlated with that on a measure of anxiety.

## Decision Theory and Related Concepts Within Criterion-Related Validity

In some circumstances, the external criterion is group membership, for example, brain injured versus not brain injured (a criterion relevant for neuropsychological assessment) or teachers versus not teachers (a criterion relevant for career interest inventories). In these cases, results are usually expressed with a test of significance accompanied by a measure of effect size. Within this context, modern psychometrics, particularly in clinical applications, makes increasing use of several concepts arising from decision theory. That theory's first use in testing was related to personnel selection: the use of tests to select employees for businesses, in which the decision was to hire or not hire, promote or not promote. Analogous concepts are now used in clinical contexts in which the decision is to classify people into such categories as depressed or not depressed, likely or not likely to attempt suicide, or dyslexic or not dyslexic. In each of these distinctions, there is almost certainly an underlying continuum, but in practice the final outcome is a dichotomous classification. Arraying the data in these situations gives rise to several important terms used routinely in clinical applications of tests.

Consider the use of a test to identify individuals likely to attempt suicide. People who score high on the test are classified as likely attempters. Scoring high is defined by a cutoff score or cut point on the test. Suppose the test is administered to a group of individuals, some of whom are known to have actually attempted suicide and others who have not attempted suicide. The scenario has people classified into two categories on each of two dimensions: the test score (high, low) and the criterion (attempters, nonattempters). The 2 × 2 table in Figure 3.2 outlines the scenario and the resulting data array.

| | Test score: Low | Test score: High |
|---|---|---|
| Attempted—yes | IV: False negatives | III: True positives |
| Attempted—no | I: True negatives | II: False positives |

**FIGURE 3.2. Illustration of quadrants in a decision theory 2 × 2 table.**

Quadrant I contains true negatives, cases who scored below the test's cut point and, in fact, did not attempt suicide. Quadrant III cases, the true positives, scored above the test's cut point and, in fact, attempted suicide. For a perfectly valid test, all cases would fall in Quadrants I and III. Alas, that will not happen. Two types of misclassification will occur. Some cases, the false positives in Quadrant II, scored above the cut point but did not attempt suicide. Other cases, the false negatives in Quadrant IV, scored low on the test but did, in fact, attempt suicide.

Two important contrasts arise in the application of decision theory to the use of tests for clinical purposes. The first contrast is sensitivity versus specificity. The second contrast is positive predictive power (PPP) versus negative predictive power (NPP). Figure 3.3 expands on Figure 3.2 to show these contrasts and how they are computed from the quadrants.

Sensitivity shows how well the test (and its cut point) correctly spots attempters among all those who did attempt. Specificity shows how well the test (and its cut point) correctly spots nonattempters among all those who did not attempt. PPP shows how well the test spots attempters among all those who scored above the cut point. NPP shows how well the test spots nonattempters among all those who scored below the cut point. The ideal test has high sensitivity, high specificity, high PPP, and high NPP. For a test identifying suicide attempters, the aim may be to attain high sensitivity and PPP while tolerating lesser levels of specificity and NPP. In practice, sensitivity and specificity usually trade off with one another, as do PPP and NPP. The degrees of trade-off fluctuate with two variables: where the cut point is set and the base rate for the criterion, all within the context of the test's validity.

| | | |
|---|---|---|
| IV: False negative | III: True positive | **Sensitivity = III/(III + IV)** |
| I: True negative | II: False positive | **Specificity = I/(I + II)** |
| **Negative predictive power = I/(I + IV)** | **Positive predictive power = III/(II + III)** | |

**FIGURE 3.3. Array of data to show computing procedures for sensitivity, specificity, positive predictive power, and negative predictive power.**



## Construct Validity

Originally, the term *construct validity* served as a catchall for a host of methods that did not fit conveniently under either content or criterion-related validity but did seem to offer evidence in favor of the proposition that a test measured its target construct. Included among the methods were the effect of experimental manipulations on test scores, the study of response processes, and factor analysis of either scores or items. Factor analysis has been especially popular (see Volume 2, Chapter 19, this handbook). A good example of the incorporation of varied construct validation approaches is found in the State–Trait Anxiety Inventory, which (a) has been correlated with scores from other tests that purport to measure anxiety; (b) has been shown to contrast groups who exhibit different patterns of state anxiety and trait anxiety; (c) has shown the effects of temporary stressors that elevate state anxiety, but not trait anxiety, scores; and (d) has shown separation of state and trait anxiety items with factor analysis.

The key notion for all these methods was presenting evidence. Authorities gradually agreed that, in fact, content validity and criterion-related validity were doing just that: presenting evidence. Hence, construct validity became the superordinate category for all types of validity, what is sometimes called the *unitary concept of validity*. Nevertheless, the term *construct validity* is thoroughly entrenched in the professional literature, including test manuals and, in those sources, it serves its original catchall purpose—any evidence that seems to support the argument that the test measures its target construct.

## Consequential Validity

The 1999 *Standards* introduced the concept of consequential validity, and the 2014 *Standards* continues the usage. The central idea of consequential validity is that one aspect of a test's validity is the ultimate effect of its usage, and controversy has surrounded the notion since its introduction. Proponents claim that consequences hold a crucial place in judging the validity of a test's scores. Antagonists fall into two camps. One camp has suggested that consequences may be important but that they are not a matter of test score validity. Another camp has opined that no calculus exists to identify and sum up all the possible consequences of a test's use or to determine who is responsible for certain consequences, so the concept cannot be operationalized. In practice, virtually no test manuals or other professional reports have attempted to demonstrate consequential validity of specific tests. Perhaps that will change with time.

## Incremental Validity

The term *incremental validity* does not describe a distinct type of validity evidence, such as content validity or criterion-related validity. Rather, it refers to the increase in validity attained when a new source of information (in this context, a test) is added to already available information (e.g.,

another test of set of tests). The simplest, clearest scenario for incremental validity occurs in the context of multiple correlation methodology. Suppose one already has scores from Tests X and Y to predict Criterion C. Will adding Test Z, using multiple correlation methods, add significantly to the prediction?

In the latter case, one gets a nice, numerical answer. However, the concept of incremental validity extends to other cases in which no simple numerical answer applies. For example, when relying primarily on notions of the construct validity of several measures of depressive mood, does the addition of a second measure of depressive mood add noticeably to the clinician's formulation of a therapeutic plan? No numerical answer applies, but the question still has relevance.

From a practical viewpoint, consideration of incremental validity goes beyond the matter of whether an additional measure yields meaningful new information to the existing corpus of information. Incremental validity must also weigh such factors as the cost and convenience of adding the new measure. To use the multiple correlation example mentioned above, suppose that adding Test Z to Tests X and Y increases *R* from .40 to .45, a significant increase. If adding Test Z costs a nickel and can be completed in 5 minutes, include it. If adding Test Z costs $10,000 and requires 4 hours, maybe not. Hunsley (2003) provided an extended discussion of incremental validity in clinical contexts.

### Validity Generalization

*Validity generalization* refers to the process of summarizing many separate validity studies to yield general conclusions about a test score's validity, always remembering that validity relates to use of a particular score for a particular purpose. The traditional method for developing such generalizations was the narrative review. Current practice favors the use of meta-analytic techniques (see Borenstein et al., 2009). The goal in either case is to draw conclusions about a test score's validity that go beyond a single study. Validity generalization should be distinguished from generalizability theory in the context of reliability, as described in the next section. Validity generalization develops from examination of many validity studies. A generalizability analysis (in reliability) occurs within a single study.

### Other Definitions of Validity

The preceding paragraphs defined validity as the psychometric literature uses the term. The broader field of social sciences applies the term *validity* in several other ways that do not directly relate to psychometric validity. The most frequent of these other uses include internal validity and external validity. Both terms occur in the context of research methodology. *Internal validity* refers to the extent that a research design allows one to draw causal conclusions. *External validity* refers to the extent to which a particular study allows one to generalize to broader contexts. A related term is *ecological validity*, which refers to whether a study occurred in realistic circumstances. Thus, the term *validity* has meanings and contexts beyond psychometric validity as defined here.

## RELIABILITY

*Reliability* refers to the stability and consistency of scores from a test or any measurement procedure. Lack of reliability leads to scores that fluctuate unsystematically from one occasion to another, from one test form to another, from one scorer to another, and so on. The concept of reliability applies to any measurement process, not just to psychological tests. For example, the concept applies to procedures for measuring speed in the 100-yard dash, the amount of mercury in a river stream, and heart rate, as well as to measures of intelligence, depression, anxiety, and learning disabilities. Any unsystematic error in such measures must be taken into account when interpreting results of the measurement. Consider Abigail's speed in the 100-yard dash. This week her time is 12.7 seconds, last week it was 12.5 seconds, and 2 weeks ago it was 12.6 seconds. That is very consistent, stable performance. Now consider the following example. An IQ test is administered to Aidan on 3 successive days. On Day 1, he gets an IQ of 130; on Day 2, an IQ of 65; and on Day 3, an IQ of 100. His scores fluctuate so much as to be virtually useless. If you had only one of these scores and tried to draw an inference about Aidan's level of

intelligence, you could be terribly wrong. IQs are expected to be reasonably similar across the three test administrations. Reliability deals with these degrees of unsystematic fluctuations in scores and is one of the most fundamental concepts in psychometric theory. Test manuals routinely report (or should report) information about the reliability of test scores as well as methods for taking into account limited reliability when interpreting test scores.

Proper understanding of reliability requires reference to two important distinctions. First, reliability differs from validity, as described in the previous section. At a simple level, validity refers to the extent to which a test measures its target construct, for example, depression or working memory. Reliability refers to whether the test is measuring something consistently. A test may be measuring something consistently but not necessarily the construct of interest. A test must have some degree of reliability to be valid, but reliability does not guarantee validity.

Second, reliability deals with transient, nonessential changes in scores resulting from circumstances of the measurement process. It does not refer to real changes in the trait or characteristic. Distinguishing between what is transient change and real change depends on the purpose of the measurement and the nature of the target construct. For example, general intelligence is not likely to undergo real change from day to day, but mood may show real change from one day to the next.

## Sources of Unreliability

Four conditions may affect the measurement process, thus contributing to diminished reliability. First, transient changes in personal conditions may affect the measurement without modifying the underlying trait being measured. For example, a bout of flu or bad news about a friend's auto accident may affect test responses, but only for a limited time. Second, administrative conditions may affect scores, again without changing the underlying trait. One test administrator's success in establishing rapport or one testing room's physical arrangements may affect scores. Third, for any test requiring human judgment for scoring, the scoring process itself may influence scores. Some scorers or raters may be generous, others less so. Fourth, specific test content may influence scores in an unsystematic manner. The exact selection of words for a spelling test or the exact wording of items on a depression inventory may have somewhat different influences on different people. Changes in the exact selection of words may affect scores. Methods for measuring reliability, described below, try to gauge the effect of these changes in personal conditions, administrative circumstances, scoring procedures, and selection of content.

## Conceptual Framework

A widely used conceptual framework for reliability specifies three related scores: an observed (or obtained) score, O; a true score, T; and an error score, E. An observed score is a person's actual score on a single administration of a test. The true score may be thought of in two ways. On one hand, it may be thought of as a person's score free from all sources of unreliability. On the other hand, it may be thought of as the average of an infinite number of administrations with modest changes in personal conditions, administrative arrangements, scoring procedures, and exact content, thus with all the sources of unreliable error cancelling out in reaching the average. The difference between the observed score and true score is error (E), which may be positive or negative, giving rise to the following: $T = O + E$, or, rearranging terms, $O = T + E$.

We want to know T, but it is never directly available. The observed score, O, is available: That's what comes from a single administration of a test. The more reliable the test, the smaller E will be and, hence, the better O will approximate T. With net positive error, the observed score is greater than the true score. With net negative error, the observed score underestimates the true score. With a highly reliable test, the observed score gives a very good estimate of the true score. Low reliability leads to situations in which O may be a poor estimate of T.

Psychologists have developed several different methods for measuring test reliability. Each of the frequent methods captures one or only some of the sources of unreliability described earlier. Some advanced methods attempt to capture more

than just one of the sources. Nearly all methods of expressing reliability use some form of the correlation coefficient. There are many forms of the correlation coefficient, but reliability most frequently uses the Pearson correlation coefficient, symbolized by *r*. Reliability is sometimes expressed by other correlation indices, for example, kappa or the intraclass correlation coefficient, but the Pearson *r* is the benchmark index.

Because reliability is usually expressed as a correlation coefficient, issues affecting correlations become relevant for reliability studies. Among such issues are assumptions about linearity of the relationship, heteroscedasticity (differences in scatter around the regression line), and degree of group variability. The latter is the most important from a practical viewpoint. When the group used to conduct the reliability study is more (or less) varied than the general population, then the resulting correlation coefficient (*r*) will overestimate (or underestimate) reliability for the general population. When this issue of a difference in group variability occurs, it is common to use one of the formulas for correcting the original *r*, yielding an *r* corrected for group homogeneity or range restriction. See Glass and Hopkins (1996) or Nunnally and Bernstein (1994) for appropriate formulas and useful context.

## Test–Retest Reliability

The test–retest method provides one index of reliability. In this method, a test is administered to the same group of individuals on two occasions. The correlation between scores on the two occasions is determined. The resulting *r* is called the *test–retest reliability* or *stability coefficient*. Intertest intervals vary. An interval of 1 to 2 weeks is common, but studies using as little as 1 day or as long as 1 year are encountered. Test–retest reliability is the premier method—really, the only method—to determine temporal consistency, thus dealing with changes in personal conditions and administrative circumstances.

The test–retest method presents several challenges. First, it is cumbersome to conduct, especially for longer tests or complex procedures. For example, getting an adequate number of individuals to repeat a 2-hour test in a 1-week period is not easy. For this reason, test–retest reliability is not available as often as desired. Second, taking the test the first time may affect scores on the second testing. On a cognitive ability test, some (but not all) individuals may deliberately seek out an answer to a question failed on the first test or figure out the way to solve a problem. On a personality measure, some individuals may remember how they responded on the first test and deliberately answer the same way on the second test. Third, the intertest time interval tends to be crucial. If the interval is too long, real changes may have occurred in the trait being measured, such as cognitive abilities that increase with time among rapidly developing children. A very short interval invites undue influence of memory.

Test manuals sometimes present information about stability of the mean and standard deviation from first to second testing. Such information may be useful, but it says nothing about test–retest reliability. In fact, the mean and standard deviation may be identical from the first to the second testing, but the correlation between scores may be zero. Conversely, mean or standard deviation may change significantly, but the correlation may be perfect.

## Interrater Reliability

Interrater reliability, also known as interscorer reliability, involves determining the correlation between two (or more) ratings in scoring a test. This type of reliability information is crucial to whatever extent human judgment enters the scoring or rating process. When human judgment does not enter, for example, on machine-scored tests, interrater reliability is largely irrelevant. Such scoring is not 100% perfect, but the degree of error is usually trivial. Examples of scoring in which human judgment is important include assigning grades to the quality of an essay, scoring free-response answers to vocabulary items on an intelligence test, interview-based judgments about the severity of depression, and most responses to projective techniques. Use of two raters when scoring a continuous variable (e.g., two raters scoring a sentence-completion test or two raters judging the quality of writing in essays) results in the familiar Pearson *r*, called the interrater reliability coefficient. Use of more than two raters may result in use of the intraclass correlation.

When the variable is not continuous (e.g., placement into categories) some other index of agreement (e.g., kappa) will be used.

In applying interrater reliability, it is important that the raters act independently. If they collaborate, the resulting correlation may be inflated. It is also important that the raters be representative of the ordinary users of the test or procedure. If the raters in the interrater reliability study are trained to a much higher level than the people ordinarily using the test, the resulting correlation will likely be inflated.

Intrarater (intrascorer) reliability gauges the consistency with which individuals assign scores or ratings to the same set of performances when scoring is done on different occasions. For example, a teacher may grade a set of 20 essays today and again 2 weeks later. The correlation between grades on the two grading occasions is the intrarater reliability. Reports of intrarater reliability are rare.

## Alternate Form Reliability

Some tests are available in alternate forms, often labeled *Forms A and B* or *Forms 1 and 2*. In this usage, the alternate forms are intended as equivalent measures of the target construct. This does not apply to tests available in long and short forms, which, although aimed at the same target construct, do not purport to be equivalent measures. In an alternate-form reliability study, the same group of individuals completes both forms of the test, and scores are correlated (usually Pearson *r*). This method helps to assess measurement variance due to differences in specific content.

The chief drawback of this method is the simple fact that most tests do not have alternate forms; they are available in only one form. The design of an alternate-form study, when it is possible, may also present difficulties. Problems are minimal if the forms are very short and administered in immediate succession. If forms are long (or short but particularly challenging) and administered in immediate succession, fatigue may affect scores on the second administration. If the forms are long and separated by a significant time interval, then the study becomes a mixture of an alternate form and a temporal stability (test–retest) study.

## Internal Consistency

The third common method used to gauge reliability is internal consistency. There are a great variety of internal consistency methods, but only three are frequently encountered in the professional literature. All the methods share the following features. They all concentrate on the internal homogeneity of the test items (i.e., the extent to which all the items tend to measure the same trait or characteristic). They all measure only content consistency. Thus, they do not deal with temporal consistency across test occasions or across scorers. They all depend on a single administration of the test. This latter feature is why these methods are so widely used; they are very simple in terms of data collection. The three commonly encountered indexes of internal consistency are the split-half method, Kuder–Richardson Formula 20 (KR-20), and coefficient alpha.

In the split-half method, the total test is split into two halves, scores are determined for each half, and scores on the half-length tests are correlated (usually, Pearson *r*). In effect, the two half-length tests are like alternate forms, as described above. The two halves may be created in a variety of ways, but the most common way is to split the test into odd-numbered and even-numbered items, in which case the method is called *odd–even reliability*. Splitting the test in half yields a reliability estimate for a half-length test. Test reliability depends partly on the number of items in the test. Therefore, a correction, called the *Spearman–Brown correction*, is applied to the correlation on the basis of the half-length test.

The second commonly used internal consistency index is KR-20, the 20th formula derived by Kuder and Richardson (1937) in their exploration of internal consistency. The result is equivalent to the average of all possible split-halves. The formula applies to items scored as dichotomies (e.g., correct–incorrect or yes–no).

Currently, the most widely used index of internal consistency is coefficient alpha, also known as Cronbach's alpha (Cronbach, 1951). (Coefficient alpha has nothing to do with the alpha level used in significance tests. The overlap in name is purely coincidental.) It generalizes the KR-type formulas to remove the restriction to dichotomized item responses. Thus, coefficient alpha applies to items

that may have 5- or 7-point response scales, as well as to items that have 2-point (1/0) scales.

Examination of the formulas for KR-20 and alpha show that they are not Pearson *r*s. However, the numerical results of the formulas are interpreted like Pearson *r*s. For example, a KR-20 or coefficient alpha of .95 is considered very high. The professional literature contains numerous variations on internal consistency indexes similar to Cronbach's coefficient alpha but practical applications rarely use any of these other indexes.

To the extent that test performance depends on speed, internal consistency estimates of reliability will be inflated. If the test depends primarily on speed, the inflation is severe and internal consistency estimates should not be used. Inflation resulting from speededness does not affect results for the other methods of estimating reliability (test–retest, interrater, and alternate form).

## Standards for Reliability Coefficients

What is an acceptable level of reliability? The answer depends, to some extent, on the purpose of the measurement. However, a variety of authors have offered guidelines on this question. Generally, a reliability coefficient of at least .90 is considered high and .95 is considered excellent; these levels of reliability are desired when the measurement is used for important decisions, for example, classification of a person as having an intellectual disability or for professional licensing exams. Reliability coefficients of .80 to .89 are considered good; measurements with this level of reliability should be combined with other sources of information in making important decisions. Reliability coefficients of .70 to .79 are marginally acceptable; interpretation of scores from such instruments requires considerable caution. Reliability coefficients in the range of .60 to .69 are weak; such instruments should probably be used only for research purposes (and for research purposes, they limit the power of any statistical tests in the research). When reliability sinks below about .60, one should probably just look for some other measure with better reliability.

As examples of the different types of reliability measures, according to Mitrushina et al. (2005), the test–retest reliability of the Boston Naming Test over an 11-month interval has been reported to be .92. The inter- and intrarater reliabilities of the Rey–Osterrieth Complex Figure Test have ranged from .69 to .97. The correlations between alternate forms of the Benton Visual Retention Test are generally respectable: .79 to .84. The internal consistency of the Hooper Visual Organization Test has been estimated at .88. The split-half reliability of the Paced Auditory Serial Addition Test has been cited as greater than .90.

Three cautions are warranted about what are not useful standards for judging reliability data. First, the statistical significance of a reliability coefficient is not useful. Determining the significance of *r* involves testing the hypothesis that the population correlation ($\rho$) is .00, hardly a useful benchmark for reliability. The result of the significance test depends heavily on the sample size used to calculate *r*. Given a large enough sample, almost any *r* will be significant, perhaps even highly significant. That is not useful information about reliability. Second, Cohen's (1988) widely used benchmarks for correlation coefficients (.10 is low, .30 is moderate, .50 is large) are not useful for evaluating reliability. Cohen's benchmarks were developed in an entirely different context than reliability considerations. Third, one needs to be wary about references to "the" reliability of a test. As should be obvious from the list of sources of unreliability and different methods for determining reliability, most reports of reliability assess limited sources of unreliability, for example, test–retest reliability (over a certain period of time), alternate form reliability, coefficient alpha internal consistency, and so on. Practical interpretation should take into account all sources of unreliability.

## Standard Error of Measurement

The standard error of measurement provides an important way to relate an index of reliability to practical matters of test interpretation. The conceptual formulation for reliability presented earlier identified a potentially infinite number of observed scores for an individual (obtained on different occasions, with different forms, different scorers, etc.) distributed around the person's true score. The standard error of measurement is the standard deviation of the many hypothetical observed scores around

the true score, which serves as the mean of this distribution. The standard error of measurement derives from the reliability coefficient (and standard deviation) as follows:

$$SEM = SD\sqrt{1 - r_{xx}},$$

where $r_{xx}$ is the test's reliability (obtained with any of the methods described earlier) and *SD* is the test's standard deviation for the group on which the $r_{xx}$ was determined. Assuming a normal distribution, all of the usual relationships between a standard deviation (in this case, standard error of measurement) and a normal distribution (in this case, observed scores around true score) apply. For example, 68% of the cases in the distribution lie within ±1 *SEM* of the true score, approximately 95% lie within ±1.96 *SEM*, and so on. Intervals such as ±1 *SEM* or ±1.96 *SEM* are often referred to as *confidence bands* and are placed around an observed score to provide an estimate of the range within which a person's true score (probably) lies. Test manuals typically provide 68% and 95% confidence bands. Many computer-generated score reports place the confidence band around the observed score in graphic form.

Most typically the standard error of measurement is based on only one type of reliability coefficient (e.g., coefficient alpha) and, therefore, takes into account only one source of unreliability. The test interpreter must consider this limitation when using the standard error of measurement. Although standard errors of measurement are often reported in the manuals, clinicians typically rely on a single score, for example, the Full Scale IQ, and rarely report the standard error of measurement and its confidence interval, which could be ±5 IQ points.

The standard error of measurement is often confused with but must be carefully distinguished from two other types of standard errors. First, there is the standard error of the mean (coincidentally, also often abbreviated SEM). It is the standard deviation of the sampling distribution of sample means around the population mean (μ). It is used when conducting hypothesis tests or constructing confidence intervals related to μ. Second, there is the standard error of estimate used when making predictions of one variable from another in a regression context. It is the standard deviation of actual data points around a best-fitting line.

## Standard Error in Item Response Theory

Applications of the standard error of measurement based on internal consistency indexes of reliability arise from use of CTT. When a test is based on IRT, a different type of standard error emerges called the *precision-of-measurement* estimate. Although arising from different assumptions and procedures, the IRT-based precision-of-measurement index is interpreted much like the standard error arising from CTT-based internal consistency measures. However, an important difference between the two methods is that the CTT-based standard error is the same for all score levels, whereas the IRT-based precision-of-measurement index can vary for different score levels. For example, precision may be greater for high scores than for low scores or for extreme scores versus mid-level scores—or any other contrast. Test–retest reliability, interscorer reliability, and alternate-form reliability apply equally well to tests based on either CTT or IRT. Most important, the IRT-based precision-of-measurement index provides no information about temporal stability or scorer reliability.

## Reliability of Differences

In many practical applications, the score of interest is the difference between two scores, for example, the difference between a verbal reasoning score and a perceptual reasoning score or between an IQ score and a reading achievement score. Except in the unlikely case in which the two scores are uncorrelated, the reliability of the difference will be less than the average reliability of the two original scores. Often, the two original scores are substantially correlated, in which case the reliability of the difference will be noticeably less than the average reliability of the original scores, thus requiring great caution when interpreting the difference between two scores. For example, for two tests each with reliability of .80 and intercorrelation of .60, the reliability of the difference between scores on the tests is only .50—not very reliable. This problem is exacerbated when examining many differences

simultaneously, as often occurs in clinical assessments, because of the effects of compound probabilities. The likelihood of finding significant differences based on relatively unreliable differences rises rapidly as multiple comparisons are made.

### Reliability's Relation to Validity

Although distinct concepts, reliability and validity are related in practice, but in an asymmetrical manner. A test may have excellent reliability but no validity. However, a test must have a minimum degree of reliability to have decent validity. Reliability places an upper limit on validity.

When validity is expressed as a correlation coefficient, as in criterion-related validity studies, the relationship between validity and reliability can be expressed mathematically: The validity coefficient cannot exceed the square root of the reliability coefficient. The practical application of this relationship leads to the widely used correction for attenuation, whereby an obtained validity coefficient can be corrected for unreliability in either one or both variables entering the validity coefficient. See Hogan (2014) and Nunnally and Bernstein (1994) for relevant formulas. These corrections for attenuation are routinely applied in investigations of test validity and in meta-analyses. However, in actual practice, the original correlation between X and Y is what it is, with unreliability incorporated into the measures. For example, suppose a test of depression correlates .50 with the ratings of depression averaged across three clinicians. The validity coefficient (.50) might rise to an impressive .75 when corrected for unreliability in both the test and criterion. In practice, though, the validity coefficient is still a modest .50 because it is subject to unreliability in both sources, the test and the ratings.

Formulas are available for investigating the influence of reliability on validity when validity evidence appears as a correlation. However, much validity evidence does not appear as a correlation, for example, evidence for content validity or evidence related to response processes. In such situations, there is no way to correct for unreliability. Nevertheless, the same notion applies: Reliability affects validity and, therefore, reliability information should be taken into account when interpreting validity evidence.

### Generalizability Theory

A single reliability coefficient, as derived by any of the methods described earlier, reflects only some of the unreliable variance in test scores. The procedures of generalizability theory (Brennan, 2001, 2010) attempt to account for multiple sources of unreliable variance within a single study, partitioning out, for example, unreliability due to different occasions (as in a test–retest study), different content (as in an alternate-forms study), and different scorers (as in an interscorer study). The procedures apply analysis of variance techniques to partition various components of unreliability. The procedures are elegant and can yield useful insights into how a test functions. Unfortunately, generalizability studies are not widely used in practice because they can be cumbersome to carry out. Separate reports of one type of reliability coefficient (test–retest, interscorer, internal consistency, or precision of measurement) continue to be the typical practice. When a generalizability analysis has been conducted, it is important to examine which sources of unreliability entered the analysis; if a potentially important source of unreliability has been omitted, the generalizability analysis will obviously not identify its effect.

## ITEM ANALYSIS

The process of developing a test from its original conception to its final publication provides the practical context for the application of many psychometric principles and techniques. For example, reliability and validity are investigated during test development; and establishing test norms occurs as part of test development. Chapter 16 in Volume 2 of this handbook describes the entire test development process. One set of procedures plays a particularly prominent role in the test development process: item analysis. The term *item analysis* encompasses a family of methods for analyzing data on individual items. Most tests consist of a set of items, for example, vocabulary words, math problems, questions about the presence of depressive symptoms or anxiety episodes, and so on. Test developers prepare items, usually according to a test blueprint or set of test specifications. These items are then administered to groups reasonably similar

to those in the test's target population. In fact, in many cases, the items are tried out on precisely the target group, although the tryout items are not yet operational but are embedded among items that are operational in a given test administration. In other instances, the tryout group is simply a stand-alone research group. Whichever tryout procedure is used, after administration, the items are subject to item analysis. On the basis of item analysis information, items are selected for the final test. Characteristics of the items determine how the final test will perform. Exact item analysis procedures differ somewhat according to CTT and IRT. However, they share the same purpose and underlying concepts. In both approaches, many of the terms originated in the context of cognitive ability tests and were carried over to noncognitive tests (e.g., personality tests) with some strain in meaning.

CTT, the more traditional approach, has two key concepts: item difficulty and item discrimination. *Item difficulty* refers to the percentage of cases in the tryout group that get the item correct (in cognitive tests) or respond in a certain direction (e.g., "true" on a noncognitive test). Hence, this index is usually referred to as the item's *p* value. An item with a *p* of .90 is an easy item: 90% of respondents answered it correctly. Test developers usually aim to have an average *p* value in the range of .40 to .70 because that tends to maximize the test reliability, which, in turn, can affect test validity—thus illustrating the connection between item analysis and other psychometric characteristics of the test.

*Item discrimination* refers to the extent to which performance on an item agrees with or correlates with performance on the test as a whole (defined by total score on the test) or on some external criterion assumed to be a valid indictor of the test's target construct. In practice, nearly all item analysis applications use the total test score rather than an external criterion to determine item discrimination. Individuals in the item tryout group are divided into "high" and "low" groups on the total test score. *High* and *low* may be defined as the top and bottom half on total score or any other split, but the most common practice is to use the top and bottom 27% of cases. Once these high and low groups are identified, their performance on each item is determined and contrasted, yielding an item discrimination index. The index may take a variety of forms. One form is simply the difference between high and low groups in percentage of those answering correctly (or in a certain direction). Another form is the correlation between total score on the test and score on the item (scoring the item 1 or 0 for correct or incorrect). Test developers generally aspire to select items with high discrimination indexes. Items with negative discrimination indexes are clearly undesirable; items with near-zero indexes are not helpful from a measurement perspective.

Figure 3.4 shows a simplified item analysis display for two items. For each item, the analysis shows the percentage of cases in the tryout group (separately for high, low, and total groups) who selected each option in a multiple-choice item. An asterisk indicates the correct answer. In these examples, the high and low groups represent the top and bottom 50% of cases on total score. The percentages selecting the correct option give the *p* values for each item. Item 4 is moderately difficult ($p = .60$; i.e., 60% answered correctly). Item 15 is difficult ($p = .25$; i.e., 25% answered correctly). The item discrimination index here ($D$) is the difference between high and low groups in percentage of correct answers. Item 4 shows relatively good discrimination ($D = .40$), and Item 15 shows rather weak discrimination ($D = .10$). As a practical matter, discrimination indexes above about .30 are relatively good, and indexes rarely rise above about .60.

IRT methods fit a mathematical function to the relationship between responses to an item and a presumed underlying trait. Three main models are

| | | | | | | |
|---|---|---|---|---|---|---|
| **Item 4** | | | | | | |
| Group | A | B* | C | D | | |
| High | 4 | 80 | 10 | 6 | | |
| Low | 10 | 40 | 30 | 20 | | |
| Total | 7 | 60 | 20 | 13 | $p = .60$ | $D = .40$ |
| **Item 15** | | | | | | |
| Group | A | B* | C | D | | |
| High | 20 | 35 | 15 | 30 | | |
| Low | 20 | 55 | 5 | 20 | | |
| Total | 20 | 45 | 10 | 25 | $p = .25$ | $D = .10$ |

**FIGURE 3.4. Illustration of classical test theory item analysis data for two items. Asterisks indicate the correct answer.**

used to fit the function (equation), referred to by the number of parameters in the equation: one, two, or three parameters, hence 1P, 2P, and 3P models. The three parameters in the 3P model are usually labeled the *a*, *b*, and *c* parameters.

In addition to yielding these parameters, results are often displayed graphically in the form of an item characteristic curve (ICC). Figure 3.5 shows ICC plots for two items differing in the three parameters. The *x*-axis shows position on the underlying trait, represented by theta. The *y*-axis shows the probability of a correct response (for people at a certain level of theta).

The *a* parameter, also called the slope parameter because it corresponds to the steepness of the curve's slope, corresponds approximately to the item discrimination index in CTT. In fact, it is often called the discrimination parameter. In Figure 3.5, Item 35 has a steeper slope (sharper discrimination) than does Item 12. The *b* parameter, also called the location parameter because it locates the center of the ICC on the theta axis, is analogous to the item difficulty (*p* value) in CTT and is sometimes called the difficulty parameter. In Figure 3.5, Item 35 has a higher *b* parameter than does Item 12. Item 35's ICC is shifted to the right on the theta axis. Item 35 is harder than Item 12. Values of the *b* parameter are rather arbitrary but generally range from about −4 to 4. The *c* parameter, also called the guessing or pseudo-guessing parameter, gives a lower asymptote to the ICC. It represents the probability that a respondent would get the item right by guessing or by some means other than true ability on the trait of interest. In Figure 3.5, Item 35 has a *c* parameter of .10, and Item 12 has one of .20.

The 3P model uses all three parameters. The 2P model drops the *c* parameter, that is, does not fix any lower asymptote for the ICC. The 1P model also drops the *a* parameter, essentially assuming that all items have equal discriminating power and differ only in difficulty level (the *b* parameter). A popular version of the 1P model is the Rasch model (see deAyala, 2009, for a description of IRT models).

In practice, test developers routinely use both the CTT and the IRT item analysis procedures, and there is much redundancy in the information they provide. A distinct advantage of the IRT methods is that they serve a crucial role in the development of computer-adaptive testing. They also aid procedures for equating levels and forms of tests. A disadvantage of the IRT methods is that they require much larger samples than CTT methods to obtain reasonably stable results.

Within the realm of noncognitive tests, for example, personality and attitude measures, factor analysis methods are often used to supplement CTT and

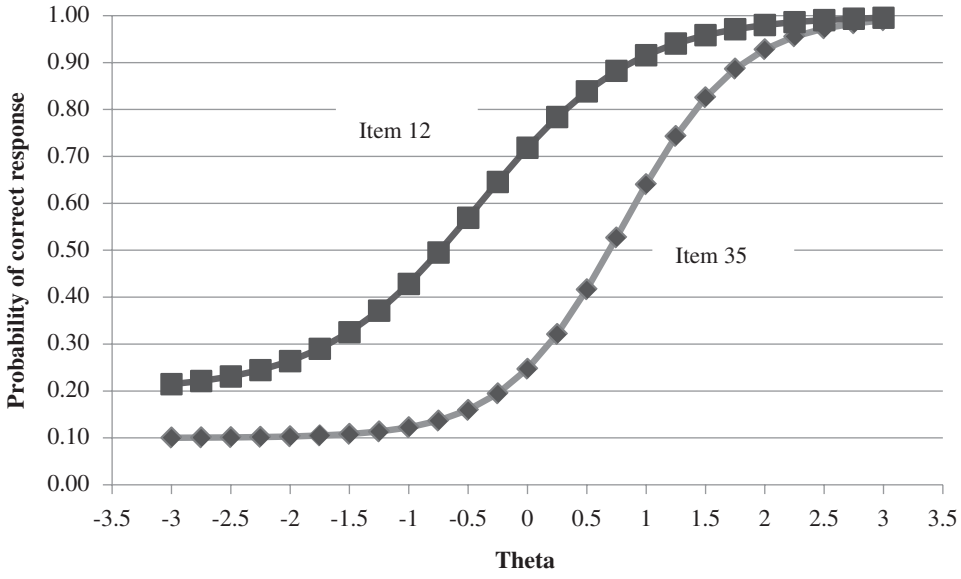



**FIGURE 3.5. Illustration of item characteristic curves for two items in item response theory analysis.**

IRT methods for purposes of item analysis. In this application, the test developer performs factor analysis (see Volume 2, Chapter 19, this handbook) on a large pool of items (the tryout items) and then seeks to identify items with high loadings on a factor to include in the final scale for that factor. Items that do not have high loadings or that have moderate loadings on more than one factor are candidates for elimination from the final test. Any of a variety of factor-analytic methods might be used, but they all aim to yield scales that are relatively pure measures of a target construct. The NEO Personality Inventory–3 and Sixteen Personality Factor Questionnaire represent prime examples of the factor-analytic approach to personality test development.

## FAIRNESS

The concept of test fairness has risen steadily in importance as a fundamental psychometric principle. Signifying the topic's emergence, the current edition of the *Standards* devotes an entire chapter to it, immediately after the chapters on validity and reliability. In psychometric terms, fairness is the flip side of bias. A fair test is unbiased. A biased test is unfair.

The concept emerged first in the context of minority children's performance on intelligence and achievement tests. Were such tests fair, or were they biased against children from minority cultures? The concept of fairness has matured to go well beyond minority children and cognitive tests. It now includes performance of any subgroup on any type of test. For example, is the ABC Anxiety Test fair (unbiased) when used with individuals in the Amish culture or with elderly women? During the maturation process of the concept of test fairness, it has merged with many of the notions originally formulated within the context of physical disabilities.

At root, the question of fairness is part of test score validity (a point made in the *Standards*' treatment of the topic). Fairness relates to whether a test score is equally valid for individuals in various subgroups. More exactly, does the test measure the target construct equivalently for individuals in different subgroups? Consider the case of a group-administered intelligence test printed in 10-point type. For a person with a visual disability, the test may be largely a measure of visual acuity rather than a test of intelligence. For the person in the Amish culture, responses to the anxiety measure may be more a reflection of response sets peculiar to that culture than a reflection of real levels of anxiety.

Most analyses of fairness deal with subgroups defined by gender, race/ethnicity, and assorted other cultural groupings. However, the number of groups that might be examined is virtually limitless, and the professional literature examining different groups is ever expanding.

Fairness (or lack of bias) does not necessarily imply equivalence of average performance on a test. If groups A and B truly differ on trait X (with group A being higher), the fact that group A scores higher on a test measuring trait X does not mean that the test is biased against group B. However, if the two groups do not truly differ on the trait and group B scores lower than group A on the test, then the test is biased against group B.

Test developers have used three main approaches to examine test bias or, more precisely, to avoid test bias. The first method involves use of test review panels consisting of representatives of various subgroups. Typically, panel members represent racial/ethnic minority groups. Depending on the target group for the test and its intended construct, panel members may focus on issues other than culture, such as physical disabilities. Panel members review test content to identify words, concepts, contexts, or administrative conditions that might make test content unfair to a subgroup. Content—for example, test items—thus identified might be eliminated from the test early in the test development process. Nearly all tests developed in recent years have used such test review panels.

A second method, called *differential item functioning* or a similar name, examines performance of subgroups of examinees on individual test items. A host of specific methods have been used for this purpose, but they all share the same general approach. The procedures contrast the performance of a majority group (the reference group) with that of a minority group (the focal group) on individual items for members of the two groups who have the same total score on the test. Items on which performance

differs noticeably between reference and focal groups are eliminated or, at least, flagged for further scrutiny. Construction and examination of ICCs can be used to compare groups. In this application, the question is whether different groups yield approximately the same ICCs on a given item.

A third method for examining test fairness applies only to those tests for which prediction is a principal purpose, for example, tests to predict success on the job or in school. The analysis here, referred to as *differential prediction*, involves determining whether the test predicts equally well for different groups. Predicting equally well implies that the regression equations used for prediction are approximately equal for different groups. A (linear) regression equation has two parameters: one for slope and one for the *y*-intercept. Thus, significant differences between groups can lead to slope bias, intercept bias, or both. If the slopes and *y*-intercepts are approximately the same for the groups, the test is considered unbiased for purposes of prediction. Having the same slopes and *y*-intercepts does not require that the groups perform equivalently on average.

A newer family of methods to examine test fairness goes under the name *measurement invariance* (Haynes, Smith, & Hunsley, 2011; Vandenberg & Lance, 2000). These methods seek to show that a test performs equivalently (invariantly) for different groups on a whole range of indices, including factorial structure, relationships with external criteria, and various types of reliability. In effect, the concept of measurement invariance subsumes the other methods just described and then goes beyond them. However, the three methods just described dominate in current practice.

A special application of the notion of fairness arises in the context of providing accommodations when testing individuals with disabilities. An accommodation is some change in standardized testing conditions designed to make the test fairer, that is, a more valid indicator of the underlying construct, for the person with a disability. One of the hallmarks of standardized testing, incorporated into the very name, is standardization: exactly the same test, administered to everyone under exactly the same conditions. Providing an accommodation sacrifices such standardization in the hope of attaining greater validity.

Accommodations come in a great variety of forms. Eyeglasses or contact lenses when reading test items is a very simple example for people with even minimal visual disability. Providing extended time limits is a frequent accommodation for people with attention deficit disorders or learning disabilities. An appropriate accommodation must be carefully tailored to a particular disability.

Three key questions arise regarding accommodations. First, when does the provision of an accommodation change the nature of the construct intended to be measured? To use the example of eyeglasses, if the purpose of the test is to measure unaided visual acuity rather than reading comprehension, allowing for eyeglasses undermines rather than enhances validity. If the test is aimed primarily at reading comprehension, providing eyeglasses enhances validity. To use another example, if the purpose of a test is to measure speed of completing simple clerical tasks, then providing an extended time limit interferes with the measurement. Thus, judging the suitability of an accommodation requires careful analysis of the construct to be measured.

A second question relates to whether an accommodation actually provides an unfair advantage to the person receiving the accommodation, thus implicitly disadvantaging those not receiving the accommodation. The purpose of an accommodation is to level the playing field for people with disabilities, not tilt the field in their favor. For example, giving extended time for completing a reading comprehension test to people with dyslexia may improve their performance. If the test is a pure power test, the extra time should not aid a person without dyslexia. However, if the test is partly speeded, the person without dyslexia would benefit from the extra time and would be unfairly disadvantaged if not given the extra time. Answering this second question requires research about the relative effects of accommodations. If accommodations work properly, that is, by leveling the playing field and thus allowing for more valid measurement, then test norms should be applicable to those receiving the accommodations. A third question is whether the

report of test scores should indicate that an accommodation was made, a practice known as flagging. The field has no consensus as to whether flagging should occur.

In some circumstances, because of the nature of the test, the type of disability, or both, it may not be possible to use a test even with accommodations, but there may still be a need to obtain information about a person's status on some trait. Such cases call for use of what is called a modification, an entirely different approach to obtaining information about the person's status on the trait. For example, instead of using a paper-and-pencil test of math problem-solving ability (even with accommodations), a teacher may use an oral interview. This type of change does not allow application of the norms for the test being approximated.

## NORMS

Psychological tests generally require the use of norms for meaningful interpretation. The most immediate result of a test is typically a raw score, for example, the number of correct answers on an intelligence test or the number of "yes" answers on a set of items about depression. Saying that someone got 42 correct answers out of 50 questions on an intelligence test or answered "yes" to 12 out of 20 questions on a depression inventory does not ordinarily provide useful information. In these examples, 42 and 12 are raw scores. Such raw scores are typically converted to normed scores, in which the score of an individual is compared with scores of many other individuals in the norm group. Two important issues arise about the nature of norms for a test. The first issue relates to the type of norm score. The second issue relates to the nature of the norm group.

### Types of Norms

Psychologists have devised a variety of systems to aid in the interpretation of test scores. The three most widely encountered systems are percentile ranks (or percentiles), standard scores, and developmental norms.

A percentile rank expresses the percentage of cases in the norm group falling below a given raw score. A percentile is a point on a scale below which a specified percentage of cases falls. In some applications, the phrase *at or below* replaces the word *below* in these definitions; even more precisely, when deriving norms, one half of the cases at a given raw score are used in the computation. Although there is a technical distinction between percentile rank and percentile, in practice the two terms are often used interchangeably without harm. It is possible to express percentiles to any number of significant digits, but they are usually given to two digits. Thus, the scale ranges from 1 to 99 with a midpoint at 50.

In statistics, converting raw scores to standard score form means converting the raw scores into *z*-score form. In psychological testing, a standard score system is a conversion of raw scores into a new score system with a new mean and standard deviation. One can choose any values for the new mean and standard deviation, but common practice is to use memorable numbers.

Widely used standard score systems include the *T*-score system with $M = 50$ and $SD = 10$, the deviation IQ system with $M = 100$ and $SD = 15$, and the SAT system with $M = 500$ and $SD = 100$. Note that modern IQ tests use the deviation IQ, a type of standard score. A surprising number of sources still define the IQ as the ratio (mental age/chronological age) $\times$ 100, which is no longer used by any test. Other examples of standard scores are the stanine system, which divides the normal distribution into nine segments, from 1–9, with units 2–8 having equal distances on the base of the distribution, and the normal-curve-equivalent system, which has a mean of 50 and standard deviation of approximately 22 and aligns with the percentile system at points 1, 50, and 99 (but not elsewhere on the scale).

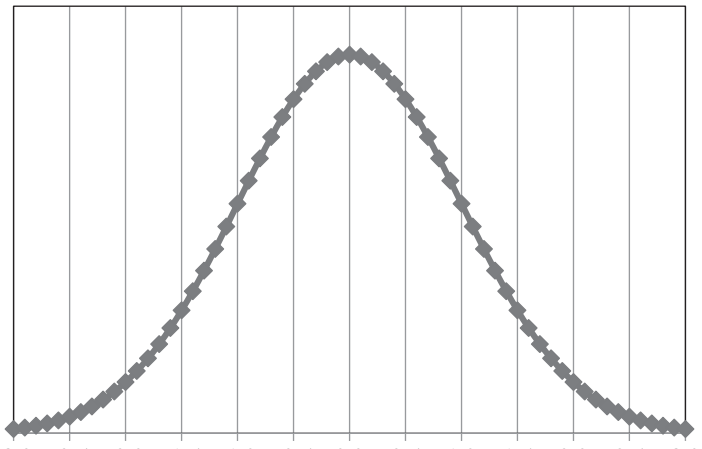
Standard scores may be derived by either linear or nonlinear transformation from a raw score system. Nonlinear transformation is sometimes used to yield a more nearly normal distribution for the standard score system than existed for the raw score distribution. Some standard score systems, for example, stanines, automatically perform a nonlinear transformation. However, most standard score systems use linear transformation.

In a perfectly normal distribution, certain relationships exist between the percentile system and standard score systems. Knowing these relationships

facilitates test interpretation, especially when viewing results from a variety of tests expressed in different score systems. Figure 3.6 shows the relationships between percentiles and several standard score systems at selected points in the normal distribution. Using these relationships, it is possible to construct an entire table showing conversions among the systems for all points (see Hogan, 2013, 2014, for such tables). Given the mean and standard deviation for any standard score system, one can easily fit the system into the relationships shown in Figure 3.6. When using such conversions, it is important to remember that the conversions do not account for differences in the norm groups between different tests.

Developmental norms arise from the fact that, at least for certain traits, status on the trait typically increases with age (or some other index of maturation). Anthropometric measures, such as height and weight, provide examples of such norms. For example, saying that "Mike is tall for his age" depends on use of a developmental framework. Two commonly encountered developmental norms in the world of testing are the mental age (MA) and the grade equivalent (GE). MAs are used with intelligence tests, GEs with achievement tests. MAs are derived by finding the average (or median) score attained by individuals at different age levels in the norm group and GEs by finding the average (or median) score attained by students at different grades in school. These averages are then plotted, and smoothed lines are fitted to them to obtain the MAs and GEs for intermediate values on the scale. A raw score corresponding to an MA of, say, 8 -4 means that the person's raw score is like that attained by children age 8 years, 4 months, in the norm group. A raw score corresponding to a GE of, say, 6.5 means that the person's raw score is like that attained by students in the middle of Grade 6 (in the U.S. school organization system). Developmental norms such as the MA and GE scales do not fit conveniently into the relationships depicted in Figure 3.6 because their standard deviations vary by age and grade level and also from one subtest to another.

Each type of norm has its particular strengths and weaknesses. Percentiles are easily understood,




| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percentile | <1 | <1 | 2 | 7 | 16 | 31 | 50 | 69 | 84 | 93 | 98 | >99 | >99 |
| T-scores | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 |
| Deviation IQ | 55 | 62 | 70 | 78 | 85 | 92 | 100 | 108 | 115 | 122 | 130 | 138 | 145 |
| SAT | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 | 750 | 800 |

**FIGURE 3.6. Relationships among percentiles and several standard score systems at selected points.**

even by laypeople. They are easy to calculate. They readily apply to virtually any type of test or trait. Their chief drawback is a marked inequality of units throughout the scale when the underlying distribution is normal (or has any other type of hump). Thus, small changes in raw score yield large differences in percentile units in the hump area of the distribution, whereas such small changes in raw score units yield little differences in the tails. The phenomenon can be observed in Figure 3.6. Laypeople may also mistake percentiles for the percentage right score traditionally used with classroom exams, where 70 is a passing score, 60 is a failing score, and so on. Standard scores are quite flexible, applicable to virtually any trait, and they have desirable statistical properties. Their chief drawback is that they are not easily understood by the layperson and they are not readily interpretable unless one knows the mean and standard deviation for a particular scale.

Developmental norms possess a natural, nearly intuitive meaning. They have two main weaknesses. First, as noted earlier, standard deviations vary by age or grade and by subtest. For example, being 1 year above level is typically much more deviant from average at a young age than at an older age. Second, developmental norms make sense only for traits that show a natural growth trajectory. Personality traits and attitudes do not show such growth, and even traits such as intelligence and achievement do not manifest growth indefinitely.

## The Special Case of Theta

In CTT, the most immediate result of a test is a raw score. In IRT, the most immediate result is a theta score, which represents the interaction between a person's responses and characteristics of the items to which the person responded. Theta scores do not have definitive high and low points, but they generally range from about −4.0 to 4.0. As with raw scores, they are difficult to interpret. Hence, as with raw scores, for practical interpretation theta scores are ordinarily converted to one of the norm systems described earlier. In fact, when viewing a final report of a normed score—for example, a percentile or standard score—the interpreter cannot determine whether the score originally came from a raw score or a theta score.

## Norm Groups

Norms are based on the norm group, that is, the group of individuals from which the norm scores were derived. The norm group is sometimes called the *standardization group*. The nature of the norm group, regardless of the type of norm used, can profoundly affect interpretation of scores.

Norm groups come in a variety of forms. Some tests aspire to have a nationally representative group such that the norm group accurately reflects the characteristics of the entire national population for the test's target group, for example, children ages 6 to 16 years, all adults, or all high school seniors. Determining representativeness of the norm group depends on comparison of the norm group with the national population in terms of characteristics such as age, gender, race/ethnicity, geographic location, and socioeconomic status. The widely used Wechsler intelligence scales and Stanford-Binet Intelligence Scale are prototypes of instruments with nationally representative norm groups. A variable's importance in determining representativeness depends on the variable's relationship with the construct or constructs measured by the test. A descriptive variable unrelated to the construct is unimportant, except for public relations purposes. Very few tests aspire to have an internationally representative norm group. The same principles as described for judging national norm groups apply to judging international norm groups.

Some tests do not purport to have a nationally representative norm group but present what is called a *convenience norm group*. That is, norms are based on a group conveniently available to the test developer. Determining the usefulness of such norms depends on careful examination of the group's characteristics on the same variables as those listed for nationally representative groups.

A subspecies of the convenience norm is a local norm. In this case, the norm group consists of precisely those individuals taking the test in one location, for example, a school, business, or clinic. It is important to know when a score is based on local norms and to understand the nature of the local group when interpreting scores expressed in local norms. For example, if the local norm is based on a school in which most students achieve at a superior

level (on a national norm), then an average student (on the national norm) in this school will appear below average on the local norm. If a local norm on a measure of depression is based on a clinical group, many of whom have symptoms of depression, then a person who may actually have depression may appear to be perfectly normal on the local norm.

Technical manuals for a test should provide detailed information about characteristics of the test's norm group. The test user must examine this information carefully to determine appropriateness of the norms for a particular use of the test.

Some test manuals make much of the sheer size of the norm group, often implying that a very large group yields a good norm. In fact, the size of the norm group, once a certain minimum number has been met, is not very important. Simple inferential statistics show that a group of several hundred cases yields sufficient stability for nearly any practical interpretation. Beyond that, having thousands, even millions of cases in the norm group does not add materially to usefulness of the norms. The representativeness of the norm group is a far more important matter.

### Effects of Secular Changes in Norms

Changes in the status of a population on the trait measured by a test can affect applicability of the norms. The most publicized of such changes is the "Flynn effect," the finding of a general upward drift over successive generations in the level of measured intelligence, at least in most Western countries (Flynn, 2011). A similar change has occurred with many achievement tests and college admissions tests. The practical effect of these well-documented changes is that an individual tested today attains a higher normed score on norms derived, say, 20 years ago; conversely, the person attains a lower score if the norms were derived last year. The changes are not trivial; they can be of the order of 5 to 15 points of IQ or 20 to 30 percentile points on an admissions test. Such secular changes do not affect all types of tests. However, the person interpreting test scores must be alert to their possible presence.

### Criterion-Referenced Interpretation

Use of norms results in norm-referenced interpretation of scores, which is contrasted with criterion-referenced interpretation, in which a person's score is compared with some judgmental standard regardless of how other people perform. For example, a teacher may define acceptable performance on a spelling test as getting at least 80% of the items correct. The distinction between norm referencing and criterion referencing relates to the nature of the interpretation, not to the nature of the test. In fact, a given test might entail both norm-referenced and criterion-referenced interpretation. For example, Grazia gets 16 of 20 spelling items correct. That places her at the 40th percentile (norm referencing), but getting 16 correct may be considered satisfactory or proficient (criterion referencing). Reporting responses on critical items in some personality measures falls under the rubric of criterion-referenced interpretation. For example, a "yes" response to the item "I often have thoughts of suicide" merits investigation on its own regardless of any normative framework.

A particularly important application of criterion-referenced interpretation involves setting cut points or cutting scores in a distribution of test scores to distinguish between groups, for example, people passing or failing a certification exam, people labeled as depressed or not depressed, or students performing at various proficiency levels on an achievement test. Setting such standards might be a strictly norm-referenced matter, for example, selecting the top 10% of scores, but more typically it entails judgment and therefore qualifies as criterion-referenced interpretation. At a simple level, the judgment involves careful inspection of test content by experts in the field and reaching a conclusion about how many items should be answered correctly or in a certain direction for a person to be judged as qualified, depressed, or in some other category. In practice, a wide variety of procedures have been developed to refine this judgmental process, generally going under the name standard-setting procedures (Cizek & Bunch, 2007). In practice, norm-referenced information is usually taken into account by those rendering the judgments. In clinical applications, the types of analyses described elsewhere in this chapter for sensitivity, specificity, and PPP and NPP can be very helpful in setting cut points.

### Computer-Generated Interpretive Reports

An increasing number of psychological tests use computer-based interpretive reports as a mechanism for test interpretation. Such reports attempt to convey meaning primarily through words rather than numbers (such as percentiles or *T* scores). However, norm-based numbers provide the foundation for most of the words in an interpretive report. For example, when an interpretive report says "the most distinctive feature of this person's profile is his standing on extraversion," a computer program has scanned the profile of percentiles or standard scores and found the most deviant normed score. An interpretive report may also translate the numerical results of validity studies into ordinary prose. For example, validity studies on the ABC Anxiety Measure may have found that people scoring above the 75th percentile on its Scale 3 respond favorably to short-term psychotherapy, which leads to the statement in the ABC interpretive report that "this person's profile suggests that he may benefit from short-term therapy." Thus, interpretive reports take numerical information and translate it into words, with the addition of some boilerplate language used in reports for everyone, for example, "All of the scores are subject to a certain amount of inconsistency from time to time." These reports are not designed nor intended to serve as the final professional report.

A psychological test that produces one of the widest uses of interpretive reports is the MMPI–2. Because computerized interpretations of MMPI–2 scores are not covered by copyright laws, the freedom to develop computer programs for interpreting scores has resulted in several different interpretive services being available to practitioners. Potential users of interpretive reports cannot assume the accuracy of the interpretive reports and are obligated to carefully examine the computerized MMPI–2 interpretations.

## EXAMPLES OF PSYCHOLOGICAL TESTS

Exhibit 3.1 presents a laundry list of widely used psychological tests. Appearance in the list does not imply endorsement of the tests. They are simply examples. The list concentrates on tests used in

**Exhibit 3.1**
**Examples of Widely Used Psychological Tests**

**Cognitive ability**
- Mini-Mental State Examination
- Peabody Picture Vocabulary Test
- Stanford-Binet Intelligence Scale
- Wechsler Adult Intelligence Scale
- Wechsler Intelligence Scale for Children
- Wechsler Memory Scale
- Wide Range Achievement Test
- Woodcock-Johnson Test of Cognitive Abilities

**Personality traits**
- Myers-Briggs Type Indicator
- NEO Personality Inventory
- Piers-Harris Children's Self-Concept Scale
- Sixteen Personality Factor Questionnaire

**Psychopathology**
- Beck Depression Inventory
- Child Behavior Checklist
- Conners Parent and Teacher Rating Scales
- Millon Adolescent Clinical Inventory
- Millon Clinical Multiaxial Inventory
- Minnesota Multiphasic Personality Inventory
- Minnesota Multiphasic Personality Inventory—Adolescent
- Personality Assessment Inventory
- Rorschach Inkblot Test
- Rotter Incomplete Sentences Blank
- State–Trait Anxiety Inventory
- Symptom Checklist–90
- Thematic Apperception Test

**Neuropsychology**
- Bender Visual Motor Gestalt Test
- Boston Naming Test
- California Verbal Learning Test
- Category Test
- Finger Tapping Test
- Halstead-Reitan Neuropsychological Test Battery
- Hand Dynamometer
- Hooper Visual Organization Test
- Luria-Nebraska Neuropsychological Battery
- Rey–Osterrieth Complex Figure Test
- Stroop Color and Word Test
- Trail Making Test
- Wisconsin Card Sorting Test

**Forensics**
- Hare Psychopathy Checklist
- Lees-Haley Fake Bad Scale
- MacArthur Competence Assessment Tool—Criminal Adjudication
- Sexual Violence Risk–20
- Structured Interview of Reported Symptoms
- Test of Memory Malingering
- Word Memory Test

**Career interests**
- Kuder Career Planning System
- Self-Directed Search
- Strong Interest Inventory

clinical settings and thus does not include the vast array of achievement tests and other group-administered tests used in schools, businesses, and the military. Entries use full test titles but not the abbreviations and edition numbers often found in popular usage, for example, WISC–V or MMPI–2. Many of the tests have various components or versions, such as long and short forms, that are not separately identified here. The exhibit uses the organization of the next several chapters in this handbook. In the neuropsychology and forensic areas, the most widely used tests are ones already listed in the exhibit's cognitive ability and psychopathology areas.

## FUTURE DIRECTIONS

Several trends in psychometric applications of testing within a clinical context appear on the horizon. They may exert significant influence on clinical practice and the type of training required for that practice in the future. Here are seven trends to watch for.

First, computer-adaptive testing is now well entrenched in areas such as admissions and achievement testing. To date, it has not had much application in clinical testing. It almost surely will in the next few years. Particularly ripe for computer-adaptive testing applications are longer clinical inventories and structured interviews.

Second, the conversion from traditional paper-and-pencil administration (sit down in the office to complete it) to online administration (take it anywhere, even on your smartphone) is happening rapidly. All the implications of this change in circumstances are not yet clear.

Third, computer-generated interpretive reports of test information have proliferated in the past decade. These developments are likely to continue in the number of reports available and, more important, in their level of sophistication.

Fourth, the dimensional versus categorical distinction now argued with respect to diagnostic systems is likely to play out in the construction and interpretation of test-based information.

Fifth, the ever-increasing development of new tests and new ways to interpret test information is likely to continue and even accelerate. This trend drives the need for practitioners to have the competency to assess the psychometric soundness of this plethora of new instruments and interpretive systems.

Sixth, as psychologists increasingly engage in forensic activity, there are corresponding interests in assessing the fake bad–good response that compromises the validity of scores and associated interpretations from psychological tests used in criminal trials, divorce proceedings, and personal injury litigation. MMPI–2 special scales, such as the Fake Bad Scale, or the Test of Memory Malingering have become staples in forensic psychology.

Finally, some clinical instruments attempt to demonstrate their content validity in terms of *DSM* criteria, up to this point most frequently using *DSM–IV*. Now the fifth edition of the *DSM* is available (*DSM–5*; American Psychiatric Association, 2013). More important, the *ICD* (World Health Organization, 1994), now in its 10th edition, the *ICD–10*, with the 11th edition (*ICD–11*) due to appear in 2017, will replace the *DSM*, at least in some contexts. Thus, test developers will scramble to show a test's compatibility with the *DSM–5*, *ICD*, or both, or entirely new tests will appear to align with these diagnostic systems.

## References

American Educational Research Association, American Psychological Association, & National Council on Measurement in Education. (2014). *Standards for educational and psychological testing*. Washington, DC: American Psychological Association.

American Educational Research Association Committee on Test Standards & National Council on Measurements Used in Education. (1955). *Standards for educational and psychological testing*. Washington, DC: American Educational Research Association.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: Author.

American Psychological Association. (1954). *Technical recommendations for psychological tests and diagnostic techniques*. Washington, DC: Author.

American Psychological Association. (2010). *Ethical principles of psychologists and code of conduct, including 2010 amendments*. Retrieved from http://www.apa.org/ethics/code/index.aspx

Borenstein, M., Hedges, L. V., Higgins, J. P. T., & Rothstein, H. R. (2009). *Introduction to meta-analysis*. http://dx.doi.org/10.1002/9780470743386

Brennan, R. L. (2001). *Generalizability theory*. http://dx.doi.org/10.1007/978-1-4757-3456-0

Brennan, R. L. (2010). Generalizability theory and classical test theory. *Applied Measurement in Education*, *24*, 1–21. http://dx.doi.org/10.1080/08957347.2011.532417

Carlson, J. F., Geisinger, K. F., & Jonson, J. L. (2014). *The nineteenth mental measurements yearbook*. Lincoln: University of Nebraska Press.

Cizek, G. J., & Bunch, M. B. (Eds.). (2007). *Standard setting: A guide to establishing and evaluating performance standards on tests*. Thousand Oaks, CA: Sage.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.

Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, *16*, 297–334. http://dx.doi.org/10.1007/BF02310555

deAyala, R. J. (2009). *The theory and practice of item response theory*. New York, NY: Guilford Press.

Educational Testing Service. (2015). *How to search the database*. Retrieved from http://www.ets.org/test_link/find_tests

Flynn, J. R. (2011). Secular changes in intelligence. In J. Sternberg & S. B. Kaufman (Eds.), *The Cambridge handbook of intelligence* (pp. 647–665). http://dx.doi.org/10.1017/CBO9780511977244.033

Glass, G. V., & Hopkins, K. D. (1996). *Statistical methods in education and psychology* (3rd ed.). Boston, MA: Allyn & Bacon.

Gulliksen, H. (1950). *Theory of mental tests*. http://dx.doi.org/10.1037/13240-000

Haynes, S. N., Smith, G. T., & Hunsley, J. D. (2011). *Scientific foundations of clinical assessment*. New York, NY: Routledge.

Hogan, T. P. (2013). Interpreting test scores and their percentile equivalents. In G. P. Koocher, J. C. Norcross, & B. A. Greene (Eds.), *Psychologists' desk reference* (3rd ed., pp. 139–145). http://dx.doi.org/10.1093/med:psych/9780199845491.003.0026

Hogan, T. P. (2014). *Psychological testing: A practical introduction* (3rd ed.). Hoboken, NJ: Wiley.

Hunsley, J. (2003). Introduction to the special section on incremental validity and utility in clinical assessment. *Psychological Assessment*, *15*, 443–445. http://dx.doi.org/10.1037/1040-3590.15.4.443

Kuder, G. F., & Richardson, M. W. (1937). The theory of estimation of test reliability. *Psychometrika*, *2*, 151–160. http://dx.doi.org/10.1007/BF02288391

Lord, F. M., & Novick, M. R. (1968). *Statistical theories of mental test scores*. Reading, MA: Addison-Wesley.

Mitrushina, M., Boone, K. B., Razani, J., & D'Elia, L. F. (2005). *Handbook of normative data for neuropsychological assessment* (2nd ed.). New York, NY: Oxford University Press.

Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). New York, NY: McGraw-Hill.

Vandenberg, R. J., & Lance, C. E. (2000). A review and synthesis of the measurement invariance literature: Suggestions, practices, and recommendations for organizational research. *Organizational Research Methods*, *3*, 4–70. http://dx.doi.org/10.1177/109442810031002

World Health Organization. (1994). *International classification of diseases, 10th revision*. Geneva, Switzerland: Author.

CHAPTER 4

# MENTAL ABILITY ASSESSMENT

*Mark Benisz, Ron Dumont, and Alan S. Kaufman*

For more than a century, psychologists have endeavored to understand the ways in which the human mind operates. Initial attempts at assessment focused on sensory processes and reaction times (e.g., J. M. Cattell, 1890). These early psychologists deserve credit for moving psychology toward the scientific method and away from pseudoscientific practices. However, they erred in assuming that sensory processes are at the root of human intelligence. Just as the field of psychology shifted away from being a pure science to becoming a more functional science, so too did the goal of mental ability assessment. In the early 20th century, the first mental ability test battery was developed for pedagogical purposes (Binet & Simon, 1905/1916). During the same time period, mental ability tests were used by the U.S. Army in an attempt to identify the military potential of drafted soldiers (Yerkes, 1921). Subsequently, mental ability assessment began to be used in clinical settings to aid in the diagnosis of patients with a variety of mental illnesses (Watson, 1953). Although it is still an important tool in clinical psychology, mental ability assessment has evolved rapidly over the past several decades.

This chapter focuses on the uses of mental ability assessment as a diagnostic instrument. We provide a definition of *mental ability assessment* and describe the necessary components of a good evaluation. We also discuss the theories that are at the core of most current-day test batteries and provide a brief description of the most popular tests. Finally, we make some predictions regarding the future direction of mental ability assessment and how the field will continue to evolve.

## DEFINITION AND DESCRIPTION

The definition of *mental ability assessment* varies depending on the theoretical approach of the evaluator, the purpose of the assessment, and the instruments being used in the assessment. Nonetheless, *mental ability assessment* can be defined as an examination of an individual's cognitive functioning using a norm-referenced set of subtests that are typically assembled into a single battery and administered in a standardized manner.

It is important to draw a clear distinction between the mental ability assessment performed by a psychologist in a one-on-one clinical or school setting and the general ability assessments done in group format in military, educational, and vocational settings. The objective of these group assessments is typically to accept or eliminate an individual as a potential soldier, employee, or candidate for a program or to route the test taker toward a specific job or career choice. Group tests are often pencil-and-paper tests that use a multiple-choice format. The most important score is often a single global score that determines whether the test taker meets a specific cut point.

By contrast, mental ability assessments rarely require the use of pencil and paper for the majority of their subtests, and they are almost always administered by an individual evaluator to an individual examinee (Kaufman, 2009). The evaluator is a highly

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trained, credentialed professional who has demonstrated competency in the administration, scoring, and interpretation of assessments. Aside from gathering quantitative data, a competent examiner will also interpret qualitative data. A single global test score will almost never be the sole determinant of the answer to the referral question—the reason why the examinee needed to be assessed in the first place.

## Assessment Versus Testing

Contemporary psychologists (e.g., Sattler, 2008) draw a distinction between psychometric testing and psychological assessment. Psychometric testing is a process in which a norm-referenced test is administered and scored according to standardized procedures. A mental ability assessment, as part of a psychological assessment, however, is a much broader process in which data from multiple sources are synthesized. The goal of the psychological assessment is to interpret all the data in their context and to integrate the results, thereby producing a meaningful understanding of a person's true functioning.

## Mental Ability Versus Intelligence

Some of the abbreviations familiar to present-day mental ability evaluators are *WISC, WAIS, WPPSI, KBIT, SIT, UNIT*, and *FSIQ*. These abbreviations all have in common the letter *I*—and in each case it stands for *intelligence*. For this reason, mental ability and intelligence are often thought to be synonymous, but a distinction can and should be made between them. Early intelligence testing provoked many heated and emotional debates as to the purpose and the validity of the assessment (Eysenck & Kamin, 1981). Replacing the word *intelligence* with a different term not only reflects a desire to move beyond the controversial aspects of early testing but is also indicative of the progress that has been achieved in developing better tests and in the advances made in training culturally competent psychologists. However, given its historical roots, any discussion of mental ability assessment must naturally focus on intelligence testing because each is based on the same principles. Therefore, all discussion of intelligence testing must begin with an attempt at understanding what intelligence actually is.

Some of the early developers of mental ability tests, such as Alfred Binet, conceptualized intelligence in terms of the degree to which a person can adapt to a particular situation or environment (Binet, 1911/1916). Binet's (1911/1916) test was adapted for use in the United States by Lewis Terman in 1916. He renamed the test the *Stanford Revision of the Binet-Simon Intelligence Scale*. Terman, however, differed from Binet by defining intelligence as the ability of a person to engage in abstract thinking, and he believed that abstract thinking was best measured using verbal measures (Terman, 1921). Both Binet and Terman developed intelligence tests that were extremely verbal, deemphasizing nonverbal abilities.

David Wechsler (1939), author of the Wechsler intelligence scales, defined intelligence as the global ability to "act purposefully, think rationally and deal effectively" (p. 3) with one's environment. Wechsler's definition of intelligence had been directly influenced by the work of Charles Spearman, who viewed intelligence as a global construct. Yet, Spearman (1927) noted that in his time the word *intelligence* had become void of any real meaning. Almost 60 years later, this sentiment was echoed in the words of John Horn (1986), a psychologist who, unlike Spearman, believed that intelligence was not a unitary construct; therefore, it was useless to try and define it.

Aside from the difficulty in defining the word *intelligence*, considerable controversy surrounds the term *intelligence testing*. There is a long-standing and emotional controversy regarding race, genetics, and intelligence. Some researchers have found evidence of a genetic explanation for differences in intelligence test scores among various ethnic groups (Rushton & Jensen, 2006). Other researchers have pointed to flaws in the methodology of the research into genetics and intelligence (Eysenck & Kamin, 1981). Psychologists have many reasons to replace the word *intelligence* with a term that is more neutral and that more accurately reflects the objective of a modern assessment of mental abilities. In the remainder of this chapter, we use the terms *mental ability* or *mental abilities*, acknowledging that they include but supersede the term *intelligence*.

## Ability Versus Abilities

**General intelligence factor.** An accurate description of mental ability testing should acknowledge that, in most cases, what is being measured is not a singular ability but abilities in the plural. The same is also true of many current tests that still use the term *IQ*. What they measure are different mental abilities, not a singular intelligence quotient.
The concept of intelligence perhaps most widely accepted by professional authors and users of mental ability tests is that each person has a certain general level of intellectual ability. However, it is perhaps even more important to understand the different abilities that help people accomplish seemingly unrelated mental tasks.

Spearman (1927) believed that intelligence was a general construct and that it could largely explain the success or failure an individual experiences when performing a wide array of tasks. Using factor analysis (a statistical method he helped invent), he showed that the shared variance between different mental tasks was due to a general factor. This general or global intelligence is commonly referred to by the single italicized letter *g*. Spearman also posited that numerous other specific factors were responsible for the obtained differences on different tests. Spearman referred to the specific factor as *s*, and different specific factors were annotated as $s_a$, $s_b$, $s_c$, and so forth. Despite his delineation of a variety of *s* factors, Spearman was really just giving lip service to the concept of multiple abilities; for Spearman, the general factor was enough to explain all aspects of intelligence (Wechsler, 1950). Spearman's *g* theory gained acceptance and was the core theory underlying some early mental ability tests (Kaufman, 2009).

Despite the early popularity of Spearman's (1927) theory, others argued that the measurement of *g* alone could not account for all aspects of purposeful behavior because nonintellectual traits such as planning or temperament play an important role in how *g* is expressed in the real world (Wechsler, 1950). In the United States, a psychologist named Louis Leon Thurstone developed and performed new types of factor analysis that did not support the existence of Spearman's *g* factor. Thurstone (1938) argued that Spearman's *g* was not a real factor, but a statistical artifact. Instead, he proposed that intelligence consisted of several different abilities that he referred to as *primary mental abilities*. These abilities included verbal comprehension, word fluency, numerical facility, spatial visualization, associative memory, perceptual speed, and induction. This model challenged the notion of a general factor that is responsible for producing intelligent behavior. Several decades would pass, however, before this model would become part of the basis of modern abilities assessment.

**Fluid and crystallized intelligence.** Further refinements to Spearman's (1927) general factor occurred when R. B. Cattell (1943) divided Spearman's theory into two separate factors: (a) general fluid intelligence (G*f*), the ability to use logical reasoning to solve novel problems, and (b) general crystallized intelligence (G*c*), knowledge that is acquired through the learning process. In Cattell's model, fluid intelligence is akin to innate intelligence and serves to limit or expand crystallized intelligence. The higher the fluid intelligence is, the more likely a person is to acquire knowledge and increase overall crystallized intelligence (Schneider & McGrew, 2012).

**Cattell–Horn–Carroll hierarchical theory.** Probably the best known and most widely accepted theory of mental abilities is derived from the Horn–Cattell G*f*–G*c* model (R. B. Cattell & Horn, 1978; Horn & Noll, 1997). R. B. Cattell's (1943) original theory, which had used some of Thurstone's (1938) primary mental abilities, was expanded by John Horn (1986) and was combined with the theory of John Carroll (1993) to produce the Cattell–Horn–Carroll (CHC) theory of cognitive abilities (Schneider & McGrew, 2012). In 1993, Carroll used factor analysis to organize the various factors from previous research into different hierarchical levels. The combined CHC theory consists of three levels, or strata, of abilities. As shown in Figure 4.1, the top of the model (Stratum III) is psychometric *g*—general intelligence. The second tier (Stratum II) contains varying numbers of broad abilities. In addition to the G*f* and G*c* factors, the Cattell–Horn–Carroll theory, which continues to be revised and expanded by various theorists, includes many other factors, some of which are listed below. Each of the broad abilities is

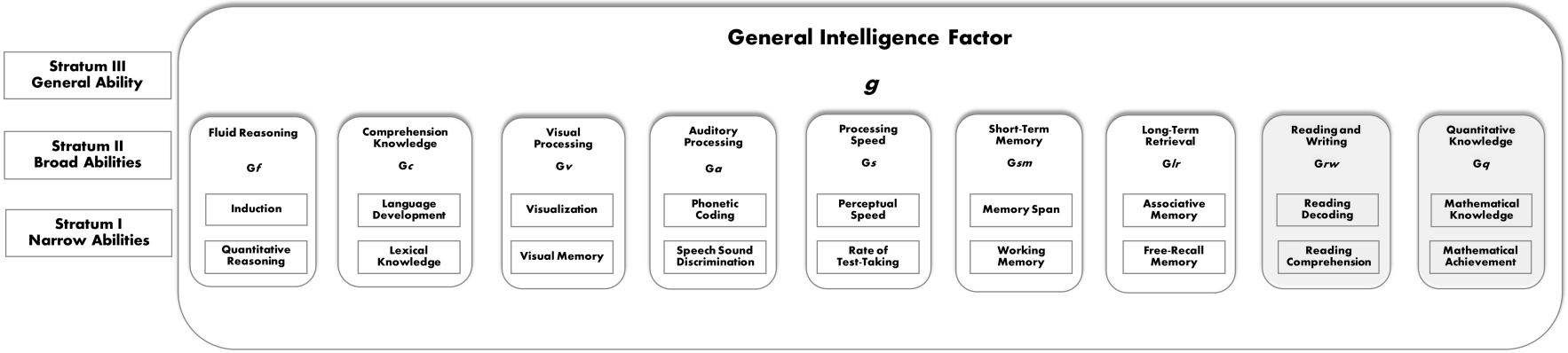


FIGURE 4.1. The Cattell–Horn–Carroll three-stratum structure of mental abilities. G*rw* and G*q* are shaded, indicating that they encompass areas of achievement and do not have consensus among all researchers as being separate cognitive abilities. Stratum 1 contains more than 80 narrow abilities, and the 18 narrow abilities that appear in this model are for illustrative purposes.

designated using two letters, with an uppercase *G* and a lowercase letter signifying the exact ability. For example, G*a* refers to auditory processing, and G*sm* refers to short-term memory. There is consensus among researchers (Carroll, 2012; Horn & Blankson, 2012; Schneider & McGrew, 2012) regarding the following broad abilities:

- G*f* (fluid reasoning)—the ability to solve novel problems by using logic to narrow down the possibilities until the correct answer is found (deduction or top-down logic); also includes the ability to solve problems using induction (bottom-up logic), which is the ability to arrive at a correct answer by generalizing a principle to the problem.
- G*c* (comprehension–knowledge)—also known as crystallized intelligence, a person's application of acquired knowledge and learned skills and the way in which the person uses this knowledge to solve problems.
- G*v* (visual–spatial processing)—the ability to solve problems by mentally deconstructing or by reconstructing visual images through manipulating and rotating them in the mind; often measured by having the individual draw geometrical shapes from memory or by reproducing representations of geometrical patterns using three-dimensional blocks.
- G*a* (auditory processing)—the ability to distinguish similarities and differences between sounds, to attend to and separate speech from background noise, and to analyze and synthesize what is heard.
- G*s* (processing speed)—a person's ability to quickly and accurately complete simple cognitive tasks. It requires a person to be able to attend to and concentrate on the task at hand.
- G*sm* or G*wm* (short-term working memory)—the ability to hold information in immediate awareness and then use it a few seconds later
- G*lr* (long-term retrieval)—a person's ability to store information in long-term memory and to accurately retrieve it from storage when the information is needed.
- G*rw* (reading and writing abilities)—part of G*c* or the separate domain of knowledge and achievement in Carroll's (1993) formulation.
- G*q* (quantitative knowledge)—includes mathematical knowledge and mathematical achievement, which are parts of Carroll's (1993) domain of knowledge and achievement, not his domain of cognitive abilities.

The bottom tier (Stratum 1) contains more than 80 narrow abilities that are more specific than the broad abilities. For instance, the narrow abilities in G*v* include visual memory, which is the ability to store a visual representation of an object and recall it later on, and visualization, which is the ability to visualize how an object would appear differently if it were manipulated or rotated. Clusters of Stratum 1 abilities are contained within a single broad ability, whereas correlations among the broad abilities are explained by the broadest of all the abilities, *g*.

CHC theory has proven to be an extremely popular model for understanding mental abilities. From 1999 until 2010, the number of publications that include the terms *CHC* or *Cattell–Horn–Carroll* increased from the single digits to triple digits (Schneider & McGrew, 2012). Part of the reason for this popularity is most likely due in part to the Individuals With Disabilities Education Act of 2004 (IDEA), a federal law that defined a learning disability as a disorder in psychological processing. IDEA further stipulates that the cause of the child's deficiencies not be primarily the result of a visual, hearing, or motor impairment; intellectual disability; or social, economic, or environmental factors. A CHC model, at least in theory, measures abilities that are often assumed to be basic psychological processes. A mental ability test that can measure abilities according to CHC theory is useful in a school setting to help identify these basic psychological processes. Many contemporary mental abilities tests have adopted the CHC model in their initial design or have used factor analysis to demonstrate compatibility with the CHC factors. The Woodcock–Johnson test batteries are based on CHC theory, and their subtests measure abilities on all three strata (McGrew, LaForte, & Schrank, 2014). The Differential Ability Scales—Second Edition (DAS–II; Elliott, 2007a), although not specifically developed using CHC theory, are easily interpreted according to CHC theory (Dumont, Willis, & Elliott, 2008). All of the most recent editions of the Wechsler

intelligence scales (Wechsler, 2008a, 2012a, 2014a) have been updated to more accurately reflect major aspects of CHC theory.

**Luria's model of information processing.** In contrast to CHC theory, in which abilities are derived via factor analysis, other models of mental ability are grounded in scientific theory that is supported by sound empirical evidence. Alexander Luria (1973), a Soviet psychologist, proposed a model of cognitive processing that he based on case studies and his own observations. He believed that cognitive processing can be divided into three different units of function, or blocks (Kaufman & Kaufman, 2004b). Each of these blocks is presumed to be a distinct system within the brain that functions together to produce complex human behavior.

Block 1 is responsible for mediating and maintaining arousal, concentration, and attention. Luria (1973) identified the brain stem as the area of Block 1 functioning (Chan et al., 2008). Block 2 is involved in integrating, analyzing, and coding incoming information using two different processes: simultaneous and successive processing. Simultaneous processing can be helpful in accomplishing tasks in which the focus is on solving problems such that the objective of the task requires conceptualization of parts into a cohesive whole. For example, a visuospatial–motor integration task, such as the construction of a pattern using three-dimensional cubes, requires the mind to integrate visual and spatial information at the same time. Successive processing, in contrast, requires information to be processed in a sequential order. It can be measured by organizing separate items in a sequence, such as remembering a sequence of words or actions in exactly the order in which they have just been presented. An example might be a memory task that requires a person to listen to, and then correctly repeat back, a string of digits in a specified order (e.g., forward or backward). Block 2 functions are presumed to take place in the temporal, occipital, and parietal lobes (Chan et al., 2008). The final unit, Block 3, regulates executive functioning, which involves planning, forming strategies, generating hypotheses, solving problems, and regulating behavior outputs (Kaufman & Kaufman, 2004b). These functions reside in the frontal lobes (Chan et al., 2008). Luria's model forms the basis of the planning, attention, simultaneous, and successive (PASS) theory of cognitive processing (Das, Naglieri, & Kirby, 1994), which is the underlying theory used in the creation of the Cognitive Assessment System (CAS; Naglieri & Das, 1997) and its second edition (CAS2; Naglieri, Das, & Goldstein, 2014).

## PRINCIPLES OF MENTAL ABILITY ASSESSMENT

To accurately assess an individual's mental ability, the American Educational Research Association, the American Psychological Association (APA), and the National Council on Measurement in Education (2014) have developed and published a set of standards to be used in testing in a text called *Standards for Educational and Psychological Testing*. These standards were developed to improve the quality of assessment procedures and create a mechanism for evaluating those procedures. Psychologists must also adhere to the standards, safeguards, and legal and ethical principles delineated by test developers, professional organizations, and legislators. The following list is not exhaustive, but each of the items below must be considered before a mental ability assessment is administered.

- *Ethics:* In its *Ethical Principles of Psychologists and Code of Conduct* (APA, 2010), the APA set forth specific ethical considerations that guide evaluators when clinicians perform assessments. These considerations include the responsibility of obtaining informed consent and assent from a client before any assessment is begun, to maintain confidentiality throughout the process, to ensure that the assessment is conducted using the most appropriate assessment tools, to avoid any conflict of interest, and to work within one's boundaries of competence. Psychologists who are members of other professional organizations such as the National Association of School Psychologists are required to adhere to similar ethical standards (see Urbina, 2014, Chapter 7).
- *Reliability:* A test is considered reliable if it can produce consistent results over multiple administrations under similar conditions. The reliability

of a test can be calculated as a statistic called the *reliability coefficient*. Examiners should review evidence of reliability before administering a test to a client. An assessment tool that has either poorly documented evidence of reliability or no evidence should not be used (see Urbina, 2014, Chapter 4).

- *Validity:* Validity refers to the extent to which a test is actually able to measure what it was intended to measure; there are several types of validity, the most important of which is construct validity (see Urbina, 2014, Chapter 5).
- *Standard procedures:* The test should provide a set of precise instructions for its administration. These instructions typically include the exact wording to be used when administering each item; instructions to aid the examiner in knowing if, when, and how to provide corrective feedback; the specific order in which the test's tasks (subtests) should be administered; the exact materials that are to be used with each subtest (e.g., a stopwatch, a red pencil with no eraser, or an ink dauber); and even the appropriate seating arrangement and placement of materials.
- *Norming:* The test should be normed on a group of individuals who are representative of the population with which the test is meant to be used. This group is typically derived using random sampling methods. The group is usually chosen to be representative of a country's total population, using the most recent census data. It is typically stratified along variables such as age, gender, ethnicity, socioeconomic status, and geographic region.
- *Objective scoring:* A good assessment tool should minimize the examiner's subjective judgment in deciding if a response is correct, incorrect, or worthy of partial credit. This is accomplished by providing precise scoring instructions in the test manual so that all examiners administering the test are able to score a given response in the same way.
- *Age-appropriate materials and procedures:* The test should keep the client engaged throughout the process. For young children, this may mean including manipulatives and colorful materials that can make the test seem more like a game. In terms of time, if a test is too short, it may not be a reliable or comprehensive measure of mental abilities, but if it is too long, it runs the risk of being overly comprehensive and may tax the examinee's willingness to maintain interest and investment in the tasks. Most modern measures of mental ability are constructed in ways that strike a happy medium between brevity and lengthiness, which can be accomplished via a combination of age-based start and stop points, the use of basal and ceiling rules that allow the examiner to administer only selected items, or through procedures that route the client to an appropriate starting point.
- *Cultural fairness:* Although cultural fairness has been and still is a topic of controversy (Rhodes, Ochoa, & Ortiz, 2005), tests should aim to reduce differences in scores between those from the dominant culture and those from other ethnic or cultural backgrounds. Although no test can be created that completely eliminates culture from its content (Sattler, 2008), most modern assessment batteries attempt to minimize these differences. Examiners bear the responsibility for choosing tests that are appropriate for the individual being assessed and for interpreting the results in light of pertinent information regarding culture and other assessment procedures.
- *Assessment of special populations:* It is important to ensure that examinees are not unfairly penalized because of a condition that interferes with their ability to perform adequately on a test. Depending on the reason for referral for assessment, people with disabilities (e.g., a hearing or vision impairment) might require accommodations or even modifications to a test to do the required task. Sometimes a more appropriate assessment tool is required to assess the individual. Similarly, people with language-based disabilities or people with limited English proficiency might perform better on measures that eliminate or minimize the need for receptive or expressive language. Some test manuals (e.g., Elliott, 2007b) include the score profiles of different special population studies that can be useful when interpreting the obtained test scores (see Chapter 13, this volume).

## APPLICATIONS

The assessment of mental abilities has many practical purposes. Some of the more popular applications are to evaluate clinical or diagnostic issues, to determine access to social programs, and to gain a better understanding of children who are having academic difficulties.

### Clinical Applications

Mental abilities assessment is often considered to be an integral part of a psychological assessment when evaluating a child suspected of having a developmental delay, an intellectual disability, autism, a language disorder, a traumatic brain injury, or, depending on state law, a specific learning disability. It can also be useful in differentiating between a disability that requires a more restrictive special education, such as an intellectual disability, and another condition such as a language disorder in which nonverbal functioning is adequate and a more restrictive environment may not be appropriate. Similarly, a mental abilities assessment can often differentiate between an intellectual disability and another condition that is better managed through behavioral or pharmacological interventions such as attention deficit/hyperactivity disorder. Mental abilities assessments can also help guide school personnel to implement targeted educational interventions (Korkman, Kirk, & Kemp, 2007b).

### Supplemental Security Income

Supplemental Security Income is a program of the Social Security Administration that provides eligible recipients with benefits that can include a monthly cash stipend, nutritional supplementation, and health insurance (Social Security Administration, 2012). This program also provides benefits to children with disabilities, including mental health disorders. The number of children younger than age 18 receiving these benefits increased almost fourfold in the decade between 1989 and 1999 (Perrin et al., 1999).

To qualify for these benefits, individuals must prove that they have a qualifying disability. In 2000, 7.9% of new entrants to the Supplemental Security Income program were awarded benefits on the basis of having an intellectual disability (Rupp & Riley, 2011). The Social Security Administration's website lists four conditions under the category of intellectual disability for which someone is eligible for benefits. For three of the four conditions, applicants must demonstrate that their IQs (verbal, performance, or full scale), as measured by a valid mental ability assessment, are no higher than 70 ("Disability Evaluation," n.d.).

These criteria have not been updated to reflect the way scores on current revisions of mental ability tests are categorized or to take into account that the most recent editions of Wechsler's scales have eliminated verbal and performance IQs altogether. The fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (American Psychiatric Association, 2013) deemphasized IQs by removing specific scores from the criteria used to diagnose intellectual disability. Although the manual explains that an intellectual disability is typically characterized by an IQ that is 2 or more standard deviations below the population mean, it notes that "individual cognitive profiles . . . are more useful for understanding intellectual abilities than a single IQ score" (APA, 2013, p. 37).

### Educational Settings

IDEA requires that students who are found to have a qualifying disability that adversely affects educational progress be provided with a free, appropriate public education. (*Students* means those who are enrolled in preschool through high school, ages 3–21 years, and, in some states, also children who are home schooled.) This is interpreted as a requirement to provide the student with any services and support that allow a student with a disability to benefit from the instruction being provided (McBride, Dumont, & Willis, 2011). Depending on the state, a psychological evaluation, which can include a mental ability assessment, is often required when a student is referred to a school district because of a suspected disability.

## LIMITATIONS OF MENTAL ABILITY ASSESSMENTS

Despite advances in theories of cognitive functioning and the principles that govern the administration of an assessment, mental ability assessment still has its limitations. A clinician should always be

aware of these limitations when deciding to administer an assessment and especially when interpreting the results of an assessment.

## Test Bias

Almost from the inception of the first mental ability tests, there has been discussion regarding the fairness of mental ability assessment of culturally and linguistically diverse populations and the realization that not all tests are appropriate for all people (Yerkes, 1921). Some have argued that mental ability tests have been used to exclude minorities from general education and other opportunities for advancement (Harry, & Klingner, 2014). These sentiments have led to emotionally charged controversies that have been debated for decades. A few researchers (e.g., Valdés & Figueroa, 1996) have demonstrated that there is little empirical evidence to support assertions of bias in mental ability tests. However, others (e.g., Rhodes et al., 2005) have suggested that when mental ability tests are administered to individuals from cultures other than the dominant one, the test might actually be measuring level of acculturation rather than mental ability. Thus, the validity of the test scores is called into question. Several tests have been developed in an attempt to minimize the influence of culture on the test and are reviewed below.

## Nonintellective Factors

Whereas a mental ability test is designed to measure potential, mental ability is only one of many factors that exert influence on observed behaviors. A person might have high scores on a mental ability assessment but lack the organizational skills needed to be successful in an academic setting. Similarly, it is entirely possible for someone to obtain low scores on a test, yet have excellent adaptive behaviors. This led David Wechsler (1950) to observe that the results of factor-analytic studies accounted for only a portion of intelligence, and he believed that another group of attributes contributed to intelligent behavior. These attributes include planning, goal awareness, enthusiasm, impulsiveness, anxiety, and persistence (Wechsler, 2012b). Wechsler attempted to measure these attributes by including certain (performance) subtests on his original test battery (Wechsler, 1939).

## Dysrationalia

Research into specific mental constructs that affect behavior has highlighted some of the limitations of mental ability testing. One such mental construct is the ability to think and act in a rational manner. Often, people who achieve high scores on mental ability tests behave in a manner that appears to be inconsistent with their obtained scores. This construct has been labeled *dysrationalia* (Stanovich, 2009). Dysrationalia might help to explain why seemingly intelligent people make poor choices (such as investing in Ponzi schemes) despite ample evidence that these choices are extremely risky and irrational. One hypothesized explanation for dysrationalia is that people often resort to a less effortful rapid decision-making process to solve problems because it is easier than to expend the cognitive effort required to make rational decisions. Another hypothesized cause of dysrationalia is that some people are unable to think rationally because they do not have the necessary knowledge or expertise to make rational choices (Stanovich, 2009). The inability to predict dysrationalia is one of the shortcomings of contemporary test batteries.

## Flynn Effect

Mental ability test scores can be affected by what has become known as the Flynn effect (Flynn, 2009). Specifically, the Flynn effect is the substantial and long-sustained increase in mental ability test scores measured in many parts of the world from roughly 1930 to the present day. Research has confirmed this trend in developed and developing countries (Nisbett et al., 2012).

There is no consensus in the scientific community as to what causes these increases, and there is debate about whether the rise in test scores corresponds with a rise in intelligence, a rise in skills related to taking mental ability tests, or other factors (Kaufman & Weiss, 2010). What is known for sure is that norms become outdated. In the United States, they become outdated at a rate of 3 points per decade, although greater gains have been noted in a variety of European and Asian countries (Flynn, 1987) and in certain developing countries (Nisbett et al., 2012). Conversely, in some countries, test score gains seem to have stopped, and declines have been

recorded (Teasdale & Owen, 2008). Given these changes in mental ability test scores, the tests need to be adjusted, typically by revising and, especially, renorming them.

The potential impact of the Flynn effect is of particular concern when cutoff scores are used to determine eligibility for a particular benefit or program. Without timely adjustments, the use of an old test could lead to high, inflated scores, potentially preventing people with intellectual disabilities from being identified as such and, therefore, from receiving the accommodations and protections to which they are entitled. Studies have been conducted that document the use of obsolete tests during periods of transition to newer versions (Sénéchal et al., 2007). The concern over an inflated test score is not just a hypothetical scenario; it can have real-life consequences. For instance, in the United States a diagnosis of intellectual disability is a mitigating factor when determining the application of capital punishment (Kaufman & Weiss, 2010).

## Capital Punishment

The Eighth Amendment to the U.S. Constitution forbids cruel and unusual punishments. In *Atkins v. Virginia* (2002), the U.S. Supreme Court ruled that it is unconstitutional to execute a prisoner who has diminished mental capacities. This law has proven to be difficult to interpret because determining the criteria for an intellectual disability is far from an exact science. The problem of definition is magnified because each state may define the eligibility criteria for intellectual disability differently. One state may simply provide a statement regarding "significantly subaverage general intellectual functioning" (e.g., Arizona) without any reference to an IQ score or level, and another state (e.g., Kentucky) may note, "Significantly subaverage general intellectual functioning is defined as an IQ of 70 or below." South Dakota adds, "An IQ exceeding 70 on a reliable standardized measure of intelligence is presumptive evidence that the defendant does not have significant subaverage general intellectual functioning" (Death Penalty Information Center, n.d.).

Aside from the problems associated with differing criteria, several pragmatic issues are associated with IQ and mental ability testing that have a direct impact on the decision making regarding intellectual disability identification. These issues include the following: What specific test should be administered? What score or scores—the global or the part scores—associated with a particular test should be used in the disability determination? Should the test's standard error of measurement be accounted for when determining eligibility? If several measures are given, can one average the scores to determine intellectual ability? Is the person's IQ based on outdated norms and, therefore, in need of adjustment for the Flynn effect?

One other issue related to the accurate identification of intellectual disabilities (and more broadly to any assessment done to determine mental ability) is recognition that procedural and administration errors can, and do, occur when administering these tests. Despite what is typically rigorous graduate training in standardized administration of intelligence tests for most psychologists, the research on adherence to standardized administration and scoring procedures has consistently found that, for both novice and experienced psychological examiners, errors occur with disturbing regularity (Ramos, Alfonso, & Schermerhorn, 2009).

## Achievement–Ability Discrepancy

Yet another use (or misuse) of mental ability testing is how the testing results are applied to the determination of specific learning disability. School districts in the United States have a legal requirement to provide children with a learning disability with a free and appropriate public education (IDEA, 2004). The federal definition of a specific learning disability carries the force of law. Previously, federal law defined the determination of a specific learning disability to include a "severe discrepancy between achievement and intellectual ability" (U.S. Office of Education, 1977). To calculate this discrepancy, a formula was developed that compared the global score on an achievement test with the global score of a mental ability test. Depending on the case, if there was more than 1 standard deviation of difference—suggesting that the results were discrepant—the individual tested was considered to have a learning disability and was eligible for special education. The newest

guidelines for determining eligibility for a specific learning disability do not require the use of a severe discrepancy; however, the law does not prohibit it (IDEA, 2004). Probably nothing related to the identification of specific learning disabilities causes professionals more problems than the decisions they are asked to make by school districts that still adhere to a discrepancy model. The professionals involved in the eligibility determination often struggle for clear guidelines to help objectify the process. Questions related to the area of severe discrepancy often include the following: Is a severe discrepancy defined or clarified anywhere in IDEA? How severe is severe? What is the severe discrepancy discrepant from? Which ability score (e.g., Wechsler full scale or index scores, DAS–II General Conceptual Ability or cluster scores) can be used when determining achievement–ability discrepancies? Are there other acceptable ways to determine severe discrepancy besides using an achievement–ability test score comparison?

### Cultural and Linguistic Differences

Federal law (IDEA, 2004) provides guidance for evaluating children who are culturally and linguistically diverse. Evaluation materials must be selected in a manner that is not racially or culturally biased and must be administered in the child's native language. The IDEA requirement to test in a child's native language poses a problem for responsible evaluators, especially when no appropriate test exists in a given language. Many experts caution against translating English-language items on standardized tests into other languages because it introduces unknown amounts of error into the test (Sattler, 2008). For example, on a memory subtest, simply translating a single-digit number (e.g., changing *five* in English to *cinco* in Spanish) can change the number of syllables in the word and thus possibly change the difficulty of task being assessed (Georgas et al., 2003). This type of direct translation can compromise the validity and reliability of the subtest score (Elliott, 2007b).

An interesting solution to the problem of assessing limited English proficiency and culturally diverse individuals is an interpretive method. Some researchers (e.g., Flanagan, Ortiz, & Alfonso, 2007) believe that cultural loading and linguistic demand on subtests can artificially depress the scores of individuals with limited English proficiency. If an examiner uses a test that is high on *both* linguistic demand and cultural loading, the obtained score might be depressed not because of any disability but because the test is culturally or linguistically inappropriate. Proponents of this idea developed the Culture–Language Interpretive Matrix (Flanagan et al., 2007). This method is available for many of the most popular mental ability assessment tools. It purports to evaluate each subtest of a mental ability test as being low, medium, or high on both cultural loading and linguistic demand. The examiner evaluates the child, converts the obtained scores into deviation IQ scores, and then evaluates the profile using the matrix. If the scores follow a pattern of decline in which the higher scores appear on tests with low cultural loading and linguistic demand and lower scores appear on tests with high cultural loading and linguistic demand, it might be assumed that the score results do not reflect a disability but are most likely the result of the cultural and linguistic differences. Despite the appeal that this method may have, no empirical evidence has been published in any peer-reviewed journal to support the Culture–Language Interpretive Matrix approach (Kranzler, Flores, & Coady, 2010; Styck & Watkins, 2013).

## PRINCIPAL TESTS AND METHODS

Over the past 12 years, many popular mental ability tests have undergone extensive revisions and restandardizations. This reflects the desire of test developers and their users to incorporate the latest research into the tests and to make sure that the norms are up to date. An evaluator today has many high-quality assessment tools to choose from, based on his or her theoretical orientation, the population being tested, or even financial considerations. We review some of the more commonly used measures, arranged in alphabetical order. Within a group of related tests (e.g., the Wechsler scales), we have placed the tests in oldest-to-newest order so that the reader has a better sense of the way in which the tests have evolved.

## Cognitive Assessment System, Second Edition

The Cognitive Assessment System, now in its second edition (CAS2; Naglieri et al., 2014), is an individually administered test of cognitive ability, created for children ages 5 through 18 years, that can be administered in two forms. The Core Battery consists of eight subtests, and the Standard Battery contains 12 subtests. The CAS2 evaluates mental ability using the PASS theory of cognitive processing and, as such, contains four scales called Planning, Attention, Simultaneous, and Successive. A Full Scale score, which is an estimate of *g*, is also provided; however, the CAS2 Full Scale score is deemphasized in favor of the other four scales. Standard scores are provided for all subtests. The four scales, along with the Full Scale score, are also reported as standard scores. In addition, the CAS2 offers five supplemental scales (Executive Function Without Working Memory, Executive Function With Working Memory, Working Memory, Verbal Content, and Nonverbal Content).

The CAS2 was standardized on a representative sample of 1,342 U.S. children and adolescents from 2008 through 2011. Stratification variables included age, gender, region, ethnicity, Hispanic status, and parental education. It is a well-standardized instrument with good internal consistency and stability data. Because the test is based on the PASS model and differs from other assessment tools, it may offer a unique context through which mental abilities can be measured and conceptualized.

## Comprehensive Test of Nonverbal Intelligence—Second Edition

The Comprehensive Test of Nonverbal Intelligence—Second Edition (CTONI–2; Hammill, Pearson, & Wiederholt, 2009a) measures nonverbal reasoning abilities of individuals ages 6 through 90 years for whom other tests may be inappropriate or biased. Because the CTONI–2 contains no items that require oral responses, reading, writing, or object manipulation, it is particularly appropriate for individuals who speak a language other than English or who have a hearing impairment, language disorder, motor impairment, or neurological impairment. The CTONI–2 should not be used with people who have vision problems. Its instructions can be administered orally to individuals who speak English or in pantomime for those who speak languages other than English or who have a hearing impairment, aphasia, or neurological impairment.

The CTONI–2 measures analogical reasoning, categorical reasoning, and sequential reasoning in two different contexts: pictures of familiar objects (people, toys, and animals) and geometric designs (unfamiliar sketches, patterns, and drawings). There are six subtests in total. Three subtests use pictured objects, and three use geometric designs. Examinees indicate their answers by pointing to a response. In addition to raw scores, scaled and standard scores, percentiles, and age equivalents, the CTONI–2 also provides three composite index scores: Full Scale, Pictorial Scale, and Geometric Scale. Items were reviewed to protect against bias in regard to race, gender, ethnicity, and language (Hammill, Pearson, & Wiederholt, 2009b).

The CTONI–2 was normed on a sample of 2,827 individuals and is representative of the U.S. population with respect to age, gender, race/ethnicity, educational level, and geographic region. Reliability studies of the CTONI–2 have provided evidence for content sampling, time sampling, and interscorer reliability (Hammill et al., 2009b).

## Differential Ability Scales—Second Edition

The DAS–II (Elliott, 2007a) is a cognitive ability test designed to measure specific abilities and assist in determining strengths and weaknesses for children and adolescents age 2 years, 6 months, through age 17 years, 11 months. The DAS–II is composed of 20 cognitive subtests that include 10 core subtests and 10 diagnostic subtests. The core subtests are used to calculate a composite score called General Conceptual Ability and three other composite scores: Verbal, Nonverbal Reasoning, and Spatial Ability cluster scores. An additional global score, the Special Nonverbal Composite, can be calculated using the subtests on the Nonverbal Reasoning and Spatial Ability clusters. The Special Nonverbal Composite is useful when evaluating children who are not proficient in English. The diagnostic subtests are used predominantly to assess strengths and weaknesses and do

not contribute to the composite scores. Administration time is estimated to be 45 to 70 minutes for the full cognitive battery. The DAS–II, like many other standardized cognitive ability tests, uses standard scores for the composite scores and *T* scores for the 20 individual subtests.

The DAS–II was standardized on a stratified sample of 3,480 U.S. children and adolescents using data from the 2005 U.S. Census Bureau to stratify the sample. Reliability and validity data are very good. Internal consistency of the clusters is also very good, and median test–retest reliability coefficients were high. General Conceptual Ability correlates well with other measures of intelligence and demonstrates good concurrent and construct validity. The DAS–II is a well-standardized instrument with strong psychometric properties. Additional strengths are that the General Conceptual Ability composite is highly *g* saturated, the time of administration is relatively short, the test is adaptive in nature, and children as young as ages 2 and 3 years can be assessed. Although easier to administer than many comparable tests, it is a complex instrument that does require training, practice, and careful attention.

### Kaufman Brief Intelligence Test, Second Edition

The Kaufman Brief Intelligence Test, Second Edition (KBIT–2; Kaufman & Kaufman, 2004c), is an individually administered test of verbal and nonverbal ability. The test is suitable to be administered to people ages 4 through 90 years. It takes approximately 20 minutes to administer and consists of two scales, Verbal and Nonverbal. The Verbal scale is composed of two parts, Verbal Knowledge and Riddles, and the Nonverbal scale contains the Matrices subtest. Both the Verbal Knowledge and Matrices subtests are administered using an easel. The items are in color and are designed to appeal to children. Starting points on the KBIT–2 are determined by the examinee's age. The raw scores obtained are converted to standard scores ($M = 100$, $SD = 15$) for both the subtests and the resulting IQ Composite.

The KBIT–2 was co-normed with the Kaufman Test of Educational Achievement, Second Edition—Brief Form (Kaufman & Kaufman, 2005), for individuals ages 26 to 90 years. The norming sample was representative of U.S. Census data with respect to race, geographic region, and socioeconomic status. Studies conducted on the KBIT–2 demonstrated high reliability and validity. The KBIT–2 may be used as an intellectual screening tool or to assess disparity between verbal and nonverbal intelligence (crystallized and fluid abilities).

### Kaufman Assessment Battery for Children, Second Edition

The Kaufman Assessment Battery for Children, currently in its second edition (KABC–II; Kaufman & Kaufman, 2004a), can be used with children ages 3 through 18 years. The test is unique because it is based on two different theoretical models. The KABC–II can be interpreted according to the CHC hierarchical model of broad and narrow abilities. It can also be interpreted using Luria's (1973) model of neuropsychological cognitive processing. The test allows the evaluator the flexibility to choose the most appropriate model based on the referral. For instance, the Luria model does not contain an index that measures acquired knowledge (*Gc* in CHC theory) and is more appropriate for children with a known language disorder or other disorders (such as autism) that can affect expressive language and for children who are not native speakers of English. It also contains six subtests that can be administered nonverbally and that contribute to a Nonverbal Index score, which is useful when evaluating students who are not native English speakers. The KABC–II has good reliability and validity. The manipulatives and visual items are colorful and child friendly.

A total of five different index scores can be obtained from the KABC–II subtests. In addition, three global scores, one for each interpretative model, and a nonverbal index can also be derived from some of the scaled scores of the 18 individual subtests. The KABC–II was standardized on 3,025 children selected to be representative of noninstitutionalized, English-proficient children aged 3 years, 0 months, through 18 years, 11 months, living in the United States during the period of data collection. The demographic characteristics used to obtain a stratified sample were age, sex, race/ethnicity,

parental educational level, educational status for 18 year olds, and geographic region.

Extensive data regarding the test's reliability and validity are presented in the test manual (Kaufman & Kaufman, 2004b). Internal consistency is excellent for the index scales, and the subtests have adequate reliability with only four of the 18 subtests having reliability below .80. The reliability coefficients for all scales are good, and construct and concurrent validity are also good.

## Leiter International Performance Scale—Third Edition

The Leiter International Performance Scale—Third Edition (Leiter–3; Roid et al., 2013a) is an individually administered nonverbal test designed to assess intellectual ability, memory, and attention functions in children and adults. The Leiter–3 consists of two groupings of 10 subtests: the Cognitive Battery (five subtests) and the Attention and Memory Battery (five subtests). It also includes social–emotional rating scales that provide information from behavioral observations of the examinee. The manual includes an extensive discussion of the interpretation of Leiter–3 results and provides case studies to demonstrate the interpretation of scores (Roid et al., 2013b).

The Leiter–3 contains manipulatives such as lightweight blocks, cards, and foam pieces. Some items require arranging in a frame, and others require a response to test items by pointing to pictures on an easel. Subtest starting points are determined by the child's age. The manual contains detailed scoring instructions.

Raw scores on the subtests and rating scales are converted to scaled scores ($M = 10$, $SD = 3$) using tables in the manual. IQ scores are calculated from sums of subtest scaled scores and converted to IQ standard scores ($M = 100$, $SD = 15$). The Cognitive scales are used to obtain the Nonverbal IQ Composite Score and the Attention and Memory scales yield a Nonverbal Processing Speed Composite and a Nonverbal Memory Composite Score.

The Leiter–3 Cognitive scales were was standardized on 1,603 typical individuals between the ages of 3 and 75 years or older. Twelve different special group studies (e.g., severe speech or language impairment, gifted individuals, individuals with attention deficit/hyperactivity disorder) were conducted and provide the evaluator with comparison information when testing an individual belonging to one of those groups. Data collection used a national stratification plan based on 2008 and 2011 U.S. Census statistics for age, gender, and socioeconomic status. Nationally representative proportions of people who are Caucasian, Hispanic American, African American, Asian American, and Native American were included. Internal- consistency reliability coefficients are provided for the composites. Evidence is also provided for test–retest reliability. Coefficients are high for composites and low for subtests.

## NEPSY–II

The NEPSY–II (Korkman, Kirk, & Kemp, 2007a) is a test battery that can be used to supplement other mental ability tests. It is not an intelligence test in the traditional sense because it differs from other tests with regard to its scoring and the derivation and structure of its test domains. In contrast to many other tests reviewed in this chapter, these domains are not derived from factor analysis but are derived from Luria's neuropsychological theory (Korkman et al., 2007b).

The test consists of 32 subtests that are organized into six domains: Attention and Executive Functioning, Language, Memory and Learning, Social Perception, Sensorimotor, and Visuospatial Processing (Korkman et al., 2007b). Unlike most tests, the NEPSY–II does not yield a full scale global score. The authors emphasize the utility of analyzing scores at the subtest level, and four different categories of scores can be obtained at this level: primary scores, process scores, contrast scores, and behavioral observations. The primary score is a global subtest score that in some subtests is derived by combining certain variables (such as total errors and completion time scores) within a subtest. Process scores provide information on particular abilities within a variable and can provide useful clinical information for specific disorders. Contrast scores refer to several primary scores within a subtest that allow the evaluator to compare different types of processes used in the subtest. Behavioral observations allow the evaluator to compare the child's base

rates of test behaviors, such as on task versus off task, to the norming sample.

The NEPSY–II can be used with children ages 3 through 16 years. The test was normed on 1,200 children in this age range. Evidence of adequate reliability and validity are presented in the *Clinical and Interpretive Manual* (Korkman et al., 2007b). The test seems particularly useful in light of the reauthorization of IDEA in 2004, which emphasizes the use of response-to-intervention approach to determine the presence of a learning disability. RTI is a process in which an evidence-based intervention is used in a regular education environment to address an individual academic problem. The NEPSY–II authors suggest that their test can be used in conjunction with response to intervention to help identify the cause of the academic problem and then guide a teacher's choice for the most appropriate and targeted intervention (Korkman et al., 2007b).

### Reynolds Intellectual Assessment Scales

The Reynolds Intellectual Assessment Scales (RIAS; Reynolds & Kamphaus, 2003) are an individually administered test of intelligence assessing two primary components of intelligence: verbal (crystallized) and nonverbal (fluid). Verbal intelligence is assessed with two tasks (Guess What and Verbal Reasoning) involving verbal problem solving and verbal reasoning. Nonverbal intelligence is assessed by two tasks (Odd-Item Out and What's Missing) that utilize visual and spatial abilities. These two scales combine to produce a Composite Intelligence Index. In contrast to most measures of mental ability, the RIAS eliminates dependence on motor coordination, visual–motor speed, and reading skills. A Composite Memory Index can also be derived from two supplementary subtests (Verbal Memory and Nonverbal Memory) that assess verbal and nonverbal memory. A variety of scores, including *T* scores, *Z* scores, normal curve equivalents, stanines, and age equivalent (ages 3–14 years only) scores, are provided.

The RIAS was standardized on a normative data sample of 2,438 individuals from 41 states ages 3 to 94 years. The normative sample was matched to the 2001 U.S. Census on age, ethnicity, gender, educational attainment, and geographical region. During standardization, an additional 507 individuals, in 15 different clinical groups, were administered the RIAS to supplement its validation.

### Stanford-Binet Intelligence Scales—Fifth Edition

The Stanford–Binet Intelligence Scales—Fifth Edition (SB5; Roid, 2003a) is the most recent edition of the U.S. adaptation of the Binet-Simon Intelligence Scale (Terman, 1916). The SB5 underwent significant changes from the fourth edition in an attempt to align the test with CHC theory. It contains five factors that measure five CHC broad abilities: Fluid Reasoning, which is a measure of G*f*; Knowledge, which corresponds to G*c*; Quantitative Reasoning, which measures G*q*; Visual–Spatial Processing, which is a measure of G*v*; and Working Memory, which corresponds to G*sm*. The test consists of 10 subtests, five of which are part of a Verbal domain and five of which are part of the Nonverbal domain. The SB5 produces a global score; the Full Scale IQ, corresponding to *g*; as well as a Verbal IQ score and a Nonverbal IQ score. The test also has a brief administration that produces an Abbreviated Battery IQ score that "can be used for assessments such as neuropsychological examinations in which another battery of tests supplements the SB5" (Roid, 2003b, p. 2).

The SB5 differs from other tests in that its subtests are grouped together by level of difficulty. At each level, a set of items, or testlet, is administered that corresponds to one of the five factors. Once a ceiling is reached on a particular testlet, the remaining testlets of that index are not administered at different levels. Although this can make the administration of the SB5 somewhat complex and cumbersome, this structure, along with the many different manipulatives, make the test particularly useful for testing children.

The SB5 was standardized on a representative sample of 4,800 people in the United States. It can be administered to children as young as age 2 years of age through adults age 85 and older. The test has excellent standardization and reliability and good concurrent validity (Sattler, 2008).

The SB5 technical manual reports evidence that supports its general factor (*g*), its two-factor model (G*f*, G*c*), and its five-factor model. However, other investigators have used the same data and have not

found support for a five-factor model (DiStefano & Dombrowski, 2006) or even for a two-factor model (Canivez, 2008).

## Universal Nonverbal Intelligence Test

The Universal Nonverbal Intelligence Test (UNIT; Bracken & McCallum, 1998) is an individually administered instrument designed for use with children and adolescents from age 5 through age 17 years, 11 months. It is intended to provide a fair assessment of intelligence for those who have speech, language, or hearing impairments; different cultural or language backgrounds; those who are unable to communicate verbally; individuals with intellectual disability, autism, or learning disabilities, and people who are gifted.

The UNIT measures intelligence through six culture-reduced subtests that combine to form two Primary Scales (Reasoning and Memory), two Secondary Scales (Symbolic and Nonsymbolic), and a Full Scale (FSIQ). Each of the subtests is administered using reasonably universal hand and body gestures, demonstrations, sample items, corrective responses, and transitional checkpoint items to explain the tasks to the examinee. The entire process is nonverbal, but it does require motor skills for manipulatives, pencil and paper, and pointing.

Three administration options are available for use depending on the reason for referral. These are (a) an abbreviated battery containing two subtest scores, (b) the standard battery containing four subtest scores, and (c) the extended battery containing six subtest scores. Depending on the administration chosen, the test can take between 10 to 45 minutes to complete.

The UNIT standardization closely matched the U.S. population according to the 1995 census. Normative data were collected from a thorough nationwide sample of 2,100 children and adolescents. An additional 1,765 children and adolescents were added to the standardization sample to participate in the reliability, validity, and fairness studies. resulting in a total of 3,865 participants across the variables of age, sex, race, Hispanic origin, region, community setting, classroom placement, special education services, and parental educational achievement.

Reliabilities are high for both standardization and clinical samples. Validity studies have shown strong concurrent validity with many other measures of intelligence. This test is a theoretically and psychometrically sound measure of nonverbal intelligence. A new version, UNIT 2, is scheduled to be released in December 2015.

## Wechsler Intelligence Scales

The Wechsler intelligence scales, the most popular mental ability tests in the United States and in the world, consist of several different measures for children and adults. The Wechsler Adult Intelligence Scale (WAIS) and the Wechsler Preschool and Primary Scale of Intelligence (WPPSI) are currently in their fourth edition, and the fifth edition of the Wechsler Intelligence Scale for Children (WISC) was published in 2014. Together, these tests can be used to measure the cognitive abilities of individuals ages 2.5 through 90 years. One reason for the scales' extensive use among psychologists is that they are among the most widely researched of all available test batteries (Wahlstrom et al., 2012). The Wechsler tests, especially the WISC, have been translated into more than a dozen languages and have been normed in many countries around the world (Georgas et al., 2003). In recent years, the WAIS, WISC, and WPPSI have undergone extensive revisions to better align them with some of the theories of mental abilities (e.g., CHC theory) that are commonly accepted by contemporary psychologists (Wechsler, 2014b).

**Wechsler Nonverbal Scale of Ability.** The Wechsler Nonverbal Scale of Ability (Wechsler & Naglieri, 2006) is a cognitive ability test with nonverbal administration and materials for ages 4 years, 0 months, through 21 years, 11 months. The test contains six subtests. Matrices, Coding, Object Assembly, and Recognition are used for the Full Scale IQ score at ages 4 years, 0 months, through 7 years, 11 months, and Matrices, Coding, Spatial Span, and Picture Arrangement are used for the Full Scale IQ at ages 8 years, 0 months through 21 years, 11 months. Subtests scores are reported as *T* scores, and the IQ scores are given as standard scores. The Wechsler Nonverbal Scale of Ability is

an efficient nonverbal test with clear instructions. The four-subtest format uses mostly subtests that are similar to those on other Wechsler scales; however, it provides fewer subtests and abilities to analyze. Test administration is normally accomplished with pictorial instructions and standardized gestures. Use of standardized verbal instructions provided in six languages is also permitted, or a qualified interpreter may be used to translate the instructions into other languages in advance. Examiners may also provide additional help as dictated by their professional judgment. The flexible administration procedures make this test especially useful with a wide variety of special populations.

**Wechsler Adult Intelligence Scale—Fourth Edition.** The Wechsler Adult Intelligence Scale—Fourth Edition (Wechsler, 2008a) can be used with individuals ages 16 to 90 years. It consists of 15 subtests, of which 10 are core subtests and five are supplemental. All of the subtests load onto four separate composites: Verbal Comprehension Index, a measure of *Gc*; Perceptual Reasoning Index, a measure of fluid reasoning (*Gf*); Working Memory Index, a measure of short-term memory (*Gsm*); and Processing Speed Index, a measure of processing speed or *Gs*. These composites combine to create the Full Scale IQ, which is an estimate of *g*. An optional score, the General Ability Index, can also be derived from the Verbal Comprehension Index and Perceptual Reasoning Index subtests.

The WAIS–IV was standardized on a sample of 2,200 individuals divided into 13 age groups. The norming sample was formed to match 2005 U.S. Census data. The sample is stratified along five different demographic variables: region, age, gender, ethnicity, and level of education (parent's education for ages 16–19, self-education for ages 20–90). The test has good reliability and validity as reported in the test's *Technical and Interpretive Manual* (Wechsler, 2008b).

**Wechsler Preschool and Primary Scale—Fourth Edition.** When compared with its predecessors, perhaps the most significant changes to the Wechsler scales can be found on the Wechsler Preschool and Primary Scale—Fourth Edition (WPPSI–IV; Wechsler, 2012a). The test is divided into two age groups, 2 years, 6 months, to 3 years, 11 months, and 4 years, 0 months, to 7 years, 7 months, respectively. The version for younger children contains three Primary Index Scales: Verbal Comprehension Index, Visual Spatial Index, and Working Memory Index. Each index consists of two subtests, although only five subtests are required to compute the global score, the Full Scale IQ. The WPPSI–IV also provides three theory-based ancillary index scores: Vocabulary Acquisition Index, Nonverbal Index, and General Ability Index. These ancillary scores "may be used to provide additional or supporting information regarding a child's WPPSI-IV performance" (Wechsler, 2012b, p. 15).

For children ages 4 years, 0 months, to 7 years, 7 months, there are 16 different subtests that yield 17 different subtest scores. Ten subtests yield 5 Primary Index scores. These are Verbal Comprehension, Visual Spatial, Fluid Reasoning, Working Memory, and Processing Speed, as well as the Full Scale IQ, which is derived from six subtests. The ancillary indices are the same as those for the 2 years, 6 month, to 3 years, 11 months, age range with the addition of a Cognitive Proficiency Index that "may provide an estimate of the efficiency with which cognitive information is processed in the service of learning, problem solving, and higher order reasoning" (Wechsler, 2012b, p. 149).

This latest edition of the WPPSI allows evaluators to assess important abilities that correspond to Stratum 2 abilities in the CHC model. It separates the Perceptual Reasoning Index of other, previous Wechsler scale revisions into two distinct CHC factors: fluid reasoning and visual–spatial abilities. For the first time, the WPPSI can also assess short-term working memory in young children.

The test was standardized on a sample of 1,700 children and stratified along the same variables as the other Wechsler scales, using 2010 U.S. Census data. The technical manual reports on 13 special-group studies that were conducted including intellectually gifted children, English language learners, and children with attention deficit/hyperactivity disorder and autistic disorder, among others (Wechsler, 2012b). The technical manual also provides extensive data on the test's reliability and validity.

**Wechsler Intelligence Scale for Children—Fifth Edition.** The Wechsler Intelligence Scale for Children—Fifth Edition (WISC–V; Wechsler, 2014a) is the latest revision of the Wechsler scales that continues the trend of the WAIS and the WPPSI, namely to facilitate the interpretation of its scores in accordance with the most current theories. The WISC–V is the most comprehensive of all the Wechsler scale revisions with a total of 21 different subtests. Ten of these subtests are primary subtests, and the remaining 11 are divided into secondary and complementary subtests. Of the primary subtests, seven are used in the calculation of the Full Scale IQ, and different combinations of primary, secondary, and complementary subtests can be used to calculate 14 composite, or index, scores. As with the WPPSI–IV, the WISC–V contains five primary index scores (Verbal Comprehension, Fluid Reasoning, Visual Spatial, Working Memory, Processing Speed). The ancillary index scores include Quantitative Reasoning Index, Auditory Working Memory Index, Nonverbal Index, General Ability Index, and the Cognitive Proficiency Index. New to the WISC–V are five subtests from which another three index scores can be derived: the Naming Speed Index, the Symbol Translation Index, and the Storage and Retrieval Index. These index scores have clinical utility when used with children who might have learning disabilities. The WISC–V greatly expands on the number of process scores that could be obtained from its predecessor, the WISC–IV. A total of 10 process scores (e.g., Block Design No Time Bonus, Block Design Partial Score) give the evaluator the ability to assess both quantitative and qualitative data. In addition, the WISC–V provides a total of 10 error scores on five subtests (e.g., Coding Rotation Errors, Symbol Search Set Errors), as well as process observations that provide examiners with a base rate for a number of different test behaviors and responses to questions (e.g., "I don't know," response repetition).

Instructions have been simplified and administration times have been shortened in comparison with the WISC–IV. The WISC–V was standardized on 2,200 children across the United States. The test manual provides detailed information on the stratification of the sample as well as data on its excellent reliability and validity. Thirteen special group studies were conducted, and the data on these studies are reported in the manual (Wechsler, 2014b).

In summary, the WISC–V can provide the evaluator with an extensive and in-depth understand of a child's mental abilities. It can be interpreted from different theoretical approaches but still retains many of the tests that are familiar to its users. These changes are likely to ensure that the WISC maintains its status as the gold standard among mental ability assessment tools.

## Woodcock–Johnson IV Tests of Cognitive Abilities

The Woodcock–Johnson IV Tests of Cognitive Abilities (WJ IV COG; Schrank, McGrew, & Mather, 2014) is a comprehensive test of mental abilities developed to measure abilities on all three strata of the CHC theory of cognitive abilities. The WJ IV consists of two batteries: the Standard Battery, containing 10 tests, and the Extended Battery, containing eight tests.

These 18 tests can be combined to provide a measure of overall ability, General Intellectual Ability (seven tests); Brief Intellectual Ability (three tests); a G*f*–G*c* composite (four tests); and seven broad ability clusters (minimum of two tests each): Comprehension–Knowledge (G*c*), Long-Term Retrieval (G*lr*), Visual–Spatial Thinking (G*v*), Auditory Processing (G*a*), Fluid Reasoning (G*f*), Processing Speed (G*s*), and Short-Term Working Memory (G*wm*). The WJ IV COG also measures a large number of narrow abilities. As noted in its *Technical Manual*, "The WJ IV is designed to provide the most contemporary measurement model of an evolving CHC theory of human cognitive abilities" (McGrew et al., 2014, p. 1).

The WJ IV COG (Schrank et al., 2014) was standardized on a representative sample of 7,416 people ages 24 months through 80 years and older. The test authors report good reliability and validity. The WJ IV also provides two other complete conormed batteries: The WJ IV Tests of Achievement (Schrank, Mather, & McGrew, 2014a) and the WJ IV Tests of Oral Language (Schrank, Mather, & McGrew, 2014b). Together these batteries form a comprehensive system for measuring

general intellectual ability (*g*), specific cognitive abilities, oral language, and academic achievement across a wide range of ages. All of the tests batteries are computer scored using online programs that users have access to through the Internet.

## Group Mental Ability Testing

Often, there exists a requirement to obtain mental ability data on large groups of people, and in those cases individual psychological testing is not feasible because of, for example, manpower constraints or financial concerns. As mentioned previously, group testing cannot replace a comprehensive psychological assessment, but it is useful for limited purposes such as providing a cost-effective assessment solution for identifying gifted and talented students.

A widely used group ability test is the Otis–Lennon School Ability Test, Eighth Edition (OLSAT 8; Otis & Lennon, 2006). It is supposed to measure the abilities that are related to academic success; therefore, the test authors refrain from using the words *mental ability* in the current revision, instead referring to *school ability*. The test is available in a traditional paper-and-pencil format or an online format and it is divided into seven levels that can be used for students in kindergarten through Grade 12. Completion time will vary by level, with a maximum completion time of 75 minutes. The OLSAT 8 contains 21 subtests from which three composite scores (a Total score, a Verbal score, and a Nonverbal score) can be derived. Other information can be obtained from the test because the Verbal score is further divided into two clusters, Verbal Comprehension and Verbal Reasoning, and the Nonverbal score is divided into three clusters, Pictorial Reasoning, Figural Reasoning, and Quantitative Reasoning. Not every subtest is administered at every level because each level consists of either 10 subtests (for the younger students) or 15 subtests (for the older ones).

The OLSAT 8 was standardized on more than 400,000 students together with the Stanford Achievement Test, Tenth Edition (Harcourt Assessment, 2003). When used together, a score can be obtained that compares the achievement score to the ability score. The test manual reports reliability and validity data that are characteristic of well-designed tests.

## Achievement Tests

Achievement tests are different from mental ability tests in that they measure knowledge that has been acquired, such as reading, writing, and math, typically through formal schooling. They are often used by psychologists in addition to mental ability tests to answer referral questions, such as those that pertain to learning difficulties. This is especially true for psychologists who work with children and in school settings in which an understanding of a student's academic strengths and weaknesses can help the evaluator design targeted and effective interventions. A neuropsychologist might also administer an achievement test to understand how a neurological deficit manifests itself in the real world. Some of the most comprehensive and best-normed individually administered achievement tests include the WJ IV Tests of Achievement (Schrank et al., 2014a), the Kaufman Test of Educational Achievement, Third Edition (Kaufman & Kaufman, 2014), and the Wechsler Individual Achievement Test—Third Edition (Wechsler, 2009). The latter, for example, measures four content areas of academic achievement: Reading, Writing Expression, Mathematics, and Oral Language. Each of these areas contains subtests that measure comprehension, concepts, and fluency.

Sometimes examiners need a brief measure of academic skills either to use as a screening tool or for reevaluation. In this instance, the Wide Range Achievement Test—Fourth Edition (Wilkinson & Robertson, 2006) can be useful. It contains four subtests that yield four separate scores: Word Reading, Sentence Comprehension, Math Computation, and Spelling. A Reading Comprehension composite score is derived from the Word Reading and Sentence Comprehension subtests. Administration time for the Wide Range Achievement Test—Fourth Edition is typically between 15 and 45 minutes.

There is often a need to measure large groups of students to assess a student's ability relative to the entire class, grade, or age level within a school district. Group-administered achievement tests are efficient ways of obtaining these data. Tests such

as the TerraNova, Third Edition (CTB/McGraw Hill, 2008), and the Stanford Achievement Test, Tenth Edition (Harcourt Assessment, 2003), are in wide use in the United States and provide data that schools can use to plan targeted interventions on individual and classwide levels. The TerraNova is particularly useful because it is aligned with the Common Core State Standards Initiative that seeks to establish guidelines for consistency in curriculum across the United States.

## MAJOR ACCOMPLISHMENTS

It is most often the case that mental ability assessments are used to gather data about an examinee's cognitive strengths and weaknesses. As with other clinical or educational assessments, these data can be used to design interventions and improve outcomes for the examinee.

### Utility of Mental Ability Assessment

A useful aspect of mental ability assessment is its ability to predict future success. High scores on mental ability tests are often good indicators of future academic achievement and vocational competence (Kaufman, 2009). The ability to do so accurately, validly, and reliably is a defining feature of most commercially available assessment batteries. Since the early days of testing, it has been recognized that mental ability expresses itself through different modalities, and tests were developed to test mental ability via verbal and nonverbal methods. Contemporary mental ability test batteries continue to do so by including a variety of measures such as fine motor coordination, visual skills, auditory processing, and both verbal and nonverbal skills.

In a clinical setting, assessment can identify the cognitive deficits of people with traumatic brain injuries. It can also help psychologists choose evidence-based treatments for clients with psychological problems. A comprehensive assessment can help predict individuals' success in a particular vocation. When done properly, mental ability assessment should not only provide a robust understanding of someone's general and specific intellectual functioning but should also guide intervention and rehabilitation (Flanagan & Kaufman, 2009).

### Education

Mental ability assessment in public education has evolved from its early roots in which it was used primarily as a way in which to exclude children from general education (Schultz & Schultz, 2012) to a clinical tool; when used properly, mental ability tests can significantly improve educational and occupational outcomes for individuals. A child who is failing at school might qualify for special education as a result of a comprehensive assessment. That same assessment might help a psychologist make meaningful recommendations that can be used in the context of a general education classroom. A mental ability assessment can also identify children whose abilities are significantly above those of their same-age peers and who require a more intensive academic curriculum.

### Early Intervention Programs

Mental ability assessment has helped explicate the interaction between development and environment and has demonstrated that proper nutrition, good care, and proper education can significantly improve outcomes for children. A wealth of scholarly research has used ability assessment data to support the benefits of programs such as Head Start and Early Intervention (e.g., Camilli et al., 2010). These programs are designed to benefit children who are at risk because of limited opportunities for learning that are often related to their socioeconomic status.

The success of early intervention in the United States has inspired the implantation of similar programs abroad. The Bucharest Early Intervention Program (Fox et al., 2011), for example, was designed to provide adequate care and education to Romanian orphans. A longitudinal study compared the mental ability scores of participants along with other measures with the scores of children who did not participate in the program. The results showed that children who had participated in the Bucharest Early Intervention Program had significantly higher mental ability scores than a control group

of children who did not receive the same quality of services. Thus, mental ability testing can help justify the need for programs that give children the chance to succeed against the odds.

## FUTURE DIRECTIONS

The use of technology has the potential to improve the accuracy, efficacy, and flexibility of assessment. Test administration can now occur using two tablet computers that communicate with each other (Dumont et al., 2014). One is used to administer instructions, record and score responses, take notes, and control visual stimuli. The other is used by the client to view and respond to stimuli. Examiners can choose from, and administer, a continually growing library of digital tests and subtests. Assuming that strict procedures for safeguarding these data and protecting clients are implemented, the possibility exists of conducting research on mental ability on an extremely large scale.

Other interesting trends concern the integration of biology into mental ability assessment. Instruments such as positron emission tomography scan and functional MRI might allow psychologists to directly assess individual mental abilities. Some studies have been performed using functional MRI to help understand the neural mechanisms that lie beneath CHC abilities such as fluid reasoning and working memory (Burgess et al., 2011). If the progress made in the past few decades is any indication, perhaps one day soon biological tests of mental abilities will become the standard, allowing psychologists to more accurately diagnose a problem and thus treat the problem much more effectively.

Currently, clinical psychologists spend significantly less time involved in mental ability assessment than in past decades (Norcross, Karpiak, & Santoro, 2005). Some of the reasons for this include reduced opportunities for training in specialized fields such as neuropsychology and the unwillingness of managed care companies to reimburse for those services (Naglieri & Graham, 2012). This decline is also likely to be seen in schools in which, as mentioned previously, federal legislation prohibits the use of mental ability assessment scores as the sole means by which a determination of a learning disability is made (IDEA, 2004).

Test developers, however, continue to make progress in designing tests that can be linked to targeted interventions. Researchers have had success in identifying some of the mental abilities that correlate with specific achievement areas (Mather & Wendling, 2012). For example, deficits in processing speed might indicate the need for extra time on examinations, and students with poor auditory working memory can benefit from interventions that teach them strategies such as mnemonics and more reliance on visual memory. The study of executive functioning has yielded new research in the area, and many existing mental ability tests are able to measure constructs such as planning, cognitive flexibility, and inhibition that are considered to be some of the key components of executive functioning (Sattler, 2014). Assessment tools such as the NEPSY–II can help identify the degree to which an executive function component is compromised and direct the psychologist toward a more specific intervention.

CHC theory inspired the revision or development of many of the tests reviewed here, including the WJ IV, the Wechsler scales, the DAS–II, the SB5, and the KABC–II. This theory will continue to evolve and encompass many more areas of broad and narrow mental ability (Schneider & McGrew, 2012). Assessment batteries, in turn, will also evolve to measure more of these abilities. Some researchers have proposed linking neuropsychological theories of mental ability with CHC theory for schoolchildren (Flanagan, Alfonso, Ortiz, & Dynda, 2010). When the same test scores are interpreted from different theoretical perspectives (as was done in the development of the KABC–II), it is possible to arrive at different conclusions, which then lead to different interventions. The synthesis of neuropsychological theory with CHC theory allows for a cohesive interpretation of the data and better interventions. However, more research must be completed before these theories can be unified (Schneider & McGrew, 2012).

The proper training of psychologists in the skill of mental ability assessment is another important area in which progress and change is expected. The

changing demographics of the U.S. population mean that the need for evaluators who are culturally competent is ever increasing. Part of training in mental ability assessment should include exposure to different cultures and an understanding of cultural differences as they relate to test items and even whole batteries. Competent assessment on the whole requires psychologists to have a broad understanding of the tests they use from historical, theoretical, and practical perspectives. The amount of electronic resources available to psychologists, including online literature, webinars, and training videos, as well as the traditional methods of training, provide psychologists with the tools they need to assess clients in a manner consistent with the highest possible standards.

## References


American Educational Research Association, American Psychological Association, & National Council on Measurement in Education. (2014). *Standards for educational and psychological testing*. Washington, DC: American Educational Research Association.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: Author.

American Psychological Association. (2010). *Ethical principles of psychologists and code of conduct, including 2010 amendments*. Retrieved from http://www.apa.org/ethics/code/index.aspx

Atkins v. Virginia, 536 U.S. 304 (2002).

Binet, A. (1916). New investigations upon the measure of the intellectual level among school children. In H. H. Goddard (Ed.), *The development of intelligence in children (the Binet-Simon Scale)* (E. S. Kite, Trans.; pp. 274–329). Baltimore, MD: Williams & Wilkins. (Original work published 1911)

Binet, A., & Simon, T. (1916). Upon the necessity of establishing a scientific diagnosis of inferior states of intelligence (E. S. Kite, Trans.). In H. H. Goddard (Ed.), *The development of intelligence in children (the Binet-Simon Scale)* (pp. 9–36). Baltimore, MD: Williams & Wilkins. (Original work published 1905)

Bracken, B. A., & McCallum, R. S. (1998). *The Universal Nonverbal Intelligence Test*. Itasca, IL: Riverside Publishing.

Burgess, G. C., Gray, J. R., Conway, A. R., & Braver, T. S. (2011). Neural mechanisms of interference control underlie the relationship between fluid intelligence and working memory span. *Journal of Experimental Psychology: General*, *140*, 674–692. http://dx.doi.org/10.1037/a0024695

Camilli, G., Vargas, S., Ryan, S., & Barnett, W. S. (2010). Meta-analysis of the effects of early education interventions on cognitive and social development. *Teachers College Record*, *112*, 579–620.

Canivez, G. L. (2008). Orthogonal higher order factor structure of the Stanford-Binet Intelligence Scales—fifth edition for children and adolescents. *School Psychology Quarterly*, *23*, 533–541. http://dx.doi.org/10.1037/a0012884

Carroll, J. B. (1993). *Human cognitive abilities: A survey of factor-analytic studies*. http://dx.doi.org/10.1017/CBO9780511571312

Carroll, J. B. (2012). The three-stratum theory of cognitive abilities. In D. P. Flanagan & P. L. Harrison (Eds.), *Contemporary intellectual assessment: Theories, tests, and issues* (3rd ed., pp. 883–890). New York, NY: Guilford Press.

Cattell, J. M. (1890). Mental tests and measurements. *Mind, os-15*, 373–381. http://dx.doi.org/10.1093/mind/os-XV.59.373

Cattell, R. B. (1943). The measurement of adult intelligence. *Psychological Bulletin*, *40*, 153–193. http://dx.doi.org/10.1037/h0059973

Cattell, R. B., & Horn, J. L. (1978). A check on the theory of fluid and crystallized intelligence with description of new subtest designs. *Journal of Educational Measurement*, *15*, 139–164. http://dx.doi.org/10.1111/j.1745-3984.1978.tb00065.x

Chan, R. C., Shum, D., Toulopoulou, T., & Chen, E. Y. (2008). Assessment of executive functions: Review of instruments and identification of critical issues. *Archives of Clinical Neuropsychology*, *23*, 201–216. http://dx.doi.org/10.1016/j.acn.2007.08.010

CTB/McGraw-Hill. (2008). *TerraNova* (3rd ed.). Monterey, CA: Author.

Das, J. P., Naglieri, J. A., & Kirby, J. R. (1994). *Assessment of cognitive processes: The PASS theory of intelligence*. Boston, MA: Allyn & Bacon.

Death Penalty Information Center. (n.d.). *State statutes prohibiting the death penalty for people with mental retardation*. Retrieved from http://www.deathpenaltyinfo.org/state-statutes-prohibiting-death-penalty-people-mental-retardation

*Disability evaluation under Social Security: 12.00 mental disorders—adult*. (n.d.). Retrieved from http://www.socialsecurity.gov/disability/professionals/bluebook/12.00-MentalDisorders-Adult.htm#12_05

DiStefano, C., & Dombrowski, S. C. (2006). Investigating the theoretical structure of the Stanford-Binet. *Journal of Psychoeducational Assessment*, *24*,

123–136. http://dx.doi.org/10.1177/0734282905285244

Dumont, R., Viezel, K. D., Kohlhagen, J., & Tabib, J. (2014). Technology: A review of Q-interactive assessment technology. *NASP Communique*, *43*(1).

Dumont, R., Willis, J. O., & Elliott, C. D. (2008). *Essentials of DAS–II assessment*. Hoboken, NJ: Wiley.

Elliott, C. D. (2007a). *Differential Ability Scales—Second Edition*. San Antonio, TX: Psychological Corp.

Elliott, C. D. (2007b). *Differential Ability Scales—Second Edition: Introductory and technical manual*. San Antonio, TX: Psychological Corp.

Eysenck, H. J., & Kamin, L. J. (1981). *The intelligence controversy*. New York, NY: Wiley.

Flanagan, D. P., Alfonso, V. C., Ortiz, S. O., & Dynda, A. M. (2010). Integrating cognitive assessment in school neuropsychological evaluations. In D. C. Miller (Ed.), *Best practices in school neuropsychology: Guidelines for effective practice, assessment, and evidence-based intervention* (pp. 101–140). Hoboken, NJ: Wiley.

Flanagan, D. P., & Kaufman, A. S. (2009). *Essentials of WISC–IV assessment* (2nd ed.). Hoboken, NJ: Wiley.

Flanagan, D. P., Ortiz, S., & Alfonso, V. C. (2007). *Essentials of cross-battery assessment* (2nd ed.). New York, NY: Wiley.

Flynn, J. R. (1987). Massive IQ gains in 14 nations: What IQ tests really measure. *Psychological Bulletin*, *101*, 171–191. http://dx.doi.org/10.1037/0033-2909.101.2.171

Flynn, J. R. (2009). *What is intelligence?* (rev. ed.). New York, NY: Cambridge University Press.

Fox, N. A., Almas, A. N., Degnan, K. A., Nelson, C. A., & Zeanah, C. H. (2011). The effects of severe psychosocial deprivation and foster care intervention on cognitive development at 8 years of age: Findings from the Bucharest Early Intervention Project. *Journal of Child Psychology and Psychiatry*, *52*, 919–928. http://dx.doi.org/10.1111/j.1469-7610.2010.02355.x

Georgas, J., Weiss, L. G., van de Vijver, F. J. R., & Saklofske, D. H. (2003). *Culture and children's intelligence: Cross-cultural analysis of the WISC–III*. San Diego, CA: Academic Press.

Hammill, D. D., Pearson, N. A., & Wiederholt, J. L. (2009a). *Comprehensive Test of Nonverbal Intelligence, Second Edition*. Austin, TX: Pro-Ed.

Hammill, D. D., Pearson, N. A., & Wiederholt, J. L. (2009b). *Comprehensive Test of Nonverbal Intelligence, Second Edition, examiner's manual*. Austin, TX: Pro-Ed.

Harcourt Assessment. (2003). *Stanford Achievement Test*. San Antonio, TX: Author.

Harry, B., & Klingner, J. K. (2014). *Why are so many minority students in special education? Understanding race and disability in schools*. New York, NY: Teachers College Press.

Herrnstein, R. J., & Murray, C. (1994). *The bell curve: Intelligence and class structure in American life*. New York, NY: Free Press.

Horn, J. L. (1986). Some thoughts about intelligence. In R. J. Sternberg & D. K. Detterman (Eds.), *What is intelligence? Contemporary viewpoints on its nature and definition* (pp. 91–96). Norwood, NJ: Ablex.

Horn, J. L., & Blankson, A. N. (2012). Foundations for better understanding of cognitive abilities. In D. P. Flanagan & P. L. Harrison (Eds.), *Contemporary intellectual assessment: Theories, tests, and issues* (3rd ed., pp. 73–98). New York, NY: Guilford Press.

Horn, J. L., & Noll, J. (1997). Human cognitive capabilities: Gf-Gc theory. In D. P. Flanagan, J. L. Genshaft, & P. L. Harrison (Eds.), *Contemporary intellectual assessment: Theories, tests and issues* (pp. 53–91). New York, NY: Guilford Press.

Individuals With Disabilities Education Act of 2004, Pub. L. No. 108-446, 118 Stat. 2647 (2004).

Kaufman, A. S. (2009). *IQ testing 101*. New York, NY: Springer.

Kaufman, A. S., & Kaufman, N. L. (2004a). *Kaufman Assessment Battery for Children, Second Edition*. Bloomington, MN: Pearson.

Kaufman, A. S., & Kaufman, N. L. (2004b). *Kaufman Assessment Battery for Children, Second Edition: Manual*. Bloomington, MN: Pearson.

Kaufman, A. S., & Kaufman, N. L. (2004c). *Kaufman Brief Intelligence Test* (2nd ed.). Circle Pines, MN: American Guidance Service.

Kaufman, A. S., & Kaufman, N. L. (2005). *Kaufman Test of Educational Achievement, Second Edition, Brief Form*. Circle Pines, MN: American Guidance Service.

Kaufman, A. S., & Kaufman, N. L. (2014). *Kaufman Test of Educational Achievement* (3rd ed.). San Antonio, TX: Pearson.

Kaufman, A. S., & Weiss, L. G. (Eds.). (2010). Special issue on the Flynn effect. *Journal of Psychoeducational Assessment*, *28*(5).

Korkman, M., Kirk, U., & Kemp, S. (2007a). *NEPSY—Second Edition*. Bloomington, MN: Pearson.

Korkman, M., Kirk, U., & Kemp, S. (2007b). *NEPSY–II: Clinical and interpretive manual*. Bloomington, MN: Pearson.

Kranzler, J. H., Flores, C. G., & Coady, M. (2010). Examination of the cross-battery approach for the cognitive assessment of children and youth from diverse linguistic and cultural backgrounds. *School Psychology Review*, *39*, 431–446.

Luria, A. R. (1973). *The working brain: An introduction to neuropsychology*. Harmondsworth, England: Penguin.

Mather, N., & Wendling, B. J. (2012). Linking cognitive abilities to academic interventions for students with specific learning disabilities. In D. P. Flanagan & P. L. Harrison (Eds.), *Contemporary intellectual assessment: Theories, tests, and issues* (3rd ed., pp. 553–581). New York, NY: Guilford Press.

McBride, G., Dumont, R., & Willis, J. O. (2011). *Essentials of IDEA for assessment professionals*. Hoboken, NJ: Wiley.

McGrew, K. S., LaForte, E. M., & Schrank, F. A. (2014). *WJ IV technical manual*. Rolling Meadows, IL: Riverside.

Naglieri, J. A., & Das, J. P. (1997). *Cognitive Assessment System*. Itasca, IL: Riverside.

Naglieri, J. A., Das, J. P., & Goldstein, S. (2014). *Cognitive Assessment System* (2nd ed.). Austin, TX: Pro-Ed.

Naglieri, J. A., & Graham, J. R. (2012). Current status and future directions of assessment psychology. In I. B. Weiner, J. R. Graham, & J. A. Naglieri (Eds.), *Handbook of psychology: Vol. 10. Assessment psychology* (2nd ed., pp. 645–658). http://dx.doi.org/10.1002/9781118133880.hop210025

Nisbett, R. E., Aronson, J., Blair, C., Dickens, W., Flynn, J., Halpern, D. F., & Turkheimer, E. (2012). Intelligence: New findings and theoretical developments. *American Psychologist*, *67*, 130–159. http://dx.doi.org/10.1037/a0026699

Norcross, J. C., Karpiak, C. P., & Santoro, S. O. (2005). Clinical psychologists across the years: The division of clinical psychology from 1960 to 2003. *Journal of Clinical Psychology*, *61*, 1467–1483. http://dx.doi.org/10.1002/jclp.20135

Otis, A. S., & Lennon, R. T. (2006). *Otis-Lennon School Abilities Test* (8th ed.). San Antonio, TX: Harcourt Assessment.

Perrin, J. M., Kuhlthau, K., McLaughlin, T. J., Ettner, S. L., & Gortmaker, S. L. (1999). Changing patterns of conditions among children receiving Supplemental Security Income disability benefits. *Archives of Pediatrics and Adolescent Medicine*, *153*, 80–84. http://dx.doi.org/10.1001/archpedi.153.1.80

Ramos, E., Alfonso, V. C., & Schermerhorn, S. M. (2009). Graduate students' administration and scoring errors on the Woodcock–Johnson III Tests of Cognitive Abilities. *Psychology in the Schools*, *46*, 650–657. http://dx.doi.org/10.1002/pits.20405

Reynolds, C. R., & Kamphaus, R. W. (2003). *Reynolds Intellectual Assessment Scales*. Lutz, FL: Psychological Assessment Resources.

Rhodes, R. L., Ochoa, S. H., & Ortiz, S. O. (2005). *Assessing culturally and linguistically diverse students: A practical guide*. New York, NY: Guilford Press.

Roid, G. H. (2003a). *Stanford Binet Intelligence Scales, Fifth Edition*. Itasca, IL: Riverside.

Roid, G. H. (2003b). *Stanford Binet Intelligence Scales, Fifth Edition, technical manual*. Itasca, IL: Riverside.

Roid, G. H., Miller, L. J., Pomplun, M., & Koch, C. (2013a). *Leiter International Performance Scale, Third Edition*. Wood Dale, IL: Stoelting.

Roid, G. H., Miller, L. J., Pomplun, M., & Koch, C. (2013b). *Leiter International Performance Scale, Third Edition manual*. Wood Dale, IL: Stoelting.

Rupp, K., & Riley, G. F. (2011). Longitudinal patterns of participation in the Social Security Disability Insurance and Supplemental Security Income Programs for people with disabilities. *Social Security Bulletin*, *71*, 25–51.

Rushton, J. P., & Jensen, A. R. (2006). The totality of available evidence shows the race IQ gap still remains. *Psychological Science*, *17*, 921–922. http://dx.doi.org/10.1111/j.1467-9280.2006.01803.x

Sattler, J. (2008). *Assessment of children: Cognitive foundations* (5th ed.). La Mesa, CA: Author.

Sattler, J. (2014). *Foundations of behavioral, social, and clinical assessment of children* (6th ed.). San Diego, CA: Author.

Schneider, W. J., & McGrew, K. S. (2012). The Cattell–Horn–Carroll model of intelligence. In D. P. Flanagan & P. L. Harrison (Eds.), *Contemporary intellectual assessment: Theories, tests, and issues* (3rd ed., pp. 99–144). New York, NY: Guilford Press.

Schrank, F. A., Mather, N., & McGrew, K. S. (2014a). *Woodcock–Johnson IV Tests of Achievement*. Rolling Meadows, IL: Riverside.

Schrank, F. A., Mather, N., & McGrew, K. S. (2014b). *Woodcock–Johnson IV Tests of Oral Language*. Rolling Meadows, IL: Riverside.

Schrank, F. A., McGrew, K. S., & Mather, N. (2014). *Woodcock–Johnson IV Tests of Cognitive Abilities*. Rolling Meadows, IL: Riverside.

Schultz, D. P., & Schultz, S. E. (2012). *A history of modern psychology* (10th ed.). Belmont, CA: Wadsworth.

Sénéchal, C., Larivée, S., Audy, P., & Richard, E. (2007). L'effet Flynn et la déficience intellectuelle. *Canadian Psychology*, *48*, 256–270. http://dx.doi.org/10.1037/cp2007022

Social Security Administration. (2012). *Supplemental Security Income (SSI)*. Retrieved from http://www.ssa.gov/pubs/EN-05-11000.pdf

Spearman, C. (1927). *The abilities of man: Their nature and measurement*. New York, NY: Macmillan.

Stanovich, K. E. (2009). *What intelligence tests miss: The psychology of rational thought*. New Haven, CT: Yale University Press.

Styck, K. M., & Watkins, M. W. (2013). Diagnostic utility of the culture-language interpretive matrix for the Wechsler Intelligence Scales for Children—Fourth Edition among referred students. *School Psychology Review*, *42*, 367–382.

Teasdale, T. W., & Owen, D. R. (2008). Secular declines in cognitive test scores: A reversal of the Flynn effect. *Intelligence*, *36*, 121–126. http://dx.doi.org/10.1016/j.intell.2007.01.007

Terman, L. M. (1916). *The measurement of intelligence: An explanation of and a complete guide for the use of the Stanford revision and extension of the Binet-Simon Intelligence Scale*. http://dx.doi.org/10.1037/10014-000

Terman, L. M. (1921). Intelligence and its measurement: A symposium—II. *Journal of Educational Psychology*, *12*, 127–133. http://dx.doi.org/10.1037/h0064940

Thurstone, L. L. (1938). Primary mental abilities. *Psychometric Monographs*, *1*.

Urbina, S. (2014). *Essentials of psychological testing* (2nd ed.). Hoboken, NJ: Wiley.

U.S. Office of Education. (1977). Assistance to states for education for handicapped children: Procedures for evaluating specific learning disabilities. *Federal Register*, *42*, G1082–G1085.

Valdés, G., & Figueroa, R. A. (1996). *Bilingualism and testing: A special case of bias*. Norwood, NJ: Ablex.

Wahlstrom, D., Breaux, K. C., Zhu, J., & Weiss, L. G. (2012). The Wechsler Preschool and Primary Scale of Intelligence—Third Edition, the Wechsler Intelligence Scale for Children—Fourth Edition, and the Wechsler Individual Achievement Test—Third Edition. In D. P. Flanagan & P. L. Harrison (Eds.), *Contemporary intellectual assessment: Theories, tests, and issues* (3rd ed., pp. 224–248). New York, NY: Guilford Press.

Watson, R. I. (1953). A brief history of clinical psychology. *Psychological Bulletin*, *50*, 321–346. http://dx.doi.org/10.1037/h0062847

Wechsler, D. (1939). *The measurement of adult intelligence*. http://dx.doi.org/10.1037/10020-000

Wechsler, D. (1950). Cognitive, conative, and non-intellective intelligence. *American Psychologist*, *5*, 78–83. http://dx.doi.org/10.1037/h0063112

Wechsler, D. (2008a). *Wechsler Adult Intelligence Scale—Fourth Edition*. San Antonio, TX: Pearson.

Wechsler, D. (2008b). *Wechsler Adult Intelligence Scale—Fourth Edition: Technical and interpretive manual*. San Antonio, TX: Pearson.

Wechsler, D. (2009). *Wechsler Individual Achievement Test—Third Edition*. San Antonio, TX: Pearson.

Wechsler, D. (2012a). *Wechsler Preschool and Primary Scale of Intelligence—Fourth Edition*. Bloomington, MN: Pearson.

Wechsler, D. (2012b). *Wechsler Preschool and Primary Scale of Intelligence—Fourth Edition: Technical and interpretive manual*. Bloomington, MN: Pearson.

Wechsler, D. (2014a). *Wechsler Intelligence Scale for Children—Fifth Edition*. Bloomington, MN: Pearson.

Wechsler, D. (2014b). *Wechsler Intelligence Scale for Children—Fifth Edition: Technical and interpretive manual*. Bloomington, MN: Pearson.

Wechsler, D., & Naglieri, J. A. (2006). *Wechsler Nonverbal Scale of Ability*. San Antonio, TX: Harcourt Assessment.

Wilkinson, G. S., & Robertson, G. J. (2006). *WRAT 4: Wide Range Achievement Test; professional manual*. Lutz, FL: Psychological Assessment Resources.

Yerkes, R. M. (Ed.). (1921). *Memoirs of the National Academy of Sciences: Vol. 15. Psychological examining in the United States Army*. Washington, DC: U.S. Government Printing Office.

CHAPTER 5

# PERSONALITY TRAITS AND DYNAMICS

*Robert F. Bornstein*



Suppose you are assessing the personality of a suspected terrorist, now being held in U.S. custody. You have been asked to evaluate this person's personality traits and dynamics so that officials can develop a strategy for gaining her trust and decide how best to approach and interact with her to learn about the inner workings of the network of which she was once a part. You have been assured that no coercive techniques will be used to obtain information from this person but that the ultimate goal is to develop a long-term working relationship with her to help prevent future attacks.

With this in mind, consider two decisions that must be made. First, if you could select any battery of tests you would like to assess this person's personality traits and dynamics, which tests would you choose? Second, what strategies would you use to integrate data from these tests to illuminate the nuances of this person's personality as completely as possible?

The first question is comparatively straightforward; the second is quite complex. Although we all have our favored tests and measures, based in part on our background and experience, in part on theoretical orientation, and in part on plain old history and habit, most of us would select tools that are psychometrically sound, that capture a broad array of constructs, and that vary somewhat in format and method so we can capture different manifestations and levels of personality.

The second question is harder to answer because there are few firm guidelines regarding how to integrate personality test data. It depends on the issues one is attempting to address in the assessment, the person being evaluated, the setting in which the assessment takes place (e.g., clinical, forensic), and the types of information that different tests yield. As in medicine, sometimes decisions regarding how best to integrate psychological test data are driven by the data themselves—initial scrutiny of test results may suggest particular strategies for combining and synthesizing the data. As also in medicine, sometimes initial scrutiny of psychological test results suggests that additional tests should be conducted to obtain a more complete picture of the person.

Assessing any complex psychological construct is challenging, especially when that construct involves internal mental states that are not directly observable, or that may not be completely accessible to introspection and self-description, even by a respondent motivated to report accurately (e.g., impulsivity, social skills, defense style). This chapter discusses the assessment of personality traits and dynamics.

## DESCRIPTION AND DEFINITION

In this section I define the concepts of personality and personality assessment. Personality assessment is then contrasted with two related constructs: testing and diagnosis.

### What Is Personality?

The concept of personality is so firmly embedded in the lexicon of popular culture that it has taken on

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an interesting metaphorical quality: Without realizing it, people often treat personality as something tangible, an attribute that varies in quantity from person to person (as in "She's full of personality!" or "He's not a bad guy, but no personality"). In fact, all people have pretty much the same amount of personality; it's just that some have congenial personalities, and others have more objectionable ones.

In the scientific community, personality has traditionally been equated with the study of individual differences. In contrast to other areas of psychology that seek to delineate general principles that apply to broad segments of the population (e.g., how moral reasoning changes with age, how semantic memory differs from episodic memory), personality reflects each person's unique style of adapting to the opportunities and challenges of life. Personality traits and dynamics are shaped by multiple factors, including—among other things—biological predispositions, cultural influences, implicit processes (e.g., motives, thoughts, and feelings that may not be fully accessible to conscious awareness), and social learning that takes place within and outside the family.

Contemporary theories of personality have emerged primarily from two historical traditions. Trait-based approaches have generally sought to describe broad domains of responding—overarching behavioral predispositions that seem relatively stable over time, along with the narrower underlying dimensions (sometimes called *facets*) that make up these broad domains. Nineteenth-century descriptive psychiatry (e.g., Kraepelin, 1889) played a central role in the emergence of the trait perspective, as did the factor-analytic approaches of Allport (1937), Cattell (1947), and others. Leary's (1957) two-factor love–hate/dominance–submission model was particularly important in creating a foundation for modern trait approaches. Although the specific dimensions and trait labels evolved over the years (e.g., *agency* and *communion* have replaced *dominance* and *love* in many current models), Leary's basic framework has stood the test of time, setting the stage for the development of circumplex models of personality (e.g., Kiesler, 1996) as well as other related perspectives.

The second major influence on modern personality theory has been the dynamic tradition, which emphasizes underlying—often unconscious—psychological processes and structures, including impulses, defenses, and mental representations of self and significant others. Although the dynamic tradition is most closely associated with the work of Sigmund Freud (e.g., 1908/1953a, 1923/1961), there have been a number of other influential dynamic perspectives, including those associated with object relations theory (Kernberg, 1975), self-psychology (Kohut, 1971), attachment theory (Bowlby, 1969), and humanistic and existential approaches (e.g., Frankl, 1966; Rogers, 1961). A distinguishing feature of the dynamic view is its emphasis on hidden mental states in shaping thought, behavior, and affective responding. As a result, the dynamic tradition shifts the focus of personality (and personality assessment) from overt behavioral predispositions to underlying processes whose existence must be inferred rather than directly observed.

## What Is Personality Assessment?

If personality is the study of individual differences, personality assessment involves quantifying these individual differences—measuring key features of personality traits and dynamics, alone or in combination. As the ensuing discussion shows, the strategies needed to assess personality traits and personality dynamics overlap in certain ways, but they also present different types of challenges. Regardless of whether traits or dynamics are the object of study, however, two distinctions are central to understanding the basic principles of personality assessment.

**Testing versus assessment.** Although psychologists often use the terms *testing* and *assessment* interchangeably, they in fact mean different things. Handler and Meyer (1998) provided an excellent summary of these differences. They wrote,

> Testing is a relatively straightforward process wherein a particular test is administered to obtain a particular score or two. Subsequently, a descriptive meaning can be applied to the score based on normative, nomothetic findings. . . . Psychological assessment, however, is a quite different enterprise. The focus here is not on obtaining a

> single score, or even a series of test scores. Rather, the focus is on taking a variety of test-derived pieces of information, obtained from multiple methods of assessment, and placing these data in the context of historical information, referral information, and behavioral observations in order to generate a cohesive and comprehensive understanding of the person being evaluated. (pp. 4–5)

**Assessment versus diagnosis.** These two terms are sometimes used interchangeably, but they are actually quite different. Diagnosis involves identifying and documenting a patient's symptoms, with the goal of classifying that patient into one or more categories whose labels represent shorthand descriptors of complex psychological syndromes (e.g., social anxiety disorder, bulimia nervosa, avoidant personality disorder). Assessment, in contrast, involves collecting broad information, usually with psychological tests, to disentangle the array of dispositional and situational factors that interact to determine a patient's subjective experiences, core beliefs, coping strategies, and behavior patterns. Put another way, diagnosis is key to understanding a patient's pathology; assessment is key to understanding the person with this pathology (Bornstein, 2007a; Finn, 2007, 2011).

In clinical settings, assessment data can help strengthen diagnostic data in several ways. First, although assessment data by themselves should never be used to render diagnoses, knowing something about a patient's underlying personality structure can help the clinician differentiate two syndromes with similar surface characteristics (Huprich & Ganellen, 2006; Weiner, 2000). Beyond aiding in differential diagnosis, assessment data help contextualize diagnoses by providing information regarding personality traits that play a role in symptom onset and modify symptom course. For example, two patients with depression may present with similar (even identical) symptoms, but if assessment reveals that one patient is dependent whereas the other is self-critical, the clinician has obtained important information regarding the etiology and dynamics of these patients' ostensibly similar mood disorders. Studies have shown that in dependent patients the onset of depression often follows interpersonal conflict or loss (e.g., the breakup of a romantic relationship); in self-critical patients, the onset of depression often follows work- or achievement-related stressors (e.g., failure to get a hoped-for promotion; Luyten & Blatt, 2013).

Another advantage of combining diagnostic data with assessment data is that assessment data can help structure treatment in ways that diagnostic data cannot. Consider, for example, two patients with borderline personality disorder, both of whom are undergoing insight-oriented psychotherapy. Although their symptoms are similar, assessment reveals that the first patient is capable of using relatively mature defenses (e.g., intellectualization, rationalization) and has reasonably good impulse control, whereas the second patient relies on less mature defenses (e.g., projection, denial) and has greater difficulty controlling impulses. On the basis of these assessment results, the clinician may adopt a relatively unstructured, uncovering treatment strategy in therapy with the first patient, probing and challenging on occasion to help the patient gain insight into the origins and dynamics of his or her difficulties. The second patient likely requires a more structured and supportive therapeutic approach, with insight taking a back seat to strengthening of defenses and bolstering of coping skills.

## PRINCIPLES AND APPLICATIONS

Although most people—including most mental health professionals—tend to associate clinical psychology primarily with psychotherapy, personality assessment's clinical history is at least as long as that of psychological treatment. The first use of the term *mental test* in the psychological literature referred to intellectual testing (Cattell, 1890), but it did not take long for interest in personality assessment to follow: Two years later, Kraepelin (1892) described the use of a formal free association measure for use with psychiatric patients. Several years after that, he outlined a series of personality tests designed to quantify basic aspects of character and temperament (Kraepelin, 1895). Most psychologists

trace modern personality assessment to the development of Woodworth's Personal Data Sheet during World War I (Franz, 1919) and to the publication of *Psychodiagnostik*, Hermann Rorschach's (1921) monograph describing procedures for interpreting patients' responses to his now-famous inkblots.

Personality assessment continues to play an important role in contemporary clinical psychology: There are more than a dozen categories of mental health professionals who treat psychological disorders, but only psychologists are trained and qualified to conduct personality assessments. Moreover, assessment is a core competency in contemporary clinical psychology (Krishnamurthy & Yaloff, 2010) and a central element in professional training and practice. Personality tests are widely used in clinical settings, of course, but they also play a central role in psychological and psychiatric research. During the past several decades, personality assessment has become commonplace in forensic and organizational contexts (see, e.g., Hilsenroth & Stricker, 2004); with the growth of health psychology and behavioral medicine, personality assessment has been increasingly used in medical settings as well (Fuertes, Boylan, & Fontanella, 2009).

Five principles guide psychologists' use of personality tests in various practice settings:

1. *Core features of personality are relatively stable over time*. The earliest manifestations of personality traits and dynamics typically take the form of individual differences in temperament (e.g., activity level, soothability) that are apparent during infancy, sometimes as early as the first few days of life (Thomas & Chess, 1977). Although the stability of different personality traits and dynamics varies as a function of the construct being assessed, the core features of personality are relatively stable over time: Obsessive teenagers usually become obsessive adults, and people who are introverted at age 20 tend to be introverted at age 50. Reviews of evidence bearing on the long-term stability of personality traits and dynamics have been provided by Eaton, Krueger, and Oltmanns (2011) and Wagner et al. (2013).
2. *The expression of traits and dynamics varies across gender, culture, and age*. Research has confirmed that women and men often express similar underlying conflicts differently (e.g., when low self-esteem is manifested as internalizing disorders in women and externalizing disorders in men). Culture also shapes the experience and expression of personality traits and dynamics: In many instances, relational styles considered dysfunctional in one culture are normative in another (e.g., high levels of expressed dependency in adults are problematic in many individualistic societies but expected in more sociocentric ones; Castillo, 1997; Yamaguchi, 2004). Although the core features of personality are relatively stable over time, the way in which traits and dynamics are expressed evolves with age (e.g., in young adults, histrionic personality characteristics are often associated with theatricality and flirtatiousness, but in older adults they tend to be manifested as somatization; Bornstein, Denckla, & Chung, 2015).
3. *The assessment of traits and dynamics often requires different approaches*. Traditionally, self-report scales have been the most common method for assessing personality traits, and indirect measures (e.g., performance-based tools such as the Rorschach Inkblot Method [RIM]) have been used to assess personality dynamics not amenable to self-report (Archer & Krishnamurthy, 1993a, 1993b; Meyer, 1996, 1997). With this as context, it is important to note that in recent years various indirect measures have been used to quantify trait domains and facets as well (Hopwood, Wright, Ansell, & Pincus, 2013), and researchers are increasingly combining performance-based test data with data derived from interviews and questionnaires to obtain a more complete picture of the person (Bornstein, 2010).
4. *Traits are dynamic, and dynamics are traitlike*. Although the trait and dynamic perspectives both have long histories, and even today clinicians and researchers discuss the two frameworks as if they were separate, there is in fact considerable overlap between these two approaches (Hopwood et al., 2013). Many underlying personality dynamics (e.g., self-concept, defense style) are stable over time, with enduring, traitlike qualities

(Janson & Stattin, 2003). Moreover, trait theorists are increasingly invoking dynamic concepts (e.g., unconscious conflict, parataxic distortion) to conceptualize the intra- and interpersonal features of traitlike behavioral predispositions (Morgan & Clark, 2010; Pincus et al., 2014).

5. *Personality assessment is inextricably interpersonal.* Even the most well-trained, well-intentioned psychologist brings a set of stereotypes and expectations to the assessment (Garb, 1998). These may be based in part on the examiner's beliefs regarding the patient based on that patient's surface characteristics (e.g., gender, age), and in part on information obtained about the patient before the assessment (e.g., in the referral question). The same is true of the patient: His or her beliefs regarding opportunities and risks inherent in the assessment procedure, coupled with various incidental cues (e.g., the physical setting, the appearance and demeanor of the examiner) combine to alter his or her approach to testing (e.g., Masling, 2002). The interpersonal aspects of personality assessment can never be completely removed from the procedure.

## MAJOR TESTS AND METHODS

There have been myriad efforts to delineate categories of psychological tests, with researchers classifying scales on the basis of content, structure, the method used to derive test items, and the procedures used to validate test scores (Cizek, Rosenberg, & Koons, 2008; Slaney & Maraun, 2008). Any scheme for classifying different personality tests will have inherent limitations because certain tests contain elements that do not fit easily into a single category, and some include features of multiple categories. Moreover, the labels assigned to categories of psychological tests are often inaccurate, based more on tradition than on the core elements of the measure in question (Meyer & Kurtz, 2006).

Accumulating evidence has suggested that the most heuristic and clinically useful method for classifying personality tests is one based on the psychological processes that are engaged when respondents complete different measures (i.e., the cognitive, affective, and motivational dynamics that occur as the respondent perceives, evaluates, and responds to test stimuli; Bornstein, 2007a, 2011). Table 5.1 uses a process-focused framework to classify the array of personality assessment tools used by psychologists today, grouping these instruments into five categories based on the mental activities involved in responding to these tests.

A comprehensive review of tests in each category would be beyond the scope of this (or any) chapter. In the following sections, I describe the major categories of personality tests and highlight the key features of representative measures within each category.

### Self-Report Tests

Also labeled *self-attribution tests* because they require the respondent to attribute various thoughts, motives, behavior patterns, and emotional states to him- or herself, self-report tests typically take the form of questionnaires wherein people are asked to acknowledge whether a series of descriptive statements is or is not true of them or rate the degree to which these statements describe them accurately. Answering self-report test items typically involves engaging in a retrospective memory search wherein the respondent tries to determine whether the statement in a test item (e.g., "I would rather be a follower than a leader") is characteristic of his or her everyday experience. If instances of this behavior are easily retrieved from memory, the person is inclined to attribute that pattern to him- or herself. Some self-report tests assess a single personality trait or dynamic (e.g., the Pathological Narcissism Inventory; Pincus et al., 2009); others are omnibus tests designed to capture a broad array of traits or dynamics. Three of the more widely used measures in this latter category are the NEO Personality Inventory (NEO PI; Costa & McCrae, 1985, 1992b), the Interpersonal Circumplex (IC) Scales (Kiesler, 1996; Wiggins, 1991), and the 16 Personality Factor Questionnaire (16PF; Cattell, Cattell, & Cattell, 1993).

Rooted firmly in the trait tradition, the NEO PI assesses the five trait domains of the five-factor model (FFM; Neuroticism, Openness, Conscientiousness, Extraversion, and Agreeableness), along with the narrower facets that make up these five

**TABLE 5.1**

**A Process-Based Framework for Classifying Personality Tests**

| Test category | Key characteristics | Representative tests |
|---|---|---|
| Self-report | Test scores reflect the degree to which the person attributes various traits, feelings, thoughts, motives, behaviors, attitudes, or experiences to himself or herself. | NEO Personality Inventory<br>Interpersonal Circumplex Scales |
| Performance based | Person attributes meaning to ambiguous stimuli, with attributions determined in part by stimulus characteristics and in part by the person's cognitive style, motives, emotions, and need states. | Rorschach Inkblot Method<br>Thematic Apperception Test |
| Constructive | Generation of test responses requires person to create or construct a novel image or written description within parameters defined by the tester. | Draw-a-Person Test<br>Qualitative and Structural Dimensions of Object Relations |
| Behavioral | Test scores are derived from observers' ratings of person's behavior exhibited in vivo or in a laboratory setting. | Spot Sampling<br>Moment by Moment Process Assessment |
| Informant report | Test scores are based on knowledgeable informants' ratings or judgments of person's characteristic patterns of behavior and responding. | Shedler–Westen Assessment Procedure–200 Informant Version<br>Informant report version of the NEO Personality Inventory |

domains (which have also been called the Big Five personality traits; Goldberg, 1990). The NEO PI has been revised several times during the past 30 years, and in addition to the full-length 240-item version, there is a briefer 60-item version of the scale that yields FFM factor but not facet scores, the NEO Five-Factor Inventory (NEO FFI; Holden et al., 2006; Nysæter et al., 2009). Modified versions of the NEO FFI focusing on narrower personality domains (e.g., avoidance, dependency, obsessiveness) have also been developed (Widiger et al., 2012).

The NEO PI and its variants have been studied extensively in clinical and nonclinical samples, in a variety of age groups, and across a broad array of cultures (see Huang, Church, & Katigbak, 1997; McCrae & Terracciano, 2008). The NEO PI has proven psychometrically sound, with strong evidence regarding retest reliability and convergent and discriminant validity with respect to scores on other self-report tests, as well as archival and life history data (Costa & McCrae, 1992a, 1992b; Young & Schinka, 2001). Cross-cultural comparisons in NEO PI scores typically yield results consistent with evidence regarding the contrasting norms and values of different cultures; gender and age differences in NEO PI scores are also generally consistent with prevailing evidence in those areas (Huang et al., 1997; Widiger & Costa, 2002). Some critics have noted the NEO PI's susceptibility to self-presentation effects and recommended inclusion of a separate scale to assess social desirability and faking, but this sort of validity scale has not yet been incorporated into the measure (Ballenger, Caldwell-Andrews, & Baer, 2001).

Derived from Leary's (1957) two-dimensional framework, the IC conceptualizes personality—and personality pathology—in terms of the two core constructs of agency and communion (Kiesler, 1996; Wiggins, 1991). The IC takes the form of a circle, typically divided into eight octants, with each octant reflecting a unique blend of the core traits that make up the two axes. An individual's placement along the perimeter of the IC denotes his or her particular blend of agency and communion; the amount of displacement from the center of the circle outward reflects the intensity of the person's interpersonal style (e.g., two people might both be dominant in interpersonal relations and occupy the same IC octant, but if one is more dominant than the other that person would be further from the center).

A particular strength of the IC is its ability to assess interpersonal complementarity, that is, the degree to which concordance exists between the interpersonal styles of two members of a dyad, including dyads composed of friends, romantic partners, parent and child, and patient and therapist. Complementarity is typically reflected in reciprocity along the agency dimension of the IC (i.e., dominance tends to elicit submission, and vice versa) and in correspondence along the communion dimension (i.e., warmth tends to evoke warmth in return, whereas detachment evokes detachment). An additional strength of the IC is that several alternate versions exist for quantifying narrower, more focused components of traits, including interpersonal strengths, values, sensitivities (i.e., vulnerabilities), and covert reactions to others (e.g., Hatcher & Rogers, 2009; Hopwood et al., 2011).

Initially developed during the 1940s using factor-analytic techniques to uncover basic underlying traits (sometimes called *source traits*) from extant measures of everyday behaviors and other sources of trait terms (e.g., dictionaries), Cattell's (1946) 16PF has been revised and updated several times and is now in its fifth edition (Cattell et al., 1993). In contrast to most trait measures, the 185 items that make up the 16PF are phrased to capture the respondent's behaviors in specific situations rather than his or her report of global behavioral tendencies. In addition to yielding separate scores for 16 separate personality factors, the 16PF also yields scores for five higher order traits that correspond roughly to those of the five-factor model (Conn & Rieke, 1994).

Evidence supports the construct validity of scores on the 16PF, documenting theoretically predicted links with scores on other self-report scales that tap similar trait constructs, as well as knowledgeable informants' reports of the individual's behavior patterns (Conn & Rieke, 1994). Evidence supporting the retest reliability and factor structure of the 16PF is also strong, and the measure has demonstrated utility across a variety of cultures and subcultures and in different age cohorts (Booth & Irwing, 2011; Irwing, Booth, & Batey, 2014). In addition to being frequently used in clinical settings to refine diagnosis and aid in treatment planning, the 16PF is used in organizational settings and for vocational assessment as well.

## Performance-Based Tests

Performance-based tests (also called *stimulus attribution* tests) require people to interpret ambiguous stimuli, and here the fundamental task is to attribute meaning to a stimulus that can be interpreted in multiple ways. This attribution process occurs in much the same way as the attributions that each of us make dozens of times each day as we navigate the ambiguities of the social world (e.g., when we attempt to infer the motives of a colleague at work, or interpret our friend's failure to greet us as we pass on the street). Reviews of performance-based assessment tools are presented elsewhere in this volume, so they are discussed more briefly here. Two of the most widely used performance based tests are the RIM and the Thematic Apperception Test (TAT).

The RIM consists of 10 bilaterally symmetrical inkblots presented to the respondent one at a time; the respondent is asked to provide open-ended descriptions of what he or she sees in each blot, with minimal guidance from the examiner. Although the RIM has been incorrectly labeled "an X-ray of the mind" (Piotrowski, 1980, p. 85), evidence has suggested that the RIM taps both conscious and unconscious (implicit) processes and is susceptible to faking and dissimulation (though to a lesser degree than most self-report tests; Sartori, 2010). The RIM, properly scored and interpreted, provides a useful index of the respondent's cognitive style (e.g., global vs. detail focused), as well as the themes (e.g., helplessness, aggression) that are most prominent in the respondent's mind at the time of testing (Bornstein, 2012).

After Rorschach's death in 1923, shortly after the inkblots were published, a multiplicity of RIM scoring and interpretation systems emerged, some of which were psychometrically sound and clinically useful, others of which were not. Exner's (1974, 2003) Comprehensive System combined many of the strongest features of extant RIM scoring methods and dominated Rorschach use for several decades. Recently, an alternative RIM scoring and

interpretation system, the Rorschach Performance Assessment System (Meyer et al., 2011) was developed, emphasizing those Comprehensive System variables that had garnered the strongest empirical support (Mihura et al., 2013), as well as variables from outside the Comprehensive System that add clinical utility and predictive value to Rorschach Performance Assessment System indices. In addition to these omnibus RIM scoring systems, several narrower scoring systems have also obtained empirical support (Bornstein & Masling, 2005), for example, a thought disorder index (Johnston & Holtzman, 1979) and an oral dependency scale (Masling, Rabie, & Blondheim, 1967).

Like the RIM, the TAT consists of a series of ambiguous stimuli to which the respondent must attribute meaning. Unlike the RIM, TAT stimuli depict recognizable scenes, most of which involve one or two people engaged in an activity, the nature of which is open to interpretation (Jenkins, 2008). Respondents' open-ended descriptions of the events in the scene are scored for narrative content (e.g., prevailing themes) and sometimes for structure as well (e.g., degree of articulation of the characters' inner life). Murray's (1943) original TAT scoring system focused on the main character's needs (motives), and press (aspects of the individual, his or her environment, or both that affected the character's ability to achieve his or her goals). Updated, empirically validated scoring systems for specific needs (e.g., need for achievement, need for power) are still in use (e.g., Koestner, Weinberger, & McClelland, 1991), but press has been less widely studied in recent years. In addition, methods have been developed to score qualities of a respondent's mental representations of self, others, and self–other interactions (Westen's 1995 Social Cognition and Object Relations Scale) and defense style (Cramer's 2006 Defense Mechanisms Manual).

## Constructive Tests

Constructive tests are distinguished from performance-based tests because constructive tests require respondents to create—literally to construct—novel products (e.g., drawings, written descriptions) with minimal guidance from the examiner and no test stimuli physically present. In contrast to stimulus attribution tests, which require respondents to describe stimuli whose essential properties were determined a priori, in constructive tests the stimulus exists only in the mind of the respondent (e.g., a self-schema or parental image).

Projective drawings such as the Draw-a-Person (Machover, 1949), Kinetic Family Drawing (Burns, 1982), and House Tree Person test (Buck, 1966) continue to be used in clinical settings, although they have fallen out of favor in recent years in part because of a paucity of evidence supporting their construct validity and clinical utility (e.g., Groth-Marnat, 1999). Scores derived from the Draw-a-Person, Kinetic Family Drawing, and House Tree Person test do provide useful information regarding certain personality dynamics (e.g., self-esteem, social anxiety), but even here they are best used in conjunction with other well-established measures of similar or overlapping constructs (Matto, 2002). Projective drawings appear most useful with children and adults who have experienced trauma; in these populations, such measures are not only useful in assessing underlying personality dynamics but may also have therapeutic value because they afford patients an opportunity to express aspects of their inner experience and affect that are not easily verbalized (Smyth, Hockemeyer, & Tulloch, 2008).

Blatt's Qualitative and Structural Dimensions of Object Representations (QSDOR) scale (e.g., Blatt et al., 1988) is a widely used constructive test in clinical settings and has a strong empirical foundation. The QSDOR is designed to capture key features of the individual's self- and object representations; administration involves asking the respondent to describe him- or herself or another significant figure (e.g., mother, father, therapist, God, ideal romantic partner) on a blank sheet of paper (one sheet per description). Because the QSDOR uses open-ended descriptions rather than questionnaire items to assess qualities of self- and object representations, it is less susceptible than other self-report scales to social desirability and self-presentation effects.

Administration of the QSDOR is straightforward; scoring is not. Scores derived from respondents' open-ended descriptions are grouped into five broad categories that capture both the content and the structure of the representation: (a) conceptual

sophistication (e.g., complexity, conceptual level), (b) relatedness (e.g., closeness vs. distance), (c) cognitive attributes (e.g., reflectivity, ambivalence), (d) key traits (e.g., self-criticism, benevolence), (e) developmental qualities (e.g., articulation, self-definition), and (f) affect (e.g., anxiety, depression). Interrater reliability in QSDOR scoring is excellent (Blatt, Auerbach, & Levy, 1997), and evidence regarding the convergent and discriminant validity of QSDOR scores is quite good (Bers et al., 1993). In a series of studies, Blatt and his colleagues found that QSDOR scores help predict potential to benefit from insight-oriented therapy (Blatt & Ford, 1994). Moreover, QSDOR scores shift in the positive direction, as expected during the course of successful treatment (e.g., Blatt et al., 1996).

## Behavioral Measures

Most measures in this category involve rating the behavior of individuals in vivo, either as these behaviors occur or at some later date (in which case, video recordings of the individuals being evaluated are typically used to assign behavioral ratings). Diary methods have been used in this domain as well, with respondents being asked to record their own behaviors at specified intervals, usually using structured rating forms. As behavioral assessment methods have become increasingly sophisticated, the selection of behavioral episodes to be evaluated has become more refined, with spot sampling techniques used to ensure that behaviors are assessed in a representative array of situations and contexts and at various times during the day. Technological advances have allowed respondents to record behavior using smartphones and other hand-held devices in lieu of diaries, and these technologies have further enhanced the ecological validity of spot sampling by allowing researchers to signal participants at random or predetermined intervals.

Other behavioral measures are used primarily in laboratory situations; particularly promising among these is moment-by-moment process assessment (MMPA, also known as the "joystick technique"), a method for online evaluation of the behavior of an individual or dyad. To date, most MMPA research has been based on the IC, and—as is true of IC research more generally—the central principle underlying MMPA is that the circumplex can be conceptualized as a circle defined by the orthogonal axes of agency and communion. MMPA uses a computer joystick to record moment-by-moment variations in behavior, with the observer using the joystick to rate target individuals on a computer monitor. In line with the IC as traditionally conceptualized, the various positions of the joystick reflect the person's degree of dominance versus submissiveness (on the vertical axis) and friendliness versus hostility (on the horizontal axis). As the observer indicates momentary changes in interpersonal behavior by shifting the joystick, the computer records the joystick position, and the resulting pattern provides a continuous sampling of the target person's behavior in real time (Sadler et al., 2009).

One advantage of MMPA over traditional observation is that joystick techniques circumvent the problem of asking judges to mentally aggregate ratings themselves through recollection of observed behaviors; evidence has suggested that people are poor information processers in this regard, subject to myriad biases and distortions as they use heuristics to combine ratings (Kahneman, 2011; Westen & Weinberger, 2004). A number of studies have supported the validity and utility of MMPA in the assessment of spontaneous and goal-directed behavior in clinical contexts and laboratory settings (e.g., Hopwood et al., 2013; Sadler, Ethier, & Woody, 2011).

## Informant Reports

Behavioral measures are distinguished from informant reports, in which data are derived from knowledgeable informants' descriptions or ratings (e.g., Achenbach et al., 1991). In both cases, judgments are made by an individual other than the person being evaluated, but different psychological processes are involved in generating these judgments: observational measures based on direct observation and recording of behavior and informant report tests based on informants' retrospective, memory-derived conclusions regarding characteristics of the target person. Use of retrospection introduces an additional source of potential distortion to informant reports, given the well-established

biasing effects of attributional heuristics (e.g., the actor–observer effect) and flawed retrieval strategies in accessing episodic memories (Bornstein, 2011; Meyer et al., 2001).

Sometimes informant reports are obtained via structured or unstructured interview (e.g., Dreessen, Hildebrand, & Arntz, 1998). In addition, modified versions of widely used self-report instruments are available to obtain informant reports of the traits and behavioral predispositions captured by these instruments. For example, along with the self-report version of the NEO PI (Form S), there is a version of the measure (Form R) specifically designed for knowledgeable informants. The same is true of the Shedler–Westen Assessment Procedure (Shedler & Westen, 2007) and the IC, both of which have separate self-report and informant-report versions. The psychometric properties of the informant report version of the NEO PI—Revised seem comparable to those of the self-report version (Kurtz, Lee, & Sherker, 1999); similar findings have emerged for self- versus informant reports on the IC (Hopwood et al., 2013) and the Shedler–Westen Assessment Procedure (Bradley et al., 2007).

The clinical utility of informant report data lies in its potential to add unique information not obtained by self-report, and evidence has confirmed that data obtained from well-validated informant reports do in fact add incremental validity to a psychological test battery (Clifton, Turkheimer, & Oltmanns, 2005; Oltmanns & Turkheimer, 2009). Not surprisingly, given the contrasting perspectives of self and observer, and the different processes involved in generating ratings (Bornstein, 2011), self-reports and reports by knowledgeable informants typically yield cross-observer correlations in the range of .3 to .4 (Schwartz et al., 2011; Vazire, 2006). These intercorrelations tend to be somewhat lower in clinical samples (Hoerger et al., 2011) and forensic populations (Keulen-de-vos et al., 2011) than in samples of college students and community adults.

Evidence has further suggested that informant reports are most accurate when informants are asked to judge a target person's expressed behaviors (e.g., aggressiveness) rather than his or her internal states (e.g., anxiety). When internal states are assessed, self-reports appear to be better predictors than informant reports for most personality traits and dynamics (Vazire, 2006). Thus, effective use of informant-report data in clinical and research settings requires that these data be used primarily to add additional perspective regarding overt behavioral predispositions rather than hidden mental states, which may best be assessed via performance-based measures and constructive tests.

## INTEGRATING PERSONALITY TEST DATA

Selecting personality measures for inclusion in a test battery is comparatively straightforward; integrating data derived from these measures is more challenging. Beyond providing a useful method for classifying the array of personality scales in use today, the process-focused model provides a framework for combining and integrating the data produced by different tests. When this process-focused emphasis is combined with the clinical and empirical findings described in the previous sections (i.e., evidence regarding the construct validity and clinical utility of individual measures), five principles emerge to guide clinicians in integrating personality test data.

### Select Measures With Contrasting Strengths and Limitations

No psychological test is perfect; all have flaws. By combining the results from tests with contrasting strengths and limitations, psychologists can obtain a more complete picture of the construct being assessed. For example, many people are reluctant to acknowledge the presence of socially undesirable traits (e.g., aggressiveness, hostility) in themselves. Because the high face validity of many questionnaire and interview measures renders them susceptible to social desirability and self-presentation effects, these measures provide an incomplete picture of the respondent's personality in these domains. By administering a parallel measure of the same construct with low face validity (i.e., a well-validated performance-based or constructive test), another index of the trait or dynamic of interest can be obtained—one less susceptible to self-presentation effects, and one that in some respects provides a purer measure of that construct.

Another example of increasing incremental validity by selecting measures with contrasting strengths and limitations involves self-reports and informant reports. Whatever limitations they may have, self-report tests are the best means available for determining how people perceive and present themselves. Such self-perceptions and self-presentations may or may not be accurate, but they nonetheless provide unique information that no other type of test can provide. These strengths notwithstanding, in certain situations observer ratings provide valuable information beyond that available in self-reports. For example, among military recruits, reports of personality disorder symptoms provided by knowledgeable informants (in this case, fellow recruits) were better predictors of success in basic training than were recruits' self-reports of personality disorder symptoms (Oltmanns & Turkheimer, 2009). Put another way, in this particular setting the best predictor of the likelihood that a recruit would succeed or fail was his colleagues' reports of his level and type of personality pathology; the recruit's self-reported personality pathology had less predictive value.

### Be Cognizant of Order and Priming Effects

It is easy to understand how completing a self-report measure of aggressiveness might alter a patient's performance-based aggression scores. After all, the retrieval of aggression-related autobiographical memories inherent in responding to self-report items will prime aggression-related thoughts and emotions (Bargh & Morsella, 2008); when aggression schemas are activated in this way, they move from long-term memory to working memory and are more likely to shape the respondent's interpretations of ambiguous stimuli such as inkblots (Bornstein, 2007b).

The reverse is true as well, even if the effects are more subtle. Just as completing self-report aggression test items will alter subsequent stimulus attributions, if a patient generates a large number of aggression-related responses on the Rorschach he or she is, in effect, self-priming aggression, and inadvertently activating aggression-related schemas that may alter subsequent self-attributions. There is no way to eliminate the potential biasing effects of order and priming effects in a test battery, but they can be minimized by interspersing measures that could potentially produce carryover effects with scales that tap a different set of psychological processes (e.g., an intelligence test or neurological screen). These intervening measures act as filler tasks that allow thoughts and emotional reactions evoked by one personality test to subside before the patient completes a second personality test that taps similar or overlapping constructs. The same is true in research settings when multiple personality tests are administered to the same participants.

### Focus on Meaningful Test Score Discontinuities

Only by understanding the psychological processes engaged by different types of tests can test score convergences and divergences be meaningfully interpreted. Given the contrasting psychological processes that characterize different personality scales, it is not surprising that tests that assess the same construct using different methods often yield divergent results. Self-report and performance-based measures of interpersonal dependency typically show intertest intercorrelations in the .2 to .3 range (Bornstein, 2002); similar modest correlations are obtained for self-report and performance-based measures of need for achievement (McClelland, Koestner, & Weinberger, 1989), and in other domains as well Meyer et al., 2001). In both research and clinical settings, scrutiny of these test score discontinuities can be revealing.

For example, to examine the underlying dynamics of dependent and histrionic personality disorders, Bornstein (1998) used the Personality Diagnostic Questionnaire—Revised to select college students with clinically elevated symptoms of dependent personality disorder, histrionic personality disorder, another *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* personality disorder, or no personality disorder. He then administered a well-validated performance-based measure of interpersonal dependency, the Rorschach Oral Dependency scale (Masling et al., 1967), and a well-validated self-report measure of dependency, the Interpersonal Dependency Inventory (Hirschfeld et al., 1977), to obtain information regarding implicit and self-attributed dependency

strivings in the four groups. Students in the dependent personality disorder and histrionic personality disorder groups obtained significantly higher scores on the Rorschach Oral Dependency scale than did students in the other two groups, suggesting that both dependent and histrionic personality disorders are associated with high levels of implicit dependency strivings. Only those students in the dependent personality disorder group obtained elevated scores on the Interpersonal Dependency Inventory, however; the scores of histrionic students did not differ from those with another personality disorder, or no personality disorder. Thus, both dependent and histrionic personality disorders are associated with elevated implicit dependency strivings, but individuals with dependent personality disorder acknowledge those strivings when asked, whereas those with histrionic personality disorder do not. These patterns have important implications for understanding the dynamics of dependent and histrionic pathology and for clinical work with dependent and histrionic patients.

## Assess Coping and Resilience as Well as Pathology and Deficit

Whatever the psychologist's preferred type of test, it is important to include in any personality assessment battery measures that yield scores tapping strengths as well as deficits. Many measures of personality traits and dynamics (e.g., IC, RIM, QSDOR, NEO PI) include subscales that capture the respondent's psychological assets and resources as well as areas of difficulty (Meyer et al., 2011; Widiger et al., 2012).

It may also be useful to include in a battery measures designed to tap coping and resilience, in part to provide a more balanced picture of the patient and in part because such measures yield data that are useful in risk management and treatment planning. Several well-validated measures of psychological resilience are available, including the Ego Resiliency scale (Alessandri et al., 2012) and the Resilience Scale for Adults (Friborg et al., 2003); the latter has the advantage of assessing external factors that help promote resilience (e.g., family and social support) as well as salient dispositional factors (e.g., perception of oneself as a strong person). Beyond resilience, it may be useful to assess adaptation involving specific symptom-related behaviors; many ostensibly problematic personality patterns and coping styles actually enhance functioning in certain circumstances (e.g., obsessive perfectionism is not only associated with increased risk for depression, but also with increased achievement motivation and career success; Luyten & Blatt, 2013).

## Place Personality Assessment Data in the Broadest Possible Context

The life experiences of assessor and patient invariably have an impact on the interpersonal interactions that take place during an assessment (Dadlani, Overtree, & Perry-Jenkins, 2012). To date, most writing in this area has focused on patients' cultural experiences and the impact of these experiences on disclosure, dissimulation, and diagnostic accuracy. Competent assessors must become aware of the impact of their own personal cultural experiences and social identities as well and how these aspects of the self will affect how they perceive and interact with patients. Complicating this effort, clinicians—as do their patients—have multiple social identities, certain of which may be particularly germane when assessing a particular patient (e.g., the psychologist's life experience related to sexual orientation may be particularly salient when working with a patient when issues regarding sexuality are a part of the presenting problem or referral question).

From the perspective of the patient, culture affects personality assessment in another way: Cultural norms and values not only shape personality and moderate risk for particular forms of psychopathology (Castillo, 1997), but they also influence the manner in which psychological problems are expressed—they help determine the unique idiom of distress that emerges within a particular culture (Huang et al., 1997; Katz, 2013). Thus, for example, symptoms of depression tend to be experienced in more physical or somatic ways in people raised in traditional Caribbean societies, and avoidant tendencies tend to be exacerbated most strongly in interactions with figures of authority (rather than peers) in people who were raised in Japan, a pattern that contrasts with those of people raised in the United States and Great Britain

(Widiger & Bornstein, 2001). Formal assessment of the patient's cultural norms, expectations, and values provides important context for other types of diagnostic information (Dadlani et al., 2012; see also Chapter 13, this volume).

## MAJOR ACCOMPLISHMENTS

Concepts in psychology reemerge anew in different subfields, rediscovered (or "reinvented") by theorists and researchers with divergent backgrounds and theoretical orientations. This can be problematic when existing constructs are co-opted and renamed without acknowledging the original source (e.g., in cognitive psychologists' use of the term *dichotomous thinking* without acknowledging the construct's psychodynamic roots in the ego defense of splitting; Bornstein, 2005), but it also stands as evidence of the construct's heuristic and clinical value.

Clinical psychologists of varied backgrounds have, in different ways, delineated distinct levels of personality. More than a century ago, Freud (1905/1953b, 1908/1953a) distinguished conscious, preconscious, and unconscious psychological dynamics; 5 decades later a somewhat similar distinction was made by Leary (1957), who distinguished conscious (expressed) self-description, private symbolization of personal experience, and unexpressed unconscious processes. More recently, McAdams (2013) sought to distinguish levels of personality in the context of the emergence and maturation of the self from infancy through late adulthood. As McAdams noted, the incipient self emerges during childhood primarily as a social actor, perceiving and responding to contingencies in the person's environment. By late childhood, a second layer of personality begins to coalesce as reflectivity and intrinsic motivation increasingly shape behavior, and the person begins to articulate personal goals, motives, and values. A third layer of personality forms in adolescence, continuing to evolve throughout adulthood as the self, now autobiographical author, constructs a cohesive (if not always accurate) life narrative that imbues the individual with a sense of identity, meaning, purpose, and temporal continuity.

Delineating and quantifying different levels of personality constitute a notable accomplishment in personality assessment as well, and assessment psychologists have made great strides in this regard, developing sophisticated frameworks for conceptualizing the interplay of different manifestations of personality traits and dynamics. Three other key accomplishments are in various ways related to psychologists' ongoing efforts to describe and assess different levels of personality.

### Multimethod Assessment

In most testing situations, multimethod assessment will yield richer, more clinically useful data than assessment that relies exclusively on measures from a single modality. From a psychometric standpoint, multimethod assessment helps minimize the negative impact of reliability and validity limitations inherent in different types of tests because these limitations tend to vary across modality (Bornstein, 2010). From a clinical standpoint, when test data from different modalities are integrated and test score convergences and divergences are explored, multimethod assessment allows aspects of a patient's dynamics that might otherwise go unrecognized to be scrutinized directly (e.g., conflicts, defenses, unconscious motives, and other areas in which the patient has limited insight or is overtly self-deceptive). In the era of managed care, in which cost-effective intervention is a primary focus, multimethod assessment holds considerable promise in allowing clinicians to tailor psychological treatment to the needs of the individual patient. Although in the short term, multimethod assessment is more costly and labor intensive than unimodal assessment, in the long term multimethod assessment may prove cost effective.

Multimethod assessment seems particularly useful in situations in which the patient's ability or willingness to describe his or her behavior and inner experience accurately is compromised (e.g., when undesirable traits and dynamics are assessed; Widiger et al., 2012) or in settings in which dissimulation is likely (e.g., forensic contexts; Hilsenroth & Stricker, 2004; Mihura, 2012). The domains of behavior and mental functioning most salient to the assessment (e.g., stress tolerance, parental

fitness, potential to benefit from psychotherapy) then determine which test modalities are most useful. Similar logic holds when integrating personality test data with data derived from a patient's life records and with data provided by knowledgeable informants; in these domains, test score convergences and discontinuities may both be informative.

### Therapeutic Assessment

Throughout much of the 20th century, the emphasis in personality assessment was on acquiring information about a patient to facilitate risk management and enhance treatment planning. Finn's (2007, 2011) groundbreaking work on therapeutic assessment shifted the focus of personality assessment from exploration to engagement. A plethora of evidence has confirmed that when conceptualized as a collaborative process in which assessor and patient work together, therapeutic assessment not only yields particularly useful personality test data but also sets the stage for increased therapeutic effectiveness (Newman & Greenway, 1997; Poston & Hanson, 2010).

As in any therapeutic interaction, too direct a challenge to the patient's status quo may be unsettling, but assessment feedback provided gradually, in manageable doses, has the potential to motivate patients to engage the assessment process more deeply and understand themselves better. Thus, Finn (1996) argued that personality assessment feedback should be offered to patients in a stepwise manner, moving from information that is generally consistent with the patient's self-concept toward information that increasingly challenges the person's understanding of him- or herself and the world. In Finn's model, Level 1 information is congruent with the patient's self-view and, as a result, Level 1 feedback is generally readily accepted and assimilated into the patient's life narrative. Level 2 information is mildly discrepant from the patient's self-view but can—if delivered empathically—modify in a beneficial way the patient's usual ways of thinking about him- or herself. Level 3 findings are highly discrepant from the patient's habitual way of thinking. This kind of feedback is typically anxiety provoking, requires considerable cognitive and affective accommodation, and mobilizes the patient's characteristic coping strategies and defense mechanisms. A major accomplishment of personality assessment is to offer feedback in a stepwise, collaborative manner that facilitates its usefulness and increases treatment success.

### Using Assessment Data to Track Therapeutic Progress

Cates (1999) likened personality assessment to a snapshot of the patient's functioning; he went on to note that "no matter how exhaustive the battery of assessment techniques, no matter how many corroborative sources, and no matter how lengthy the assessment procedure, the assessment describes a moment frozen in time, described by the psychologist" (p. 637). Cates's insightful observation has both positive and negative implications for personality assessment. On the negative side, as Cates suggested, no matter how thorough the assessment, it can only capture the essence of the patient's functioning at the time he or she is tested; any inferences the assessor draws regarding past adjustment or future behavior are exactly that—inferences.

On the positive side, however, the fact that personality assessment captures the patient's functioning at a given moment presents an opportunity to use assessment data to track progress during the course of psychological treatment. That represents a major accomplishment and advance in psychotherapy. Tracking client progress and discussing that progress (or lack thereof) during the therapy session improves outcome and decreases deterioration of at-risk patients by at least one third (Lambert, 2010). Along somewhat different lines, research has shown that in many ways changes in personality functioning represent a more heuristic and clinically useful index of therapeutic progress than do changes in symptom patterns (McWilliams, 2011). Moreover, changes in personality functioning often precede changes in symptomatology and expressed behavior, providing clinicians and clinical researchers with an early index of incipient therapeutic change (Blatt & Ford, 1994; Hilsenroth, 2007).

## FUTURE DIRECTIONS

Personality assessment has come a long way since publication of Woodworth's Personal Data Sheet in

1919 and *Psychodiagnostik* in 1921; since then, our ability to quantify the central features of personality traits and dynamics has become increasingly nuanced and sophisticated. To be sure, challenges remain. For example, myriad studies have demonstrated that behavior varies predictably over time and across situation, so that in both research and clinical settings an interactionist perspective is needed to conceptualize and quantify the "if–then" contingencies characteristic of personality (Mischel, Shoda, & Mendoza-Denton, 2002; Morf, 2006). In addition, assessing unobservable constructs (e.g., insecurity, rigidity) entails certain construct validity challenges that are not faced when overt behavior is assessed (e.g., selecting appropriate comparison and outcome measures, integrating correlational and experimental test score validation methods). Alongside challenges come opportunities. Three directions stand out.

First, we must reconnect personality assessment with neighboring fields within and outside psychology to strengthen its empirical foundation. An integrative perspective on personality assessment draws on ideas and findings from psychology's subfields (e.g., developmental, cognitive, social) as well as those of other disciplines (e.g., neuroscience). As connections between personality and other areas of psychology are forged, the science and practice of personality assessment will be enhanced (Robinson & Gordon, 2011; Solms & Turnbull, 2011). The diversity of viewpoints that can emerge from ongoing exchange across different areas of inquiry will not only help resolve some long-standing controversies but also enhance personality assessment in the 21st century and beyond.

Second, we must strengthen links between the study of personality and the study of personality pathology. Recent efforts to refine our understanding of personality disorders and revise extant diagnostic systems have been fraught with controversy (Clarkin & Huprich, 2011; Skodol, 2012). In part, the contentious debates surrounding these efforts stem from the fact that research on personality pathology has become increasingly distant from research on personality traits and dynamics. Few academic psychologists who study personality in laboratory and field settings are well versed in the literature on personality pathology; many personality disorder researchers do not integrate findings from the personality literature. To maximize the heuristic value and clinical utility of personality assessment, we must develop a more unified approach to the study of personality—one that integrates findings regarding normal and pathological personality functioning.

Finally, we must continue to make explicit the ways that personality assessment enhances psychological treatment. Finn's (2007, 2011) therapeutic assessment has been exemplary in this regard, as have the ongoing research programs examining the ways in which personality assessment data can inform treatment planning (Diener & Monroe, 2011; Hilsenroth, 2007; Lambert, 2010). Such investigations have always had considerable clinical import, but given the impact of managed care on practice, research programs illuminating the ways in which personality assessment can enhance therapeutic process and outcome are especially needed (see Westen, Novotny, & Thompson-Brenner, 2004). Studies such as these not only benefit our patients and our discipline but go a long way toward recapturing clinical psychology's historical identity as a profession that focuses on the assessment of personality traits and dynamics.

## References

Achenbach, T. M., Howell, C. T., Quay, H. C., Conners, C. K., & Bates, J. E. (1991). National survey of problems and competencies among four- to sixteen-year-olds: Parents' reports for normative and clinical samples. *Monographs of the Society for Research in Child Development*, *56*(3).

Alessandri, G., Vecchione, M., Caprara, G., & Letzring, T. D. (2012). The Ego Resiliency Scale revised: A crosscultural study in Italy, Spain, and the United States. *European Journal of Psychological Assessment*, *28*, 139–146. http://dx.doi.org/10.1027/1015-5759/a000102

Allport, G. (1937). *Personality: A psychological interpretation*. New York, NY: Holt.

Archer, R. P., & Krishnamurthy, R. (1993a). Combining the Rorschach and the MMPI in the assessment of adolescents. *Journal of Personality Assessment*, *60*, 132–140. http://dx.doi.org/10.1207/s15327752jpa6001_10

Archer, R. P., & Krishnamurthy, R. (1993b). A review of MMPI and Rorschach interrelationships in

adult samples. *Journal of Personality Assessment*, *61*, 277–293. http://dx.doi.org/10.1207/s15327752jpa6102_9

Ballenger, J. F., Caldwell-Andrews, A., & Baer, R. A. (2001). Effects of positive impression management on the NEO Personality Inventory—Revised in a clinical population. *Psychological Assessment*, *13*, 254–260. http://dx.doi.org/10.1037/1040-3590.13.2.254

Bargh, J. A., & Morsella, E. (2008). The unconscious mind. *Perspectives on Psychological Science*, *3*, 73–79. http://dx.doi.org/10.1111/j.1745-6916.2008.00064.x

Bers, S. A., Blatt, S. J., Sayward, H. K., & Johnston, R. S. (1993). Normal and pathological aspects of self-descriptions and their change over long-term treatment. *Psychoanalytic Psychology*, *10*, 17–37. http://dx.doi.org/10.1037/h0079432

Blatt, S. J., Auerbach, J. S., & Levy, K. N. (1997). Mental representations in personality development, psychopathology, and the therapeutic process. *Review of General Psychology*, *1*, 351–374. http://dx.doi.org/10.1037/1089-2680.1.4.351

Blatt, S. J., Chevron, E. S., Quinlan, D. M., Schaffer, C. E., & Wein, S. J. (1988). *The assessment of qualitative and structural dimensions of object representations* (Rev. ed.). Unpublished research manual, Yale University School of Medicine.

Blatt, S. J., & Ford, R. Q. (1994). *Therapeutic change*. New York, NY: Plenum Press. http://dx.doi.org/10.1007/978-1-4899-1010-3

Blatt, S. J., Stayner, D. A., Auerbach, J. S., & Behrends, R. S. (1996). Change in object and self-representations in long-term, intensive, inpatient treatment of seriously disturbed adolescents and young adults. *Psychiatry*, *59*, 82–107.

Booth, T., & Irwing, P. (2011). Sex differences in the 16PF5, test of measurement invariance and mean differences in the US standardization sample. *Personality and Individual Differences*, *50*, 553–558. http://dx.doi.org/10.1016/j.paid.2010.11.026

Bornstein, R. F. (1998). Implicit and self-attributed dependency needs in dependent and histrionic personality disorders. *Journal of Personality Assessment*, *71*, 1–14. http://dx.doi.org/10.1207/s15327752jpa7101_1

Bornstein, R. F. (2002). A process dissociation approach to objective–projective test score interrelationships. *Journal of Personality Assessment*, *78*, 47–68. http://dx.doi.org/10.1207/S15327752JPA7801_04

Bornstein, R. F. (2005). Reconnecting psychoanalysis to mainstream psychology: Opportunities and challenges. *Psychoanalytic Psychology*, *22*, 323–340. http://dx.doi.org/10.1037/0736-9735.22.3.323

Bornstein, R. F. (2007a). From surface to depth: Diagnosis and assessment in personality pathology. *Clinical Psychology: Science and Practice*, *14*, 99–102. http://dx.doi.org/10.1111/j.1468-2850.2007.00067.x

Bornstein, R. F. (2007b). Might the Rorschach be a projective test after all? Social projection of an undesired trait alters Rorschach Oral Dependency scores. *Journal of Personality Assessment*, *88*, 354–367. http://dx.doi.org/10.1080/00223890701333514

Bornstein, R. F. (2010). Psychoanalytic theory as a unifying framework for 21st century personality assessment. *Psychoanalytic Psychology*, *27*, 133–152. http://dx.doi.org/10.1037/a0015486

Bornstein, R. F. (2011). Toward a multidimensional model of personality disorder diagnosis: Implications for *DSM–5*. *Journal of Personality Assessment*, *93*, 362–369. http://dx.doi.org/10.1080/00223891.2011.577474

Bornstein, R. F. (2012). Rorschach score validation as a model for 21st-century personality assessment. *Journal of Personality Assessment*, *94*, 26–38. http://dx.doi.org/10.1080/00223891.2011.627961

Bornstein, R. F., Denckla, C. A., & Chung, W. J. (2015). Dependent and histrionic personality disorders. In P. H. Blaney, R. F. Krueger, & T. Millon (Eds.), *Oxford textbook of psychopathology* (3rd ed., pp. 659–680). Oxford, England: Oxford University Press.

Bornstein, R. F., & Masling, J. M. (2005). The Rorschach Oral Dependency scale. In R. F. Bornstein & J. M. Masling (Eds.), *Scoring the Rorschach: Seven validated systems* (pp. 135–157). Mahwah, NJ: Erlbaum.

Bowlby, J. (1969). *Attachment*. New York, NY: Basic Books.

Bradley, R., Hilsenroth, M., Guarnaccia, C., & Westen, D. (2007). Relationship between clinician assessment and self-assessment of personality disorders using the SWAP-200 and PAI. *Psychological Assessment*, *19*, 225–229. http://dx.doi.org/10.1037/1040-3590.19.2.225

Buck, J. N. (1966). *The house–tree–person technique*. Los Angeles, CA: Western Psychological Services.

Burns, R. C. (1982). *Self-growth in families: Kinetic Family Drawings research and applications*. New York, NY: Brunner/Mazel.

Castillo, R. J. (1997). *Culture and mental illness: A client-centered approach*. Pacific Grove, CA: Brooks/Cole.

Cates, J. A. (1999). The art of assessment in psychology: Ethics, expertise, and validity. *Journal of Clinical Psychology*, *55*, 631–641. http://dx.doi.org/10.1002/(SICI)1097-4679(199905)55:5<631::AID-JCLP10>3.0.CO;2-1

Cattell, J. M. (1890). Mental tests and measurements. *Mind, os-15*, 373–381. http://dx.doi.org/10.1093/mind/os-XV.59.373

Cattell, R. B. (1946). *The description and measurement of personality*. New York, NY: World Book.

Cattell, R. B. (1947). Confirmation and clarification of primary personality factors. *Psychometrika*, *12*, 197–220. http://dx.doi.org/10.1007/BF02289253

Cattell, R. B., Cattell, A. K., & Cattell, H. E. P. (1993). *16PF Fifth Edition Questionnaire*. Champaign, IL: Institute for Personality and Ability Testing.

Cizek, G. J., Rosenberg, S. L., & Koons, H. H. (2008). Sources of validity evidence for educational and psychological tests. *Educational and Psychological Measurement*, *68*, 397–412. http://dx.doi.org/10.1177/0013164407310130

Clarkin, J. F., & Huprich, S. K. (2011). Do *DSM–5* personality disorder proposals meet criteria for clinical utility? *Journal of Personality Disorders*, *25*, 192–205. http://dx.doi.org/10.1521/pedi.2011.25.2.192

Clifton, A., Turkheimer, E., & Oltmanns, T. F. (2005). Self- and peer perspectives on pathological personality traits and interpersonal problems. *Psychological Assessment*, *17*, 123–131.

Conn, S. R., & Rieke, M. L. (1994). *The 16PF fifth edition technical manual*. Champaign, IL: Institute for Personality and Ability Testing.

Costa, P. T., & McCrae, R. R. (1985). *The NEO Personality Inventory manual*. Odessa, FL: Psychological Assessment Resources.

Costa, P. T., & McCrae, R. R. (1992a). The Five-Factor Model of personality and its relevance to personality disorders. *Journal of Personality Disorders*, *6*, 343–359. http://dx.doi.org/10.1521/pedi.1992.6.4.343

Costa, P. T., & McCrae, R. R. (1992b). *NEO PI–R: Professional manual*. Odessa, FL: Psychological Assessment Resources.

Cramer, P. (2006). *Protecting the self: Defense mechanisms in action*. New York, NY: Guilford Press.

Dadlani, M. B., Overtree, C., & Perry-Jenkins, M. (2012). Culture at the center: A reformulation of diagnostic assessment. *Professional Psychology: Research and Practice*, *43*, 175–182. http://dx.doi.org/10.1037/a0028152

Diener, M. J., & Monroe, J. M. (2011). The relationship between adult attachment style and therapeutic alliance in individual psychotherapy: A meta-analytic review. *Psychotherapy*, *48*, 237–248. http://dx.doi.org/10.1037/a0022425

Dreessen, L., Hildebrand, M., & Arntz, A. (1998). Patient-informant concordance on the Structured Clinical Interview for DSM–III–R personality disorders (SCID–II). *Journal of Personality Disorders*, *12*, 149–161. http://dx.doi.org/10.1521/pedi.1998.12.2.149

Eaton, N. R., Krueger, R. F., & Oltmanns, T. F. (2011). Aging and the structure and long-term stability of the internalizing spectrum of personality and psychopathology. *Psychology and Aging*, *26*, 987–993. http://dx.doi.org/10.1037/a0024406

Exner, J. E. (1974). *The Rorschach: A comprehensive system*. New York, NY: Wiley.

Exner, J. E. (2003). *The Rorschach: A comprehensive system* (4th ed.). New York, NY: Wiley.

Finn, S. E. (1996). Assessment feedback integrating MMPI–2 and Rorschach findings. *Journal of Personality Assessment*, *67*, 543–557. http://dx.doi.org/10.1207/s15327752jpa6703_10

Finn, S. E. (2007). *In our client's shoes: Theory and techniques of therapeutic assessment*. New York, NY: Routledge/Taylor & Francis.

Finn, S. E. (2011). Journeys through the valley of death: Multimethod psychological assessment and personality transformation in long-term psychotherapy. *Journal of Personality Assessment*, *93*, 123–141. http://dx.doi.org/10.1080/00223891.2010.542533

Frankl, V. E. (1966). Logotherapy and existential analysis—A review. *American Journal of Psychotherapy*, *20*, 252–260.

Franz, S. I. (1919). *Handbook of mental examination methods* (2nd ed.). New York, NY: MacMillan.

Freud, S. (1953a). Character and anal erotism. In J. Strachey (Trans. & Ed.), *The standard edition of the complete psychological works of Sigmund Freud* (Vol. 10, pp. 167–176). London: Hogarth. (Original work published 1908)

Freud, S. (1953b). Three essays on the theory of sexuality. In J. Strachey (Trans. & Ed.), *The standard edition of the complete psychological works of Sigmund Freud* (Vol. 7, pp. 125–245). London, England: Hogarth. (Original work published 1905)

Freud, S. (1961). The ego and the id. In J. Strachey (Trans. & Ed.), *The standard edition of the complete psychological works of Sigmund Freud* (Vol. 19, pp. 1–66). London: Hogarth. (Original work published 1923)

Friborg, O., Hjemdal, O., Rosenvinge, J. H., & Martinussen, M. (2003). A new rating scale for adult resilience: What are the central protective resources behind healthy adjustment? *International Journal of Methods in Psychiatric Research*, *12*, 65–76. http://dx.doi.org/10.1002/mpr.143

Fuertes, J. N., Boylan, L. S., & Fontanella, J. A. (2009). Behavioral indices in medical care outcome: The working alliance, adherence, and related factors. *Journal of General Internal Medicine*, *24*, 80–85. http://dx.doi.org/10.1007/s11606-008-0841-4

Garb, H. N. (1998). *Studying the clinician: Judgment research and psychological assessment*. http://dx.doi.org/10.1037/10299-000

Goldberg, L. R. (1990). An alternative "description of personality": The big-five factor structure. *Journal of Personality and Social Psychology*, *59*, 1216–1229. http://dx.doi.org/10.1037/0022-3514.59.6.1216

Groth-Marnat, G. (1999). Current status and future directions of psychological assessment: Introduction. *Journal of Clinical Psychology*, *55*, 781–785. http://dx.doi.org/10.1002/(SICI)1097-4679(199907)55:7<781::AID-JCLP1>3.0.CO;2-2

Handler, L., & Meyer, G. J. (1998). The importance of teaching and learning personality assessment. In L. Handler & M. J. Hilsenroth (Eds.), *Teaching and learning personality assessment* (pp. 3–30). Mahwah, NJ: Erlbaum.

Hatcher, R. L., & Rogers, D. T. (2009). Development and validation of a measure of interpersonal strengths: The Inventory of Interpersonal Strengths. *Psychological Assessment*, *21*, 554–569. http://dx.doi.org/10.1037/a0017269

Hilsenroth, M. J. (2007). A programmatic study of short-term psychodynamic psychotherapy: Assessment, process, outcome, and training. *Psychotherapy Research*, *17*, 31–45. http://dx.doi.org/10.1080/10503300600953504

Hilsenroth, M. J., & Stricker, G. (2004). A consideration of challenges to psychological assessment instruments used in forensic settings: Rorschach as exemplar. *Journal of Personality Assessment*, *83*, 141–152. http://dx.doi.org/10.1207/s15327752jpa8302_08

Hirschfeld, R. M. A., Klerman, G. L., Gouch, H. G., Barrett, J., Korchin, S. J., & Chodoff, P. (1977). A measure of interpersonal dependency. *Journal of Personality Assessment*, *41*, 610–618. http://dx.doi.org/10.1207/s15327752jpa4106_6

Hoerger, M., Chapman, B., Ma, Y., Tu, X., Useda, J. D., Hirsch, J., & Duberstein, P. (2011). Agreement between informant and self-reported personality in depressed older adults: What are the roles of medical illness and cognitive function? *Psychology and Aging*, *26*, 1000–1006. http://dx.doi.org/10.1037/a0023213

Holden, R. R., Wasylkiw, L., Starzyk, K. B., Book, A. S., & Edwards, M. J. (2006). Inferential structure of the NEO Five Factor Inventory: Construct validity of the big four personality clusters. *Canadian Journal of Behavioural Science/Revue canadienne des sciences du comportement*, *38*, 24–40. http://dx.doi.org/10.1037/h0087268

Hopwood, C. J., Malone, J. C., Ansell, E. B., Sanislow, C. A., Grilo, C. M., McGlashan, T. H., . . . Morey, L. C. (2011). Personality assessment in *DSM–5*: Empirical support for rating severity, style, and traits. *Journal of Personality Disorders*, *25*, 305–320. http://dx.doi.org/10.1521/pedi.2011.25.3.305

Hopwood, C. J., Wright, A. G., Ansell, E. B., & Pincus, A. L. (2013). The interpersonal core of personality pathology. *Journal of Personality Disorders*, *27*, 270–295. http://dx.doi.org/10.1521/pedi.2013.27.3.270

Huang, C. D., Church, A. T., & Katigbak, M. S. (1997). Identifying cultural differences in items and traits: Differential item functioning in the NEO Personality Inventory. *Journal of Cross-Cultural Psychology*, *28*, 192–218. http://dx.doi.org/10.1177/0022022197282004

Huprich, S. K., & Ganellen, R. J. (2006). Clinical utility of the Rorschach inkblot method in the assessment of personality disorders. In S. K. Huprich (Ed.), *Rorschach assessment of personality disorders* (pp. 27–53). Mahwah, NJ: Erlbaum.

Irwing, P., Booth, T., & Batey, M. (2014). An investigation of the factor structure of the 16PF, Version 5. *Journal of Individual Differences*, *35*, 38–46. http://dx.doi.org/10.1027/1614-0001/a000125

Janson, H., & Stattin, H. (2003). Prediction of adolescent and adult delinquency from childhood Rorschach ratings. *Journal of Personality Assessment*, *81*, 51–63. http://dx.doi.org/10.1207/S15327752JPA8101_05

Jenkins, S. R. (Ed.). (2008). *A handbook of clinical scoring systems for thematic apperceptive techniques*. New York, NY: Taylor & Francis.

Johnston, M. H., & Holtzman, P. S. (1979). *Assessing schizophrenic thinking*. San Francisco, CA: Jossey-Bass.

Kahneman, D. (2011). *Thinking, fast and slow*. Toronto, Ontario, Canada: Doubleday/Random House.

Katz, S. M. (Ed.). (2013). *Metaphor and fields* (pp. 92–103). London, England: Routledge/Taylor & Francis.

Kernberg, O. F. (1975). *Borderline conditions and pathological narcissism*. New York, NY: Jason Aronson.

Keulen-de-vos, M., Bernstein, D. P., Clark, L. A., Arntz, A., Lucker, T. P. C., & de Spa, E. (2011). Patient versus informant reports of personality disorders in forensic patients. *Journal of Forensic Psychiatry and Psychology*, *22*, 52–71.

Kiesler, D. J. (1996). *Contemporary interpersonal theory and research: Personality, psychopathology, and psychotherapy*. Hoboken, NJ: Wiley.

Koestner, R., Weinberger, J., & McClelland, D. C. (1991). Task-intrinsic and social-extrinsic sources of arousal for motives assessed in fantasy and self-report. *Journal of Personality*, *59*, 57–82. http://dx.doi.org/10.1111/j.1467-6494.1991.tb00768.x

Kohut, H. (1971). *The analysis of the self*. New York, NY: International Universities Press.

Kraepelin, E. (1889). *Psychiatrie: Ein lehrbuch* [Psychology: A textbook] (3rd ed.). Leipzig, Germany: Barth.

Kraepelin, E. (1892). *Uber die Beeinflussung einfacher psychischer Vorgange durch einige Arnzneimittel* [On the influence of simple psychological processes on mental life]. Jena, Germany: Fisher.

Kraepelin, E. (1895). Der psychologische Versuch in der Psychiatrie [The psychological experiment in psychiatry]. *Psychologische Arbeiten*, *1*, 1–91.

Krishnamurthy, R., & Yaloff, J. A. (2010). The assessment competency. In M. B. Kenkel & R. L. Peterson (Eds.), *Competency-based education for professional psychology* (pp. 87–104). http://dx.doi.org/10.1037/12068-005

Kurtz, J. E., Lee, P. A., & Sherker, J. L. (1999). Internal and temporal reliability estimates for informant ratings of personality using the NEO PI–R and IAS. *Assessment*, *6*, 103–113. http://dx.doi.org/10.1177/107319119900600201

Lambert, M. J. (2010). *Prevention of treatment failure: The use of measuring, monitoring, and feedback in clinical practice*. http://dx.doi.org/10.1037/12141-000

Leary, T. (1957). *Interpersonal diagnosis of personality*. New York, NY: Ronald Press.

Luyten, P., & Blatt, S. J. (2013). Interpersonal relatedness and self-definition in normal and disrupted personality development: Retrospect and prospect. *American Psychologist*, *68*, 172–183. http://dx.doi.org/10.1037/a0032243

Machover, K. (1949). *Personality projection in the drawing of the human figure*. http://dx.doi.org/10.1037/11147-000

Masling, J. (2002). Speak, memory, or goodbye, Columbus. *Journal of Personality Assessment*, *78*, 4–30. http://dx.doi.org/10.1207/S15327752JPA7801_02

Masling, J., Rabie, L., & Blondheim, S. H. (1967). Obesity, level of aspiration, and Rorschach and TAT measures of oral dependence. *Journal of Consulting Psychology*, *31*, 233–239. http://dx.doi.org/10.1037/h0020999

Matto, H. C. (2002). Investigating the validity of the Draw-A-Person: Screening Procedure for Emotional Disturbance: A measurement validation study with high-risk youth. *Psychological Assessment*, *14*, 221–225. http://dx.doi.org/10.1037/1040-3590.14.2.221

McAdams, D. P. (2013). The psychological self as actor, agent, and author. *Perspectives on Psychological Science*, *8*, 272–295. http://dx.doi.org/10.1177/1745691612464657

McClelland, D. C., Koestner, R., & Weinberger, J. (1989). How do self-attributed and implicit motives differ? *Psychological Review*, *96*, 690–702. http://dx.doi.org/10.1037/0033-295X.96.4.690

McCrae, R. R., & Terracciano, A. (2008). The five-factor model and its correlates in individuals and cultures. In F. J. R. van de Vijver, D. A. van Hemert, & Y. H. Poortinga (Eds.), *Multilevel analyses of individuals and cultures* (pp. 249–283). Mahwah, NJ: Erlbaum.

McWilliams, N. (2011). The psychodynamic diagnostic manual: An effort to compensate for the limitations of descriptive psychiatric diagnosis. *Journal of Personality Assessment*, *93*, 112–122. http://dx.doi.org/10.1080/00223891.2011.542709

Meyer, G. J. (1996). The Rorschach and MMPI: Toward a more scientifically differentiated understanding of cross-method assessment. *Journal of Personality Assessment*, *67*, 558–578. http://dx.doi.org/10.1207/s15327752jpa6703_11

Meyer, G. J. (1997). On the integration of personality assessment methods: The Rorschach and MMPI. *Journal of Personality Assessment*, *68*, 297–330. http://dx.doi.org/10.1207/s15327752jpa6802_5

Meyer, G. J., Finn, S. E., Eyde, L. D., Kay, G. G., Moreland, K. L., Dies, R. R., . . . Reed, G. M. (2001). Psychological testing and psychological assessment. A review of evidence and issues. *American Psychologist*, *56*, 128–165. http://dx.doi.org/10.1037/0003-066X.56.2.128

Meyer, G. J., & Kurtz, J. E. (2006). Advancing personality assessment terminology: Time to retire "objective" and "projective" as personality test descriptors. *Journal of Personality Assessment*, *87*, 223–225. http://dx.doi.org/10.1207/s15327752jpa8703_01

Meyer, G. J., Viglione, D. J., Mihura, J. L., Erard, R. E., & Erdberg, P. (2011). *Rorschach Performance Assessment System: Administration, coding, interpretation, and technical manual*. Toledo, OH: Rorschach Performance Assessment System.

Mihura, J. L. (2012). The necessity of multiple test methods in conducting assessments: The role of the Rorschach and self-report. *Psychological Injury and Law*, *5*, 97–106. http://dx.doi.org/10.1007/s12207-012-9132-9

Mihura, J. L., Meyer, G. J., Dumitrascu, N., & Bombel, G. (2013). The validity of individual Rorschach variables: Systematic reviews and meta-analyses of the comprehensive system. *Psychological Bulletin*, *139*, 548–605. http://dx.doi.org/10.1037/a0029406

Mischel, W., Shoda, Y., & Mendoza-Denton, R. (2002). Situation-behavior profiles as a locus of consistency in personality. *Current Directions in Psychological Science*, *11*, 50–54. http://dx.doi.org/10.1111/1467-8721.00166

Morf, C. C. (2006). Personality reflected in a coherent idiosyncratic interplay of intra- and interpersonal self-regulatory processes. *Journal of Personality*, *74*, 1527–1556. http://dx.doi.org/10.1111/j.1467-6494.2006.00419.x

Morgan, T. A., & Clark, L. A. (2010). Passive-submissive and active-emotional trait dependency: Evidence

for a two-factor model. *Journal of Personality*, *78*, 1325–1352.

Murray, H. A. (1943). *Thematic Appreciation Test manual*. Cambridge, MA: Harvard University Press.

Newman, M. L., & Greenway, P. (1997). Therapeutic effects of providing MMPI–2 test feedback to clients at a university counseling service: A collaborative approach. *Psychological Assessment*, *9*, 122–131. http://dx.doi.org/10.1037/1040-3590.9.2.122

Nysæter, T. E., Langvik, E., Berthelsen, M., & Nordvik, H. (2009). Interpersonal problems and personality traits: The relation between IIP-64C and NEO FFI. *Nordic Psychology*, *61*, 82–93. http://dx.doi.org/10.1027/1901-2276.61.3.82

Oltmanns, T. F., & Turkheimer, E. (2009). Person perception and personality pathology. *Current Directions in Psychological Science*, *18*, 32–36. http://dx.doi.org/10.1111/j.1467-8721.2009.01601.x

Pincus, A. L., Ansell, E. B., Pimentel, C. A., Cain, N. M., Wright, A. G. C., & Levy, K. N. (2009). Initial construction and validation of the Pathological Narcissism Inventory. *Psychological Assessment*, *21*, 365–379. http://dx.doi.org/10.1037/a0016530

Pincus, A. L., Sadler, P., Woody, E., Roche, M. J., Thomas, K. M., & Wright, A. G. C. (2014). Multimethod assessment of interpersonal dynamics. In C. J. Hopwood & R. F. Bornstein (Eds.), *Multimethod clinical assessment* (pp. 51–91). New York, NY: Guilford Press.

Piotrowski, Z. A. (1980). CPR: The psychological x-ray in mental disorders. In I. B. Sidowski, J. H. Johnson, & T. A. Williams (Eds.), *Technology in mental health care delivery systems* (pp. 85–108). Norwood, NJ: Ablex.

Poston, J. M., & Hanson, W. E. (2010). Meta-analysis of psychological assessment as a therapeutic intervention. *Psychological Assessment*, *22*, 203–212. http://dx.doi.org/10.1037/a0018679

Robinson, M. D., & Gordon, K. H. (2011). Personality dynamics: Insights from the personality social cognitive literature. *Journal of Personality Assessment*, *93*, 161–176. http://dx.doi.org/10.1080/00223891.2010.542534

Rogers, C. R. (1961). *On becoming a person*. Boston, MA: Houghton Mifflin.

Rorschach, H. (1921). *Psychodiagnostik*. Bern, Switzerland: Bircher.

Sadler, P., Ethier, N., Gunn, G. R., Duong, D., & Woody, E. (2009). Are we on the same wavelength? Interpersonal complementarity as shared cyclical patterns during interactions. *Journal of Personality and Social Psychology*, *97*, 1005–1020. http://dx.doi.org/10.1037/a0016232

Sadler, P., Ethier, N., & Woody, E. (2011). Interpersonal complementarity. In L. M. Horowitz & S. Strack (Eds.), *Handbook of interpersonal psychology* (pp. 123–142). Hoboken, NJ: Wiley.

Sartori, R. (2010). Face validity in personality tests: Psychometric instruments and projective techniques in comparison. *Quality and Quantity*, *44*, 749–759. http://dx.doi.org/10.1007/s11135-009-9224-0

Schwartz, E. S., Chapman, B. P., Duberstein, P. R., Weinstock-Guttman, B., & Benedict, R. H. B. (2011). The NEO FFI in multiple sclerosis: Internal consistency, factorial validity, and correspondence between self and informant reports. *Assessment*, *18*, 39–49. http://dx.doi.org/10.1177/1073191110368482

Shedler, J., & Westen, D. (2007). The Shedler–Westen Assessment Procedure (SWAP): Making personality diagnosis clinically meaningful. *Journal of Personality Assessment*, *89*, 41–55. http://dx.doi.org/10.1080/00223890701357092

Skodol, A. E. (2012). Personality disorders in *DSM–5*. *Annual Review of Clinical Psychology*, *8*, 317–344. http://dx.doi.org/10.1146/annurev-clinpsy-032511-143131

Slaney, K. L., & Maraun, M. D. (2008). A proposed framework for conducting data-based test analysis. *Psychological Methods*, *13*, 376–390. http://dx.doi.org/10.1037/a0014269

Smyth, J. M., Hockemeyer, J. R., & Tulloch, H. (2008). Expressive writing and post-traumatic stress disorder: Effects on trauma symptoms, mood states, and cortisol reactivity. *British Journal of Health Psychology*, *13*, 85–93. http://dx.doi.org/10.1348/135910707X250866

Solms, M., & Turnbull, O. H. (2011). What is neuropsychoanalysis? *Neuropsychoanalysis*, *13*, 133–145. http://dx.doi.org/10.1080/15294145.2011.10773670

Thomas, A., & Chess, S. (1977). *Temperament and development*. New York, NY: Brunner/Mazel.

Vazire, S. (2006). Informant reports: A cheap, fast, and easy method for personality assessment. *Journal of Research in Personality*, *40*, 472–481. http://dx.doi.org/10.1016/j.jrp.2005.03.003

Wagner, J., Gerstorf, D., Hoppmann, C., & Luszcz, M. A. (2013). The nature and correlates of self-esteem trajectories in late life. *Journal of Personality and Social Psychology*, *105*, 139–153. http://dx.doi.org/10.1037/a0032279

Weiner, I. B. (2000). Using the Rorschach properly in practice and research. *Journal of Clinical Psychology*, *56*, 435–438. http://dx.doi.org/10.1002/(SICI)1097-4679(200003)56:3<435::AID-JCLP17>3.0.CO;2-L

Westen, D. (1995). *Revision of Social Cognition and Object Relations Scale*. Unpublished manuscript, Department of Psychiatry, Cambridge Hospital, Cambridge, MA.

Westen, D., Novotny, C. M., & Thompson-Brenner, H. (2004). The empirical status of empirically

supported psychotherapies: Assumptions, findings, and reporting in controlled clinical trials. *Psychological Bulletin*, *130*, 631–663. http://dx.doi.org/10.1037/0033-2909.130.4.631

Westen, D., & Weinberger, J. (2004). When clinical description becomes statistical prediction. *American Psychologist*, *59*, 595–613. http://dx.doi.org/10.1037/0003-066X.59.7.595

Widiger, T. A., & Bornstein, R. F. (2001). Histrionic, narcissistic, and dependent personality disorders. In P. B. Sutker & H. E. Adams (Eds.), *Comprehensive handbook of psychopathology* (3rd ed., pp. 509–531). New York, NY: Plenum Press.

Widiger, T. A., & Costa, P. T. (2002). Five-factor model personality disorder research. In P. T. Costa & T. A. Widiger (Eds.), *Personality disorders and the five-factor model of personality* (2nd ed., pp. 59–87). http://dx.doi.org/10.1037/10423-005

Widiger, T. A., Lynam, D. R., Miller, J. D., & Oltmanns, T. F. (2012). Measures to assess maladaptive variants of the five-factor model. *Journal of Personality Assessment*, *94*, 450–455. http://dx.doi.org/10.1080/00223891.2012.677887

Widiger, T. A., & Samuel, D. B. (2005). Evidence-based assessment of personality disorders. *Psychological Assessment*, *17*, 278–287. http://dx.doi.org/10.1037/1040-3590.17.3.278

Wiggins, J. S. (1991). Agency and communion as conceptual coordinates for the understanding and measurement of interpersonal behavior. In D. Cicchetti & W. M. Grove (Eds.), *Thinking clearly about psychology: Essays in honor of Paul E. Meehl* (pp. 89–113). Minneapolis: University of Minnesota Press.

Yamaguchi, S. (2004). Further clarifications of the concept of *amae* in relation to dependence and attachment. *Human Development*, *47*, 28–33. http://dx.doi.org/10.1159/000075367

Young, M. S., & Schinka, J. A. (2001). Research Validity Scales for the NEO PI–R: Additional evidence for reliability and validity. *Journal of Personality Assessment*, *76*, 412–420. http://dx.doi.org/10.1207/S15327752JPA7603_04

CHAPTER 6

# PSYCHOPATHOLOGY ASSESSMENT

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Assessing psychological dysfunction and psychopathology has been a central function of clinical psychologists since the development of the specialty in the 1890s. In fact, most historical reviews of the profession have acknowledged that assessment and diagnosis of mental disorder define the formal establishment of clinical psychology, marked by the founding of Witmer's psychological clinic and the onset of the mental testing movement in the late 1800s (Benjamin, 2005).

The use of psychological testing to assess psychopathology continues to occupy a dominant role in the field today, despite fluctuations in its popularity and changes in its patterns of utilization. For example, the Society of Clinical Psychology (Division 12) of the American Psychological Association (APA) has listed the profession's goals as including the understanding and prediction of "maladjustment, disability, and discomfort" and described assessment in clinical psychology as "determining the nature, causes, and potential effects of personal distress; of personal, social, and work dysfunctions; and the psychological factors associated with physical, behavioral, emotional, nervous, and mental disorders." The American Board of Professional Psychology's (2014) definition of clinical psychology similarly includes "diagnosis, assessment, [and] evaluation . . . of psychological, emotional, psychophysiological and behavioral disorders across the lifespan" and "procedures for understanding, predicting, and alleviating intellectual, emotional, physical, and psychological distress, social and behavioral maladjustment, and mental illness, as well as other forms of discomfort" (para. 3).

This chapter provides an overview of major methods of adult, child, and adolescent psychopathology assessment with attendant discussions of pros and cons, applications, limitations, and emerging trends.

## DESCRIPTION AND DEFINITION

Before discussing the assessment of psychopathology, we have to consider what is meant by the term *psychopathology*, which is often used interchangeably with other terms such as *psychological disorder, mental illness*, and *emotional maladjustment*. Does psychopathology involve deviance from social norms and hindrance to others? Conversely, is it a matter of personal distress and inability to carry out one's daily activities? Does it involve motivated aberration or disease-based factors beyond the individual's control? Is there a universal threshold to determine when difficulties reach the disorder level? To what degree should disorder be considered in a sociocultural context? These and related questions have been discussed extensively in clinical psychology and abnormal psychology texts, without full resolution or achievement of consensus.

In contemporary clinical practice, psychopathology is often viewed narrowly in terms of criteria associated with specific diagnostic classifications listed in the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* (*DSM–5*; American Psychiatric Association, 2013) or the *International Statistical Classification of Diseases and Related Health Problems, 10th Revision* (World Health

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Organization, 1992). However, psychopathology is much broader and deeper than can be determined simply through criteria designed to facilitate diagnostic classification. For our purposes, we define psychopathology as any type of emotional, cognitive, behavioral, or interpersonal dysfunction involving significant discomfort and impairment in the individual's ability to function adaptively or engage in meaningful and satisfying relationships.

An effective assessment of psychopathology would thus need to include gauging the type and degree of dysfunction with attention to whether it is acute in onset or chronic, situationally reactive or embedded in the individual's personality. It requires examination of the level of functional impairment associated with the disorder and issues of comorbidity, alongside consideration of a broad array of personal, demographic, environmental, and contextual factors. Moreover, developmental psychopathology, which is particularly important in the assessment of children and adolescents, draws attention to the origins, developmental trajectory, and varying manifestations of disorder over time as well as the continuities between normality and psychopathology (Sroufe & Rutter, 1984). Clearly, the assessment of psychopathology is a complex endeavor.

This discussion leads us to the definition and description of assessment. Clinical psychologists are continually engaged in informal assessments of people and situations, using information from observations, verbal exchanges and interactions from the intake interview and treatment sessions, and data from available records to produce ongoing revisions of their formulations. In contrast, a formal psychological assessment is structured, focused, and directed toward a specific purpose. It typically includes both oral communication of findings (e.g., to the client, to a treatment team or a referral source) and a written professional report (Horn, Mihura, & Meyer, 2013). It involves psychological testing, that is, administering and scoring tests using standardized procedures, and generating interpretations with use of normative reference group data and standard interpretive guidelines informed by research findings. However, *psychological assessment* is a broader term than *psychological testing*. It refers to the process of incorporating and integrating multiple sources of information, often obtained through multiple methods of assessment; analyzing them in appropriate contexts; and developing a comprehensive understanding of the individual being assessed (Meyer et al., 2001).

Overall, psychological assessment typically involves a nomothetic approach, using normative data to determine the assessee's standing in terms of deviation from the population norm, as well as an idiographic approach whose ultimate aim is to develop an individualized description that enables recommendations tailored to the patient's specific concerns. It is an intricate process requiring considerable skill and knowledge in testing and psychometrics, human development and psychopathology, and clinical acumen. Our coverage of psychopathology assessment in this chapter assumes inclusion of psychological testing.

## PRINCIPLES AND APPLICATIONS

Effective psychopathology assessment work adheres to a set of guiding principles, which we review in this section. Principles encompass the phases and steps in an assessment, the contextual factors that must be considered, the importance of using multiple methods of assessment to sample distinct domains of functioning, and the value of using collaborative and therapeutic assessment methods. We follow this with an overview of two major applications of psychopathology assessment: guiding treatment and evaluating outcomes, and assessing ethnically diverse populations.

### Phases and Steps

Psychological assessment of psychopathology is a systematic approach to achieve a clear conceptualization of an individual's distress and disorder. One method of systematizing the process is to envision it in terms of steps or phases (e.g., Groth-Marnat, 2009).

Typically, an initial step is to examine the referral question to determine what is to be evaluated. During this phase, the psychologist may need to seek clarification from the referral source to ensure that he or she understands the specific questions raised and to refine and amplify them if needed.

This clarification would enable the psychologist to identify the psychological constructs to be assessed, which guides the selection of tests and methods that would supplement the clinical interview.

A second step or phase involves data gathering from patient interview, review of records, and other collateral information, which also help the assessor choose the tests and methods suitable to the questions at hand. In this regard, we should note that the fixed-battery approach is largely a thing of the past; the current standard in assessment practice is to select tests tailored to the particulars of the case and the referral question.

A third step consists of conducting standardized testing, scoring and interpreting the findings, followed by integration of the findings with other sources of information. The final stage consists of communicating the findings in oral and written form through a feedback session and assessment report. Ideally, the client's reactions to the feedback would be integrated into the final discussion and document.

## Contextual Considerations

There are several factors to consider in the selection and use of assessment methods (Horn et al., 2013). Among these is the psychologist's examination of client-, assessor-, and situation-specific factors that could bias the results. These factors might include (a) the client's reading level, primary language, mental status at the time of the evaluation, and any disabling conditions that interfere with standardized testing; (b) the assessor's familiarity and skill in administering, scoring, and interpreting the test or tests and the quality of his or her clinical judgment; (c) the nature of the initial interactions between assessor and client; and (d) characteristics of the testing environment (e.g., distractions) that could affect test scores and their interpretation. Another set of issues concerns standardization, both in terms of the assessor's adherence to the standardized testing method and the relevance of reference sample data to the client on the basis of his or her demographic characteristics. Additional considerations relate to the evidence for the reliability and validity of the obtained test scores, with the recognition that they are context dependent and with the goal of minimizing the operation of random errors. Test score reliability and validity are discussed at length in Chapter 3 of this volume and are therefore not repeated here.

Psychological assessors encounter some unique factors in assessing children and adolescents, starting with the recognition that they do not self-refer for assessment and may not even be aware of why they are being evaluated. Young children may feel anxious in the testing room without a parent present or feel reluctant to talk with a stranger. Young children's verbal reports may also prove unreliable for a number of reasons and require verification from other sources. Older children and adolescents may experience the testing tasks as analogous to classwork, which may produce concern about the "correctness" of their responses or resistance to school-like tasks. These matters may be further complicated when the child or adolescent is from an ethnic minority background, has a primary language that is not English, or may have had negative experiences with authority figures. Overall, special effort should be put into establishing rapport with children and adolescents to achieve an accurate assessment of their psychopathology (S. R. Smith & Handler, 2007).

## Integrative, Multimethod Assessment

A comprehensive evaluation of psychopathology is typically best attained through the use of multiple methods of assessment. In most assessments, the method of obtaining data represents an important source of variance. When properly conceptualized, this variance—and disagreements between data sources—can help provide a fuller and more accurate clinical picture; if ignored, it can lead to confusion as a result of seeming inconsistencies between data sources.

It is common practice to conduct a clinical interview with the patient before testing to discuss presenting concerns in historical and current life contexts and develop a preliminary diagnostic impression. In child assessments, the interview is usually conducted with the parents as primary informants. Interviews, when unstructured or semistructured, have greater flexibility than standardized tests and provide information in the person's own words.

Careful behavioral observations of the person can provide some degree of confirmation or refutation of the expressed concerns. For example, the psychologist might observe that the adult patient displays visible anxiety, pressured speech, or emotional lability that lends support to his or her stated difficulties in daily life; the adolescent might appear angry, sullen, or uncommunicative, analogous to the reported behavioral resistance toward his or her parents and other authority figures; the child may show restlessness and inability to stay on task, providing a glimpse into his or her difficulties in the classroom.

In selecting tests to administer, a combination of self-report inventories and performance-based tasks is fruitful because each method presents a different kind of information. The research literature has shown that there is limited convergence between similar constructs measured by different tests and methods, between the ratings of different informants (e.g., parent, spouse, teacher, clinician, self), and between observed behavior and performance on tasks. It is therefore apparent that any single assessment method provides only a partial representation of the assessed domain (Meyer et al., 2001). Conducting child and adolescent behavior assessments entails ascertaining multiple targets for change, ranging from overt behaviors to internal thoughts and affective reactions; thus, a wide range of methods including clinical interviews, behavioral observations, self- and other reports, standardized tests, and self-monitoring techniques are valuable (Ollendick & Hersen, 1993).

A multimethod assessment approach capitalizes on the strengths of each assessment method, adjusts for its limitations, and prevents the derivation of faulty conclusions (Meyer et al., 2001). Interview and observational data provide unique information that may not be accessible through standardized testing, but they are susceptible to clinician bias and to limitations associated with what is reported and exhibited by the patient. Standardized tests produce scores with known reliability, validity, and error variance. However, self-report and observer-report assessment methods largely generate information that is within the reporter's conscious awareness and dependent on his or her level of introspection, insight, and openness to reporting problems. Performance-based measures assess what the person generates in response to a structured task, which can be influenced by degree of self-assuredness versus cautiousness in tackling an unfamiliar task and level of energy versus fatigue. Assessors using the Minnesota Multiphasic Personality Inventory—2 (MMPI–2) and Rorschach, for example, have often found stronger indicators of a given type of disturbance through one than the other. Such discrepancies might indicate a cry for help when the patient's MMPI–2 profile demonstrates greater problems than seen in the Rorschach results, or significant underlying difficulties out of the person's awareness when the Rorschach shows greater disturbance than the MMPI–2 results (Finn, 1996a).

An integrated approach to psychopathology assessment involves several distinguishing characteristics: (a) integration of multiple data points obtained from a given test, with appropriate reconciliations of the data; (b) integration of information across tests and methods "to consider questions, symptoms, dynamics, and behaviors from multiple perspectives—simply because everything does not fit together in a neat and uncomplicated package" (Meyer et al., 2001, p. 150); and (c) integration of paradigms of assessment, such as personological and empirical paradigms, to achieve a multidimensional view of personality and psychopathology (Bram & Peebles, 2014; Flanagan & Esquivel, 2006). Ultimately, the various sources of information need to be understood in appropriate normative, developmental, sociocultural, and life history contexts.

## Collaborative, Therapeutic Assessment

Current assessment practices have come a long way from the days when the expert assessor "subjected" the patient to testing, provided no feedback or discussion of results with the patient, and made unilateral treatment and dispositional decisions on the basis of the findings. An important development in the progression to current methods is the collaborative, individualized assessment method, originated by Fischer in the 1970s and formalized over the ensuing decades. In this approach, the assessment is individualized through collaboration between assessor and assessee, who "colabor" to achieve a productive understanding of that individual

(Fischer, 2000, p. 3). The assessment extends beyond addressing diagnostic or classification questions into an exploration of the assessee's life–world; tests and scores serve as bridges into his or her life. This approach is essentially humanistic in enabling the person to understand and come to grips with his or her psychopathology.

Another significant development has been Finn's (1996b) paradigm for using personality assessment as a therapeutic intervention and his subsequent development of a formal therapeutic assessment model. In this approach, assessor and assessee jointly frame questions that will be addressed through the testing, which promotes patients' engagement and investment in the assessment process. The assessment is designed to be transformative, with the goal of cocreating new understandings and generating experiences through the assessment to enable clients to initiate changes in their lives. The assessor crafts the feedback and delivers it empathically in a series of levels, moving from information familiar to the client to novel and discrepant information that gives him or her food for thought and potentially initiates change from the status quo (the levels are discussed in Chapter 5, this volume). Empirical studies have demonstrated that this feedback approach benefits patients in terms of decreasing symptomatic distress, increasing self-esteem, enhancing self-awareness, engendering hope about managing their problems, strengthening the therapeutic alliance, and fostering motivation to participate in mental health services (Krishnamurthy, Finn, & Aschieri, 2016).

Collaborative and therapeutic assessment approaches have bridged the artificial gap between the assessment and treatment of psychopathology and made it evident that all clinical services are inherently therapeutic. There is now a sizable empirical literature attesting to the utility of therapeutic assessment and feedback with adult patients, child and adolescent patients, couples, and families (Krishnamurthy et al., 2016). Meta-analytic findings based on 17 published studies involving 1,496 participants have shown robust, clinically meaningful effects of psychological assessment applied as a therapeutic intervention (Poston & Hanson, 2010). These findings clearly pave the way for future directions in therapeutic-oriented assessment of psychopathology, and they reacquaint clinical psychologists with the core values of their profession.

## Applications

**Treatment planning and implementation.** More than 50 years ago, Klopfer (1964) famously asserted that psychotherapy without assessment is like the blind leading the blind, arguing that clinical psychologists' failure to use the assessment tools available to them is tantamount to substandard and even unethical professional work. In fact, a major application of psychological assessment is to aid in treatment planning and implementation. Current demands for accountability and efficiency in health care delivery require psychologists to justify their methods and demonstrate treatment effectiveness, which can be achieved through use of standardized assessments to match patients to suitable treatments (Fisher, Beutler, & Williams, 1999).

The traditional use of psychological assessment has been at the point of entry into clinical services to assist in screening for psychopathology, differential diagnosis, and recommending a type of intervention. At the beginning of treatment, psychological assessment aids the clinician in determining treatment priorities and developing directions for addressing them (Maruish, 1999). In fact, treatment response is often influenced by psychological traits not considered among diagnostic criteria, and the focus of many treatment plans may actually need to be on personality traits or personal attributes (e.g., reactance level, patient preferences, cultural considerations, stages of change) rather than problematic overt symptoms (Meyer et al., 1998; Norcross, 2011). The use of psychological assessment for treatment planning enables (a) accurate problem identification, especially in cases in which patients are unable or reluctant to articulate the nature of their difficulties; (b) problem clarification, that is, elucidating the severity and complexity of experienced problems and the extent to which they interfere with daily functioning; (c) identification of important patient characteristics that may facilitate treatment (e.g., interpersonal warmth, social support) or hinder it (e.g., internalized

anger, pessimism); and (d) monitoring of progress, achieved through repeated assessment during the course of treatment (Maruish, 1999).

The use of psychological assessment in making treatment decisions is exemplified in Beutler and Clarkin's (2014) systematic treatment selection model. This system identifies core levels of information pertinent to treatment planning: patient predisposing factors, treatment-related contextual factors, therapist–patient relationship qualities, and fit of patient and therapy. Identification of patient predisposing factors is the domain in which formal psychological assessment can have the greatest utility. It includes assessment of (a) problem characteristics inclusive of symptoms, level of functional impairment, and chronicity and complexity of presenting problems; (b) the personality traits of coping style and reactance level; and (c) levels of current and past social support. The system has been updated, empirically tested, and supported with an assessment procedure based on clinician ratings (Beutler et al., 2011).

Another important application of assessment is in evaluating treatment outcomes. Outcome assessment serves to provide a standardized index of the amount of improvement achieved at treatment termination and possibly at later follow-up or, conversely, to suggest the need for continuation of treatment (Maruish, 1999). Psychological assessment can also potentially contribute to beneficial treatment outcomes. For example, there is empirical support for the "manipulated use of assessment information" (Nelson-Gray, 2003, p. 526), involving matching of treatment to assessed problems, in the treatment of unipolar depression, interpersonal problems, and phobic disorders.

There is now considerable evidence for the utility of psychological assessment in predicting a broad range of health and medical outcomes. For example, baseline assessments of personality characteristics and negative emotional states predict subsequent heart disease, ulcers, headaches, decreased immune functioning, recurrence of medical conditions, rate of recovery, subsequent utilization of medical services, compliance with medication regimens, and frequency of rehospitalization. In terms of mental health outcomes, empirical studies have shown baseline assessments of problematic personality and emotional–behavioral features to predict long-term clinical outcome of depression, negative life outcomes, and rehospitalization rates among adult patients and subsequent disciplinary problems among children (Kubiszyn et al., 2000). These findings should promote greater application of formal psychological assessment in the health care delivery system in the years ahead.

**Use with diverse ethnic groups.** The increased ethnic and cultural diversity of the U.S. population in recent decades has produced two inevitable effects on the psychological assessment of psychopathology. First, more than ever before, psychologists are called on to assess individuals of various cultural backgrounds, including Hispanic Americans, African Americans, and Asian Americans as well recent arrivals from a multitude of countries who have not acculturated to the American way of life. Second, questions will continue to be raised about the suitability of commonly used psychological tests and test score norms for these diverse groups. The latter have spurred several empirical investigations. We review a few noteworthy studies here in the interest of economy. Among the most widely used personality tests, evidence has supported the suitability of the MMPI–2 and the Rorschach for assessing ethnic minorities. A meta-analytic review of 25 MMPI and MMPI–2 studies comparing scores of African Americans, Latino Americans, and European Americans concluded that these tests do not unfairly portray ethnic minorities in a pathological light (Hall, Bansal, & Lopez, 1999). An investigation of ethnic differences in MMPI–2 scores among African American and Caucasian psychiatric inpatients found that although a few scales showed evidence of test bias (slope or intercept bias), it was predominantly in the direction of underprediction rather than overprediction of psychopathology in African Americans and was associated with small effect sizes. These findings suggested the absence of consistent bias that would result in clinically significant errors in MMPI–2 assessments of African American patients with severe psychopathology (Arbisi, Ben-Porath, & McNulty, 2002).

With regard to the Rorschach, research examining differences in scores between demographically

matched samples of African Americans and Caucasian Americans derived from the test's normative sample showed only three significant differences among 23 Rorschach variables examined, none of which reached the level of clinical significance (Presley et al., 2001). These results demonstrated that race alone was not a significant determinant of personality as assessed by the Rorschach and provided support for the test's clinical use with African Americans. Another comprehensive study investigated ethnic bias in Rorschach Comprehensive System variables in a large sample consisting of European American and African American patients and smaller numbers of Hispanic American, Asian American, and Native American patients. Results showed no significant findings for simple associations between 188 scores and ethnicity, no evidence of differential validity or slope bias in convergent validity analyses, and no evidence of ethnic bias in the test's internal structure. The limited finding of intercept bias for four variables was in the direction of favoring ethnic minorities over European Americans in the prediction of psychotic disorders. These findings provided support for the use of the Rorschach Comprehensive System across ethnic groups (Meyer, 2002). Similarly, adults from 17 countries produced very similar scores across all commonly interpreted variables, which supported the formation of a common set of international norms for the Comprehensive System (Meyer, Erdberg, & Shaffer, 2007). More recently, these findings have been extended to variables in the Rorschach Performance Assessment System (Meyer et al., 2011), which showed no reliable associations with ethnicity across three clinical and nonclinical samples of adults and youths (Meyer, Giromini, et al., 2015).

A large body of research is now available on the application of widely used tests of personality and psychopathology with non-Caucasians in the United States, as well as on linguistic adaptations and renorming efforts for use of these tests in other countries. This literature addresses use of adult and child–adolescent measures and self-report and performance-based or constructive methods in a variety of mental health settings. In identifying components that are universal versus culture specific, these studies provide directions for culturally sensitive assessment of psychopathology.

## MAJOR TESTS AND METHODS

In this section we review the major instruments used in psychopathology assessment. However, before doing so we delineate the qualities that make assessment methods differ and review the extent to which distinct methods of assessment typically provide unique information that is independent of the information obtained by other methods.

### Types of Assessment Methods

The primary methods used to obtain assessment data are clinical interviews (structured, semistructured, and unstructured), self-report inventories, observer-report inventories, behavioral observations, and performance-based tasks of maximal or typical performance. Self-report and observer-report assessment methods convey what the reporter is consciously aware of and willing to share. Whether the information is stated to an interviewer or indicated on an inventory, self- and observer reports rely on the retrieval of information from memory stores, accurate comparison of the target with other people in general, and accurate communication of that information from the reporter to the interviewer or on the inventory.

Instead of assessing what the client thinks about or is willing to say about himself or herself, performance-based measures (e.g., Wechsler tests, Rorschach Inkblot Test) assess what the person does behaviorally when provided with a structured problem-solving task. A benefit of standardized performance measures is that they provide the psychologist with information about various psychological characteristics independent of the subjective perception of the clinician, an observer, or the client him- or herself. Performance-based tasks can be differentiated into those of maximal performance, which assess what a person can do and have clear task demands, a correct solution, and instructions for optimal performance, and those of typical performance, which assess what a person will do and lack clear task demands, do not have correct solutions or answers, and provide limited instruction about what is expected performance.

The behavioral observations made by the clinician during the interview and testing can also be quite informative, although the clinician needs to remain mindful of limits to the generalizability of interview and testing situations, including the impact of his or her professional role and interpersonal style in affecting the behaviors observed. Finally, case records taken from intake reports, psychotherapy notes, nursing and psychiatric notes, hospitalization reports, and so forth can provide valuable historical information and a broad sample of behavior (e.g., behavioral observations, family-member-reported concerns, self-reported symptoms, historical diagnoses and medications). However, an important limitation of these records is that the psychologist who obtains this material is not necessarily in a position to evaluate its accuracy, the conditions under which it was obtained, or its completeness with respect to the client's past treatment history.

## Convergence Between Assessment Methods

Typically, when assessing a similar construct or symptom across different assessment methods, psychologists discover that the convergence across methods is substantially lower than the convergence within a single method. For instance, the correspondence between self-reported intelligence and performance-based assessment of intelligence is much lower than the correspondence between two self-report scales of intelligence or two performance tests of intelligence. Reviews of the literature examining the validity of psychological and medical assessment methods have found that the middle range of these cross-method validity effect sizes ($r$) in psychology was .21 to .33 (Hemphill, 2003; Meyer et al., 2001). They found generally low to moderate agreement between tests that assessed the same or similar constructs but that did so by making use of distinct methods. For example, correlations were moderate between self-rated and parent-rated personality characteristics ($r = .33$) and between self-rated and peer-rated personality and mood ($r = .27$), but lower when comparing self-report and performance tests of attention ($r = .06$) or memory ($r = .13$).

The relatively low convergence across assessment methods is not a problem specific to clinical psychology. For decades, experimental psychology researchers have recognized that different methods result in different types of psychological data, and they do not expect self-reported attributes to show strong convergence with externally assessed attributes of the same or similar constructs (e.g., Dunning, Heath, & Suls, 2004; Wilson & Dunn, 2004). This suggests that psychologists can run into a problem when they rely solely on self-reported information to assess behavior. Many researchers have found that personality attributes that are externally assessed (e.g., with observer ratings, behavioral counts, some Rorschach scales) show significantly stronger levels of convergence with each other than they do with self-report methods (e.g., Mihura et al., 2013).

Psychologists can benefit from the uniquely different types of information provided by different assessment methods. Although it may be less expensive at the outset, a psychologist using a single method (e.g., interview) to obtain information from a patient will achieve an incomplete or biased understanding of that person. To the extent that such impressions guide diagnostic and treatment decisions, patients may be misunderstood, mischaracterized, misdiagnosed, and less than optimally treated (Meyer et al., 2001).

In the next parts of this section, we review some of the most common measures used for psychopathology assessment, organized by the client's age (adult vs. child and adolescent), scope of constructs assessed by the instruments, and assessment method, including self-report and observer-report inventories, performance-based tests, interviews, and constructive or expressive measures. The purpose of these sections is to provide a broad overview. Further information about the individual methods or instruments can be found in Chapter 5 of this volume or the cited test manuals. Table 6.1 summarizes the major tests and methods used in assessing psychopathology, as discussed in this section.

## Adult Self-Report and Performance-Based Measures

Adult psychopathology can manifest in many forms, although the basic structure (e.g., Markon, 2010;

TABLE 6.1

**Frequently Used Psychological Tests for Assessing Psychopathology**

| Type of measure | Adult | Child and adolescent |
|---|---|---|
| Self-report or parent report—personality and behavioral | Minnesota Multiphasic Personality Inventory—2 and Minnesota Multiphasic Personality Inventory—2—Restructured Form<br>Personality Assessment Inventory<br>Millon Clinical Multiaxial Inventory, Third Edition<br>NEO Personality Inventory—3<br>NEO Five-Factor Inventory<br>Inventory of Interpersonal Problems<br>Trauma Symptom Inventory, Second Edition<br>Beck Depression Inventory<br>Beck Anxiety Inventory<br>Beck Hopelessness Scale<br>State–Trait Anger Expression Inventory—2 | Minnesota Multiphasic Personality Inventory—Adolescent and Minnesota Multiphasic Personality Inventory—2—Restructured Form<br>Personality Assessment Inventory—Adolescent<br>Millon Adolescent Clinical Inventory<br>Personality Inventory for Children, Second Edition<br>Achenbach System of Empirically Based Assessment<br>Behavioral Assessment System for Children, Second Edition<br>Children's Depression Inventory 2<br>Reynolds Adolescent Depression Scale<br>Suicidal Ideation Questionnaire<br>State–Trait Anger Expression Inventory—2 Child and Adolescent |
| Performance based | Rorschach<br>Thematic Apperception Test | Rorschach<br>Children's Apperception Test<br>Roberts Apperception Test for Children<br>Tell-Me-a-Story Test |
| Structured or semistructured interview | Mini International Neuropsychiatric Interview<br>Structured Clinical Interview for DSM–IV Axis I<br>Structured Clinical Interview for DSM–IV Axis II | Mini International Neuropsychiatric Interview for Children and Adolescents<br>Structured Clinical Interview for DSM–IV, Childhood Diagnoses |
| Other and constructive | Rotter Incomplete Sentences Blank—Adult/College<br>Draw-a-Person Test | Rotter Incomplete Sentences Blank—High School<br>House–Tree–Person Test<br>Kinetic Family Drawing Test |

Røysamb et al., 2011) consists of externalizing problems (drug or alcohol, antisocial, emotional lability, impulsiveness, attention seeking, narcissism), internalizing problems (anxiety, depression, fears and phobia, obsessions and compulsions), thought disorder (paranoia, aberrant experiences, hallucinations), and introversive or relational problems (withdrawal, dependence, unassertiveness).

Common referral questions in both inpatient and outpatient settings entail clarifying a patient's diagnostic or symptomatic picture, as well as recommendations for treatment planning. It is not uncommon to also assess self-referred individuals wondering about various conditions they may have heard of or learned about, such as attention deficit disorder or learning disability. Indeed, among clinical psychologists who practice assessment, the most common referral questions concern personality and psychopathology (93%) or intellectual and academic achievement difficulties (88%), and these same issues are also quite commonly assessed by practicing neuropsychologists (both at 79%; Camara, Nathan, & Puente, 2000). The assessment of neuropsychological disorders, including attention deficit disorder or learning disability, is addressed in Chapter 7 of this volume.

The range of assessment measures for psychopathology assessment of adults include self-report

questionnaires that may encompass multiple scales or assess a single focal dimension, performance tasks that involve having the patient generate responses to semistructured stimuli under standardized conditions, or interview-based measures that may assess multiple domains or a single focal area of functioning or diagnostic symptomatology. In practice, rating scales completed by a significant other are less commonly used because receiving input from individuals other than the patient him- or herself can be difficult and time consuming, although they can often add valuable information to complement other sources of data.

The most recent comprehensive survey of the psychological tests used by clinical psychologists documented how the tests used most often in practice have remained fairly consistent over time (Camara et al., 2000). This finding is also generally borne out when considering more specific domains of practice such as adult forensic assessments (Archer et al., 2006) or neuropsychological assessment (Rabin, Barr, & Burton, 2005) and also with respect to what is taught in most doctoral training programs (Childs & Eyde, 2002).

The most commonly used measures of psychopathology assessment are the MMPI–2 and, more recently, the Personality Assessment Inventory and Millon Clinical Multiaxial Inventory (MCMI–III) as self-report measures, and the Rorschach and Thematic Apperception Test (Murray, 1943) as performance-based tasks that assess typical performance (as opposed to performance-based tasks that assess maximal performance, such as is found with intelligence tests). A number of symptom measures are also often used in adult psychopathology assessments, such as the self-report Beck Depression Inventory (A. T. Beck, Steer, & Brown, 1996) and Beck Anxiety Inventory (A. T. Beck & Steer, 1993). These brief symptom-focused tests are also used by therapists to assess treatment progress or outcome.

Our overview of adult psychopathology measures covers these and other well-known measures. The presentation starts with multidimensional measures and moves to single-construct scales. Within each type of measure, we start with self-report inventories before moving to performance-based tasks.

**Minnesota Multiphasic Personality Inventory—2 and Minnesota Multiphasic Personality Inventory—2—Restructured Form.** The MMPI–2 (Butcher et al., 2001) and its restructured form (MMPI–2–RF; Ben-Porath & Tellegen, 2011) are the most commonly used measures of self-report psychopathology. Both are broad-band, multiscale inventories designed for assessing personality and psychopathology in adults.

The MMPI–2 is a 567-item self-report inventory with items answered using a true-or-false format that takes about 90 minutes to complete. It reflects a revision of the original inventory that was developed in the 1930s and 1940s by Starke Hathaway, a psychologist, and J. Charnley McKinley, a neurologist. Their goal was to develop an inventory that would be helpful for diagnostic assessments, and so they focused on a broad range of symptoms. Early on, they decided to develop scales using an empirical keying or criterion keying approach. Empirical keying selects items for a scale on the basis of criterion-related validity data, that is, empirical evidence that the item differentiates people in a target group (e.g., those with depression) from those in a control group, even if the item does not seem linked to the condition on the basis of theory.

The revision to the MMPI, the MMPI–2, retained the eight scales that had been constructed using this method. They were supplemented with many others developed using a traditional approach of generating items on the basis of logical criteria, refined by factor analysis and empirical evidence on the extent to which each item makes a contribution to the overall scale. The MMPI–2 contains a total of nine validity scales that assess inconsistent responding and biased responding (overly favorable presentation or overly pathological presentation) and as many as 112 other scales that assess syndromes, symptoms, or general personality characteristics. The latter include 10 basic Clinical Scales that are tied to the original MMPI, although the original names for these scales (Hypochondriasis, Depression, Hysteria, Psychopathic Deviate, Masculinity/Femininity, Paranoia, Psychasthenia, Schizophrenia, Hypomania, and Social Introversion) have been deemphasized in recognition of the fact that they do not always fully encompass the constructs assessed by each scale.

The Clinical Scales are interpreted on their own and also in conjunction with each other as code type patterns, in which the combination of scales that are elevated provides a more specific and tailored set of inferences about the client. In addition, interpretation for seven of the 10 Clinical Scales can be further enhanced by considering their more homogeneous subscales.

The MMPI–2 now has a set of Restructured Clinical Scales that are refined versions of the originals. One consequence of using a criterion keying approach to developing the Clinical Scales was that the various clinical samples who were contrasted with nonpatients shared a common experience of troubled or disquieting affect that was a consequence of being a patient, rather than a consequence of having a specific condition or disorder. In the Restructured Clinical Scales, this common core of Demoralization is isolated into a single scale and it is differentiated from the core dimension assessed by the other eight Restructured Clinical Scales, which include Somatic Complaints, Low Positive Emotions, Cynicism, Antisocial Behavior, Ideas of Persecution, Dysfunctional Negative Emotions, Aberrant Experiences, and Hypomanic Activation. In addition, the MMPI–2 provides 15 Content Scales that cover domains such as Anxiety, Fears, Anger, Bizarre Mentation, and Family Problems, as well as a range of Supplementary Scales that assess domains such as Social Responsibility, Addiction Admission, Post-Traumatic Stress Disorder, Ego Strength, and Dominance. Typical MMPI–2 output also provides a list of Critical Items and how they were endorsed by the client, organized into content domains assessing features such as Mental Confusion, Depressed and Suicidal Ideation, and Threatened Assault.

The MMPI–2–RF is a shortened (338 items) and substantially restructured version of the MMPI–2 that takes about 40 to 50 minutes to complete. It builds on the work that was done to develop the Restructured Clinical Scales mentioned above but extends the restructuring to encompass the hierarchical structure of the entire inventory. The MMPI–2–RF has a total of nine validity scales that assess inconsistent and biased responding, like the MMPI–2 (overly favorable presentation or overly pathological presentation), and 42 clinically oriented scales that assess a range of symptomatic problems. Paralleling the structure of psychopathology, the MMPI–2–RF assesses three higher level domains of difficulty: Emotional/Internalizing Dysfunction (e.g., Demoralization, Suicidal/Death Ideation, Anxiety), Thought Dysfunction (e.g., Ideas of Persecution, Aberrant Experiences), and Behavioral/Externalizing Dysfunction (e.g., Antisocial Behavior, Hypomanic Activation). In addition, it has scales assessing somatic and cognitive difficulties, interpersonal difficulties, and general interests.

Both the MMPI–2 and MMPI–2–RF can be used for clinical screenings and as part of a larger assessment battery. The MMPI–2 and MMPI–2–RF can be administered by computer or by using an item booklet with an answer sheet. Although there are hand-scoring forms available for these tests, computer scoring software is almost always used because hand scoring is a time-consuming, complex process that can result in errors.

Both the MMPI–2 and MMPI–2–RF used the same normative sample to determine typical or average scores on each scale. This sample consisted of 2,600 adults ages 18 to 89 from seven U.S. states. The sample was better educated and had higher-level occupations than the country as a whole, although this had relatively little impact on the normative scores (Greene, 2011). Both inventories provide interpretive reports for general clinical settings or ones that are tailored to specific assessment contexts (e.g., forensic, personnel selection; Graham, 2012).

Evidence of MMPI–2 and MMPI–2–RF test score reliability and validity is provided in the test manuals and in numerous research articles published in journals. A list of citations for the MMPI–2–RF is regularly updated and available on the test publisher's web page (http://www.upress.umn.edu/test-division/MMPI-2-RF/mmpi-2-rf-references). Interpretive guides are available in several scholarly texts (e.g., Ben-Porath, 2012; Butcher, 2006; Friedman et al., 2015), including one focused solely on how to provide therapeutic test feedback (Levak et al., 2011).

**Personality Assessment Inventory.** The Personality Assessment Inventory (PAI; Morey,

1991) is a 344-item self-report inventory with items designed to be readily understood (4th-grade reading level) and rated using dimensional response options on a 4-point Likert scale (*totally false, slightly true, mainly true*, and *very true*). It is a broadband measure of personality and psychopathology that takes about an hour to complete and can be used as part of a full assessment or as a screening measure. It has 22 primary scales, which are based on nonoverlapping items: four that address the validity of responses (e.g., Inconsistency, Negative Impression Management), 11 that address a range of clinical syndromes (e.g., Somatic Complaints, Depression, Borderline Features), five that address treatment considerations (e.g., Suicidal Ideation, Nonsupport), and two that address the interpersonal dimensions of Dominance and Warmth. It also contains numerous subscales to facilitate interpretation and critical items addressing rare symptoms that, when endorsed, typically require clinical follow-up. A 22-item screening version of the PAI is also available for brief assessment of 10 clinical areas.

The PAI can be administered via computer or by item booklet and answer sheet, and both hand and computer scoring are available. Although hand scoring is easy, computer scoring provides many more options for comparing the client with various reference samples, to generate an expected profile on the basis of validity scale elevations, or to evaluate the extent to which the profile matches known profile configurations for different diagnostic groups. Normative data include a primary sample of 1,000 census-matched adults as well as a large mixed sample of inpatients and outpatients and a large college student sample. Results are profiled as *T* scores relative to the census-matched sample. A unique feature of the PAI profile is that it includes a secondary indication of what would be an unusual elevation on the basis of data from the reference sample of clinical patients. Extensive reliability and validity data are available in the literature, much of which is summarized in the revised edition of the test manual (Morey, 2007b), which also includes interpretive guidelines. Additional resources include a casebook (Morey & Hopwood, 2007) and a broad overview of its applications in various settings (Blais, Baity, & Hopwood, 2010).

**Millon Clinical Multiaxial Inventory, Third Edition.** The third edition of the MCMI (MCMI–III; Millon, Millon, et al., 2009) is a 175-item self-report questionnaire that assesses 14 personality disorders as well as 10 major psychiatric syndromes such as anxiety, mania, thought disorder, and drug and alcohol problems. The inventory was developed on the basis of Millon's (1995, 2011) theory of personality and personality disorders, which closely parallels the disorders included in *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* (*DSM–IV*; American Psychiatric Association, 1994) and the *DSM–5*, although it assesses four disorders that are not formally part of the *DSM–5* (depressive, aggressive/sadistic, negativistic, and masochistic). The inventory uses a true–false response format, has items written at a fifth-grade reading level, and takes about a half hour to complete. Recently, 42 homogeneous facet scales were developed for the MCMI–III to facilitate interpretation, with three facet scales available for each of the 14 personality disorder scales.

Unlike most other inventories, three of the MCMI–III's five validity scales for assessing test-taking response styles are considered modifying indices, and their degree of elevation or suppression is used to adjust scores on the test. Also unlike most other inventories, the MCMI–III uses a weighting scheme to generate scale scores, whereby items that are most prototypical for a given disorder are assigned a higher weight than those that are relevant but less central. Finally, a unique feature of the MCMI–III is that it is designed for use with patients evaluated in inpatient or outpatient mental health settings, and it is not designed for use with nonpatients. This is because scale development occurred in a clinical sample of 752 adults seeking treatment in inpatient or outpatient settings.

Each MCMI–III scale is transformed from a raw score to what is called a base-rate (BR) score for which elevations are keyed to the prevalence of the scale's disorder in the normative clinical sample. More specifically, for each scale (e.g., Borderline Personality Disorder), a BR score of 85 is designed to indicate the disorder is present and diagnosable, and the proportion of people obtaining a BR score of 85 or higher is designed to be the same as the proportion

of people with the disorder in the normative clinical sample. BR scores between 75 and 84 are designed to indicate a person has traits associated with the disorder but is below the threshold for meeting full criteria, and BR scores of 60 are keyed to the median score in the clinical normative sample. Hand scoring is possible but complicated, and computerized scoring is recommended. Evidence for reliability and validity is presented in the test manual, which also provides interpretive guidelines. Users have the option to obtain computer-generated clinical interpretations as well. Reviews of research and interpretive guidelines are also available in other resources (Choca, 2004; Jankowski, 2002; Strack, 2008). The MCMI–III is also available in a Spanish-language version. The fourth edition of the MCMI (MCMI–IV; Millon, Grossman, & Millon, 2015) was published in 2015. While retaining core features of the MCMI–III, the MCMI–IV contains several revisions. The changes include a normative update, new and revised items, relabeled scales, and a new turbulent personality scale. The test's scales are updated to align with DSM–5 and ICD–10 codes. Notably, MCMI–IV personality traits and disorders are now interpreted along a dimensional spectrum of normal, abnormal, and clinical disorder. The MCMI–IV can only be scored via computer or web-scoring methods or mail-in scoring.

**Millon Behavioral Medicine Diagnostic.** The Millon Behavioral Medicine Diagnostic (Millon, Antoni, et al., 2001) is a 165-item self-report inventory that shares many features of the MCMI–III. However, rather than focusing on personality disorders, it assesses 11 personality-related coping styles (e.g., Inhibited, Oppositional), five psychiatric indicators that may have an impact on health care (e.g., Anxiety–Tension, Emotional Lability), six areas of negative health habits (e.g., Alcohol, Eating, Inactivity), six attitudes or resources that may moderate health care or responses to treatment (e.g., Future Pessimism, Pain Sensitivity, Spiritual Absence), and five scales that may contribute to treatment prognosis (e.g., Medication Abuse, Information Discomfort).

Psychologists can compare their client's scores with three sets of clinical reference norms: a general medical sample of 700 patients, a sample of 711 patients prescreened for bariatric surgery, and a sample of 1,200 patients in treatment for chronic pain. The test manual reports reliability (internal consistency and stability) and validity data for the primary scales, and users can obtain profile reports and interpretive narratives, including a supplement for nonpsychologist health care providers. Like the MCMI–III, the Millon Behavioral Medicine Diagnostic is also available in a Spanish language version.

**NEO Personality Inventory—3.** The third revision of the NEO Personality Inventory (NEO PI–3; McCrae & Costa, 2010) is a 240-item measure that assesses normal personality traits using a dimensional model in which both high and low scores are interpretable. The NEO PI–3 is widely considered the gold standard for assessing the five major dimensions of personality: Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness. Each of the five factors consists of six facet subcomponent scores. A shortened version of the test, the NEO Five-Factor Inventory–3, consists of 60 items.

In both inventories, items are endorsed on a dimensional Likert-type scale. In addition, each inventory comes in a self-rating format (Form S) or an observer-rating format (Form R). Scoring can be completed by hand or computer program, and norms are available for adolescents ages 12 to 20 years and adults ages 21 to 99 years. The test manual summarizes the vast amount of research that has been conducted on this version of the inventory, as well as on its predecessor, the revised NEO PI. With computer scoring, the test comes with several different kinds of report options, including the full results profiled and accompanied by an interpretive narrative for the assessing psychologist and a narrative summary for the test taker.

**Inventory of Interpersonal Problems—Short Circumplex.** Interpersonal dysfunction is a major area of psychological distress, and therefore several focal measures have been developed to assess problems in this domain. Among them is the Inventory of Interpersonal Problems—Short Circumplex (Soldz et al., 1995), a 32-item short form derived from the original Inventory of Interpersonal

Problems (Horowitz et al., 1988). Four items define each of the eight circumplex octants of the classic interpersonal circle: Domineering, Vindictive, Cold, Socially Avoidant, Nonassertive, Exploitable, Overly Nurturant, and Intrusive. Although a formal test manual is not available for the Inventory of Interpersonal Problems—Short Circumplex, clinical norms are provided in the original publication.

A brief interpersonal measure such as this one allows psychologists to quickly screen for various types of interpersonal problems and related distress. It can also be useful in understanding the extent to which a client's distress might result from interpersonal difficulties as opposed to intrapsychic factors. Furthermore, when interpersonal difficulties are causing a client to experience distress, the measure can be used to track treatment progress.

**Rorschach Inkblot Test.** Hermann Rorschach (1921/1942) first described his inkblot test more than 90 years ago and, on the basis of test use surveys, it remains one of the most frequently used measures of personality in clinical practice. Unlike the inventories described earlier in this section, the Rorschach is a performance-based task in which a person is presented with the standard series of 10 inkblots created by Rorschach and asked to answer the question "What might this be?" Rorschach experimented with and iteratively refined his inkblots over time with the apparent goal of both embedding a reasonably recognizable structure into each of the inkblots, which include the commonly reported conventional or popular response objects, and simultaneously embedding a textured array of suggestive "critical bits" that lend themselves to incomplete or imperfect perceptual likenesses and form-competing visual images available as potential responses to the task. The critical bits are based on the form, color, shading, and symmetrical features of the inkblots. They provide wide latitude for people to generate an almost unlimited number of unique and idiographic responses.

The test thus provides an in vivo sample of perceptual problem-solving behavior obtained under standardized conditions that includes a visual attribution of what the stimulus looks like, a set of verbal and nonverbal communications, and a range of behaviors as the respondent interacts with the cards and the examiner. These behaviors can be coded along many dimensions (e.g., perceptual fit, logical coherence, organizational efforts, thematic content). The popularity of the Rorschach in clinical settings despite recurrent psychometric challenges (e.g., Lilienfeld, Wood, & Garb, 2000) is likely due to its ability to provide a method of gathering information about an individual that cannot be obtained using other popular assessment methods (McGrath, 2008). Choca (2013) provided a recent clinical guide to using the Rorschach.

The Comprehensive System (CS) for the Rorschach was developed by Exner (1974) after compilation of the major elements of five previously used systems, and it provided a unified approach to using the Rorschach over the past few decades (Exner, 2003). Although the CS is no longer evolving subsequent to Exner's death in 2006, in response to research demonstrating limitations in Rorschach normative data, reliability, and validity, Meyer et al. (2011) developed the Rorschach Performance Assessment System (R-PAS) as a replacement for the CS. R-PAS uses an administration procedure to reduce variation in the number of responses obtained and focuses on variables that have the strongest empirical support in the research literature (Mihura et al., 2013) and the highest rated clinical utility (Meyer et al., 2013). It emphasizes the logical connection between the behaviors coded in the microcosm of the task and parallel behaviors inferred to be present in everyday life.

R-PAS relies on international reference data that provide a profile of percentile-based standard score transformations to facilitate interpretation. It also provides a mechanism to adjust scores to the overall level of complexity in a protocol. The shift in R-PAS to using international normative data corrects for difficulties in which existing CS norms made typical nonpatients look unhealthy on some variables (Meyer, Shaffer, et al., 2015).

Profiled scores are considered in five domains: Administration Behaviors and Observations, Engagement and Cognitive Processing, Perception and Thinking Problems, Stress and Distress, and Self and Other Representations. Profiled results are also differentiated by the level of support available

for the variables. The test manual provides a review of reliability and validity data, and an updated list of research support is available at the R-PAS website (http://www.r-pas.org/Articles.aspx). A large number of teaching and training resources are also available on the website (e.g., checklists and videos to learn administration, cases for practice coding, teaching PowerPoint slides). Both hand scoring and online computerized scoring are available, although the latter is recommended to minimize mistakes and take full advantage of normative adjustments for protocol complexity or youth age.

**Thematic Apperception Test.** The Thematic Apperception Test (TAT; Murray, 1943) was initially designed to measure drives or needs through the test taker's narrative delivered in response to a subset of the 31 semiambiguous picture cards, most of which have one or more person present in the picture. The test taker is asked to tell a story about what is happening in the picture, with a beginning, middle, and end, including what the people pictured are thinking and feeling.

Although various approaches to TAT administration and interpretation exist, typical administration entails selecting eight to 10 cards. The psychologist can either use a standard card set (e.g., Groth-Marnat, 2009) or personally select cards by considering the referral questions to be answered and the typical types of stories that are told in response to each card (i.e., the thematic "pull" for each picture). The psychologist has to have gained knowledge of card pull to both select appropriate cards and interpret TAT stories by comparing a patient's stories with those that are typically told and identify what is unique for this person. The TAT has a number of scoring systems (e.g., Jenkins, 2008), but they are not commonly used by clinicians; rather, an intuitive approach is used to identify recurring themes and their implications. Recent resources provide useful illustrations of drawing clinical inferences with the TAT (Bram & Peebles, 2014; Teglasi, 2010).

**Single-construct inventories.** The most commonly used single-construct scale in adult psychopathology assessment is the Beck Depression Inventory—II (A. T. Beck et al., 1996), a 21-item self-report measure of depressive symptoms keyed to major depressive disorder in the *DSM–IV*. Beck has also produced several other commonly used single-construct scales, including the 21-item Beck Anxiety Inventory (BAI; A. T. Beck & Steer, 1993) and the 20-item Beck Hopelessness Scale (A. T. Beck & Steer, 1988). The Beck Depression Inventory—II and Beck Anxiety Inventory are answered on a Likert-type scale, and the Beck Hopelessness Scale is answered in a true–false format. All three measures can be completed in approximately 10 minutes, are usually hand scored, have norms that extend up to age 80 years, and are available in a Spanish-language version. They each have good evidence for their reliability and validity as self-report scales.

Another commonly used focal measure is the Trauma Symptom Inventory, Second Edition (Briere, 2010), which assesses various consequences of trauma. It is a 136-item inventory with two validity scales, 12 clinical scales (e.g., Anxious Arousal, Intrusive Experiences), and four factor scales (e.g., Posttraumatic Stress, Self-Disturbance). It takes about 20 minutes to complete, has norms that extend to age 88 years, has good psychometric properties, and provides interpretive reports for clinicians.

Similar to the Trauma Symptom Inventory—2, the State–Trait Anger Expression Inventory—2 (Spielberger, 1999) assesses a focal area of symptomatology using multiple scales. It is a 57-item self-report measure with items endorsed on a 4-point Likert-type scale. These items combine to form a scale of momentary angry feelings (currently or at a time that is specified, e.g., in the face of interpersonal provocation), a scale of general dispositions to angry reactions (temperamentally or reactively), and four scales dealing with how anger is expressed (outward, suppressed inward) and controlled (inhibited outward expression, calming or cooling off to limit internal experiences). The State–Trait Anger Expression Inventory—2 has norms up to age 63 years, takes about 5 minutes to administer, is generally hand scored, and provides the option to generate an interpretive report.

## Child and Adolescent Assessment Measures

Child and adolescent psychopathology most commonly manifest in the form of behavioral

disturbances (conduct disorder, oppositional defiant disorder, substance use disorders) and mood disturbances (depression, anxiety, and bipolar disorders) depending on age, gender, and associated developmental factors. Eating disorders often have their onset during this developmental period, and major mental disorders may first be diagnosed in late adolescence. Several neurologically based disorders (e.g., attention deficit/hyperactivity disorder, learning disorders, autism spectrum disorder) are also frequently diagnosed among youths but are beyond the scope of this chapter.

Measures of child and adolescent functioning are typically intended for use in evaluations conducted in inpatient units, residential facilities, outpatient clinics, independent practices, and school settings in which questions about maladjustment might arise. They are also used in medical settings such as pediatric oncology units to assess for emotional disturbances secondary to medical treatments and in juvenile correctional facilities to evaluate psychological or behavioral risks, threats, and vulnerabilities as well as to inform referral to treatment and readiness for release. Questionnaires are completed either by the youth or his or her parent or legal guardian, depending on factors such as the client's age, reading level, and cognitive capacity, and they range from multifaceted inventories to single-domain measures. A variety of performance-based measures using semiambiguous images or pictorial stimuli are available for child and adolescent clinical assessment.

A test-use survey of practitioners identified the psychological tests most frequently used by clinical psychologists in assessing psychological disturbances in children and adolescents (Cashel, 2002). Results showed that the following psychopathology tests, in descending order, received total mentions by more than 50% of the responding psychologists: Child Behavior Checklist, Sentence Completion Test, Draw-A-Person Test, House–Tree–Person Technique, Children's Depression Inventory, Kinetic Family Drawing, Behavioral Assessment for Children (BASC), Rorschach Inkblot Test, TAT, MMPI—Adolescent (MMPI–A), and Beck Depression Inventory. The Personality Inventory for Children (PIC) and Roberts Apperception Test were used more frequently with children than with adolescents, whereas the Millon Adolescent Clinical Inventory (MACI) and Reynolds Adolescent Depression Scale were used more frequently with adolescents than with children. Our overview of child and adolescent psychopathology measures covers most of these widely used measures and is organized in order from multidimensional measures to single-construct scales.

**Minnesota Multiphasic Personality Inventory—Adolescent and Minnesota Multiphasic Personality Inventory—Adolescent—Restructured Form.** The MMPI–A (Butcher et al., 1992) is perhaps the most recognizable of adolescent personality measures as a result of its continuity with the MMPI. It is a broad-band self-report inventory designed for assessing personality and psychopathology in adolescents ages 14 to 18 years. It contains 478 true–false items and takes approximately 1 to 1.5 hours to complete. Adapted from the original MMPI, this measure contains seven Validity scales for detecting inconsistent and inaccurate responding, the original 10 Clinical scales of the MMPI with item revisions to render them suitable for this age group, and the original set of Harris-Lingoes and Social Introversion subscales of the Clinical scales. It also contains a set of 15 Content scales measuring specific disturbances such as anxiety, depression, health concerns, behavioral disturbances, thought disturbances, and low self-esteem, and six Supplementary scales to assess additional problem areas such as substance abuse. MMPI–A scales particularly created to address adolescent problems include School Problems, Conduct Problems, and Immaturity.

Subsequent developments included the publication of the Personality Psychopathology Five scales for the MMPI–A, a set of 31 Content Component scales, and a critical item list to augment interpretation of adolescent functioning based on the MMPI–A (Archer, 2005). MMPI–A norms are based on a national sample of 1,620 boys and girls in seventh through 12th grade, and a clinical sample of 420 boys and 293 girls recruited from treatment facilities was used to develop clinical interpretation guidelines.

Evidence of MMPI–A test score reliability and validity is provided in the test manual and in

numerous research articles. Interpretive guides are available in scholarly texts (e.g., Williams & Butcher, 2011) and consist of single-scale and 2-point code-type analyses. Other resources (e.g., Archer & Krishnamurthy, 2002) have discussed specific clinical applications in assessing adolescents with problems of juvenile delinquency, substance abuse, eating disorders, and sexual abuse, as well as use of the MMPI–A with ethnic minorities. Several translations of the MMPI–A are available, including separate Spanish versions for the United States and other Spanish-speaking countries as well as French, Italian, Dutch, Korean, Hungarian, Bulgarian, and Croatian translations.

Paralleling the recent restructuring effort undertaken with the MMPI–2 is the MMPI–A–RF (Archer et al., 2016). This version is intended to be shortened in length to aid its use with adolescents in treatment who often have difficulties with attention, concentration, and reading ability. It will have several similarities to the MMPI–2–RF but will contain measures relevant to adolescent maladjustment, including negative attitudes toward school and negative peer influences.

**Personality Assessment Inventory—Adolescent.** The PAI—Adolescent (Morey, 2007a) is a 264-item self-report measure designed for the clinical assessment of adolescents ages 12 to 18 years. PAI—Adolescent items reflect clinical constructs relevant to the diagnosis of mental disorders. The items are answered using a 4-point scale with response options of *false, not at all true, slightly true, mainly true*, and *very true*, permitting a dimensional assessment of symptoms and problematic experiences. This instrument was developed as an extension of the PAI for adults and complements it in its structure. It contains four Validity scales; 11 Clinical scales (such as Anxiety, Depression, Mania, and Paranoia, as well as Borderline Features and Antisocial Features); five Treatment Consideration scales that assess for risk of harm to self or others, states of crisis, and factors such as lack of social support that interfere with treatment progress; and the two Interpersonal scales of Dominance and Warmth. A critical item list is also available and is grouped into seven categories, reflecting areas such as potential for self-harm that alert the psychologist about issues that may require immediate intervention.

The PAI—Adolescent was standardized on a nationally representative sample of 707 adolescents; in addition, a clinical sample of 1,160 adolescents was obtained from 78 sites to serve as a reference point in clinical interpretation. Details of the test's development, standardization, and psychometric evaluation are provided in the test manual, reflecting strong psychometric properties, along with interpretive guidelines. PAI—Adolescent interpretation consists of examination of single-scale elevations in a manner similar to that used with most personality measures. However, it also involves configural interpretation facilitated by the provision of 10 prototypic profile clusters derived from cluster analyses (Krishnamurthy, 2010; Morey, 2007a).

**Millon Adolescent Clinical Inventory.** The MACI (Millon, Millon, & Davis, 1993) is a 160-item self-report questionnaire designed to assess dysfunctional personality characteristics and clinical syndromes among adolescents ages 13 to 19 years. It is a counterpart to the adult version, the MCMI, in having Millon's theory of personality disorders as its underpinning and in regard to the core test structure. MACI items are written at a sixth-grade reading level and are answered in true–false format.

The inventory consists of 27 core scales, organized into 12 Personality Patterns (e.g., Introversive, Egotistic, Oppositional, Self-Demeaning), eight Expressed Concerns (e.g., Identity Diffusion, Peer Insecurity, Childhood Abuse), and seven Clinical Syndromes (e.g., Eating Dysfunctions, Delinquent Predisposition, Suicidal Tendency). Also provided are three Modifying Indices for assessing test-taking attitudes and detecting random responding. A recent addition to the test is the incorporation of Grossman Facet Scales to clarify the specific contents leading to Personality Pattern scale elevations. MACI scoring is rather complicated, involving the application of several adjustments to the BR scores to correct for response biases, and is best done using the computer-scoring option. Profile interpretation is achieved using cut scores of BR 60 to denote the presence of slight problems, BR 75 to identify

noteworthy problem areas, and BR 85 to identify major concerns

The MACI has several notable features that make it different from most clinical assessment inventories and that led to it replacing its predecessor, the Millon Adolescent Personality Inventory. Foremost among these differences is the exclusive use of adolescents in treatment for test construction and norm development instead of a nonclinical, population-based sample. The developmental and cross-validation samples for the MACI consisted of a total of 912 adolescents evaluated in inpatient, outpatient, residential, and school counseling settings in 28 U.S. states and Canada, along with their clinicians, who provided ratings. Thus, the MACI is not suited to assessing normal adolescents. As well, similar to the MCMI–III, some MACI items are weighted so that scale scores reflect the differential contribution of a given item to the assessed personality pattern or clinical syndrome. Raw scores are converted to BR scores rather than traditional *T* scores to reflect the prevalence of the characteristics and disorders represented by the scales in the clinical normative sample.

The psychometric evidence provided in the test manual includes internal consistency and test–retest reliability data, correlations between scale scores and clinician judgments, and convergence with scores from relevant collateral measures. Recent studies have also provided verification for the MACI's use in assessing specific adolescent groups such as juvenile offenders and adolescents in inpatient psychiatric and residential treatment settings. The MACI is available in English- and Spanish-language versions.

**Personality Inventory for Children, Second Edition.** The Personality Inventory for Children, Second Edition (PIC–2; Lachar & Gruber, 2001) is a 275-item inventory of psychological functioning and maladjustment in children and adolescents ages 5 to 19 years. The inventory uses a true–false response format to identify the presence or absence of problem characteristics. It is completed by a parent or caretaker who is well acquainted with the functioning of the child or adolescent.

The PIC–2 development and norming processes used a standardization sample of 2,306 students in kindergarten through 12th grade and a referred sample of 1,551 children and adolescents. The inventory consists of three Response Validity scales, nine Adjustment scales, and 21 subscales. The Adjustment scales assess cognitive impairments and reality distortions; impulsive, distractible, and delinquent behaviors; psychological discomfort; somatic concerns; social skills deficits and social withdrawal; and family dysfunction. Also provided is a 96-item short form known as the PIC–2 Behavioral Summary, designed for screening and retesting, from which a Total Composite score and 3 Composite scales of Externalization, Internalization, and Social Adjustment can be generated.

The test manual provides information related to the test's psychometric properties and guidelines for interpreting PIC–2 profiles, inclusive of cut scores and descriptors for PIC–2 scales. The recommended method of interpretation is to begin with assessment of profile validity, proceed to identifying and interpreting primary and secondary profile elevations, review critical item responses, and integrate the results with other sources of information. A strong empirical literature for the original PIC may be generalized to the PIC–2 to support its use in assessing child disorders.

**Personality Inventory for Youth.** Paralleling the PIC–2 is the Personality Inventory for Youth (PIY; Lachar & Gruber, 1995), a multiscale self-report measure of psychopathology in children and adolescents ages 9 to 19. The 270 PIY items are organized into four Validity scales used to identify malingered or exaggerated responding, defensive minimization of difficulties, and careless responding, and nine nonoverlapping Clinical scales and their 24 subscales. PIY clinical scales are direct counterparts to PIC–2 scales. A listing of critical items is grouped into eight problem areas. The PIY requires a third-grade reading level and can be completed in approximately 45 minutes. Spanish translations are available for both the PIC–2 and the PIY.

**Achenbach System of Empirically Based Assessment.** The Achenbach System of Empirically Based Assessment (ASEBA; Achenbach, 2009) contains a set of assessment instruments developed for multi-informant

assessment of child and adolescent behavioral and emotional problems as well as adaptive behavior. The system can be used across the full age spectrum, from ages 1.5 to 90 years and older. Most well-known among these measures is the parent-completed Child Behavior Checklist, with separate forms for ages 1.5 to 5 and 6 to 18 years, which has extensive research support and clinical usage. It is complemented by the Youth Self-Report for ages 11 to 18, a Caregiver–Teacher Report Form for ages 1.5 to 5, and a Teacher Report Form for ages 6 to 18.

Child Behavior Checklist, Youth Self-Report, and Teacher Report Form scales in the forms for school-age children reflect empirically based syndromes derived from factor analysis. Anxious/Depressed, Withdrawn/Depressed, and Somatic Complaints constitute the internalizing scales, Rule-Breaking Behavior and Aggressive Behavior represent the externalizing scales, and these are supplemented by scales assessing Social Problems, Thought Problems, and Attention Problems. A profile of scores on *DSM*-oriented scales is also provided, composed of Affective, Anxiety, Somatic, Attention Deficit/Hyperactivity, Oppositional/Defiant, and Conduct Problems scales. The Child Behavior Checklist and Youth Self-Report contain a separate section for assessing competence in activities, social, and school domains. Companion forms within the ASEBA system include a Semi-Structured Clinical Interview, a Direct Observation Form and a Test Observation Form. Profile scores are interpreted using *T*-score cutoff and percentile data.

Use of the ASEBA Assessment Data Manager computer program yields side-by-side cross-informant report comparisons and correlations between informants' ratings to aid integrated interpretation. ASEBA forms have been translated into more than 90 languages and are used worldwide, supported by a large body of cross-cultural and multicultural studies. Recent additions include multicultural norms provided in supplemental guides for assessing preschool and school-age children. Detailed information about development, standardization, and reliability and validity evaluations of each form are provided in the respective test manuals, evidencing strong psychometric support for these instruments.

**Behavioral Assessment System for Children, Second Edition.** The Behavioral Assessment System for Children, Second Edition (BASC–2; C. R. Reynolds & Kamphaus, 2004), developed primarily for assessing children and adolescents, is a multimethod, multidimensional system for assessing maladaptive and adaptive behaviors, emotions, and self-perceptions of individuals ages 2 to 25 years. It consists of a Parent Rating Scale, Teacher Rating Scale, Self-Report of Personality for older ages, Structured Developmental History, and a Student Observation System. Thus, the BASC–2 draws on information obtained from parents and caregivers, teachers, clinicians, and the referred individual. Collectively, these sources of data are intended to facilitate differential diagnosis of emotional and behavioral disorders in children and aid in treatment planning and educational classification. Most components of the BASC–2 take approximately 10 to 20 minutes each to administer. There are different forms of the rating scales—Preschool, Child, Adolescent, and College forms—for different age groups; Spanish-language versions are available for some of these forms.

The rating scale and self-report scale items of the BASC–2 are answered using a 4-point response-option format ranging from *never* to *almost always*, and raw scores are converted into scale-level and composite-level *T* scores. There are 10 clinical scales that can potentially be scored from parent and teacher ratings, depending on the age of the assessed child or adolescent. These scales include Aggression, Anxiety, Conduct Problems, Somatization, and Withdrawal, as well as measures of adaptive behavior that include Adaptability, Functional Communication, and Social Skills scales. It also has optional content scales such as Anger Control that can be scored.

Composite scores include Externalizing Problems, Internalizing Problems, Behavioral Symptoms Index, and Adaptive Skills. The self-report scale enables scoring of areas such as Anxiety, Depression, and Social Stress. Validity scales are built into the system to assess for response inconsistencies and biases. The general norms for the BASC–2 are based on samples ranging from 3,400 to 4,800 children and adolescents for the different versions. A set

of clinical norms is also provided to facilitate clinical interpretation, based on a sample of 1,779 diagnosed children and adolescents ages 4 to 18. The test manual provides internal consistency, test–retest reliability, and interrater reliability data. Validity evidence comes largely from correlations between parent, teacher, and self-report measures and convergence between BASC–2 scores and external measures. Evidence for the history and observation components is relatively scarce, and integration of the various sources of information depends on the psychologist's skill.

**Rorschach.** The Rorschach is well suited to the evaluation of psychological functioning in children and adolescents, given that it is a relatively nondemanding task that does not require reading ability and does not correspond to school-like tasks. It engages children in an activity befitting their developmental level and can capture the interest of adolescents. Rorschach assessment of children and adolescents typically involves the same administration methods as used with adults, although small modifications proposed by some experts (e.g., conducting an inquiry immediately after each response) may be considered to achieve successful test administration with younger children. The workbook for the CS (Exner, 2001) provides child and adolescent norms for ages 5 to 16, separately for each of those age groups. A comprehensive guide to the use of Rorschach with children and adolescents is provided in Exner and Weiner's (1995) text.

Research with the modified R-PAS administration method has suggested that it yields mean scores comparable to CS mean scores for children and adolescents (Reese, Viglione, & Giromini, 2014). Coding of Rorschach variables is done using the standard guidelines, with no adjustments for age; it is only in the interpretation that a developmental perspective is incorporated with use of the age-based norms. Child and adolescent Rorschach interpretations address the same domains assessed among adults (e.g., for the CS, Coping and Stress Tolerance, Affect, Self-Concept, and Interpersonal Functioning; for R-PAS, Engagement and Cognitive Processing, Thought and Perception Problems, Stress and Distress, Self and Other Representations).

An extensive research literature of more than 1,000 published articles has described a multitude of clinical applications of the Rorschach, provided reference data from numerous countries, and presented refinements in test interpretation with younger individuals. As an example of research findings prompting revisions in test interpretation, studies demonstrating the limited diagnostic utility of the CS Depression Index with children and adolescents (e.g., Krishnamurthy & Archer, 2001) have led to the recommendation not to use this index diagnostically in assessing youths. Notable among international reference data is a child and adolescent data set collected from 31 samples from Denmark, Italy, Japan, Portugal, and the United States. Differences in mean scores across countries on some variables preclude developing a full set of composite international normative reference standards based on these data, as was done for adults (Meyer et al., 2007). Nonetheless, the composite data for these youths indicated that the existing CS reference data needed to be updated for a number of variables. More recently, contemporary age-based norms in 1-year increments from 6 to 17 years have been developed for R-PAS (Meyer, Viglione, & Giromini, 2014).

**Children's Apperception Test.** The Children's Apperception Test (CAT; Bellak & Bellak, 1949) is a story-telling method that parallels the TAT and was developed to assess psychological needs, drives, and interpersonal relationships of children ages 3 to 10 years. The original test consisted of 10 pictures of animals engaged in various activities and interactions aimed to elicit responses to themes such as feeding, attitudes toward parents, and sibling rivalry. A later version with human figures, the CAT–H, was introduced on the basis of research indicating that older children responded better to human figures. CAT administration is similar to that of the TAT, with instructions to generate stories that have a clear beginning, middle, and end and that address the characters' thoughts and feelings.

CAT interpretation is largely content driven and was historically guided by psychoanalytic principles to uncover motivational forces, anxieties and conflicts, ego and superego functions and defenses, self-image, and quality of object relations. One

organizational scheme focused on 10 variables: main theme, main hero, main needs and drives of the hero, conception of the environment, how other figures are viewed, significant conflicts, nature of anxieties, main defenses against conflicts and fears, adequacy of the superego, and integration of the ego (Bellak & Bellak, 1949). Although various scoring systems have been developed over the years, most have questionable reliability and validity, and recent independent research with the CAT is quite scarce. The typical interpretive method is therefore qualitative.

**Roberts Apperception Test.** The Roberts Apperception Test for Children (McArthur & Roberts, 1982) was developed as a story-telling alternative to the TAT specifically to assess school-age children and adolescents ages 6 to 15 years. It contains 27 picture cards, with gender-based parallel versions of 11 cards, of which 16 are selected and administered. Each card depicts youths in common life situations involving conflict and stress. The current, second edition (Roberts, 2005) expands the age range to age 18 years, provides additional separate versions of the pictorial cards adapted for African American and Hispanic youths, and presents improved standardization and technical test information. It is designed to assess clinical concerns and developmental adaptive functions, assessed on seven scales and their subscales: Theme Overview, Available Resources, Problem Identification, Resolution, Emotion, Outcome, and Unusual or Atypical Responding. A complex scoring method is provided. Although the Roberts Apperception Test for Children is fairly popular among clinicians who assess children and adolescents and the second edition holds promise, they have little independent research evaluation. Recent appraisals of these test versions generally conclude that although they can be used to generate clinical impressions, they should not be used for diagnostic assessment until further verification of their psychometric adequacy (Valleley & Clarke, 2010).

**Tell-Me-a-Story.** The Tell-Me-a-Story test (Costantino, Malgady, & Rogler, 1988) is an apperceptive, narrative test intended for clinical assessment of children and adolescents ages 5 to 18 years. It was developed as a culture-fair test applicable for use with African American and Hispanic youths in addition to nonminority youths. There are two parallel forms for minority (Hispanic and African American) children and nonminority children.

The test consists of a series of 23 chromatic picture cards depicting characters in various interactions in urban settings. The examinee is asked to tell a complete story that has a beginning and an end for each picture, addressing what is happening in the picture including the thoughts, feelings, and relationships of the characters; what preceded the described scenario; and the outcome of the story. Standardized guidelines are used in scoring the stories for cognitive, affective, and personality functions; some of the assessed areas are imagination and sequencing (cognitive); happy, sad, angry, fearful, and ambivalent feelings (affect); and self-concept, aggression, anxiety and depression, and delay of gratification (personality). Tell-Me-a-Story test stories are also scored for adaptive versus maladaptive solutions to the depicted conflicts. The test authors have provided multicultural norms for children up to age 13.

Although the Tell-Me-a-Story test is considered clinically useful and is praised for offering a culturally sensitive alternative to the TAT and CAT, its psychometric properties appear to fall short of desired levels. There is also relatively little independent research evaluating its effectiveness and applications. The best use of this measure may be as a supplement to questionnaire measures that have greater reliability and validity, if appropriate caution is applied in interpreting Tell-Me-a-Story test results.

**Single-construct inventories.** Among single-construct scales for assessing child and adolescent psychopathology are the Children's Depression Inventory 2 (Kovacs, 2011); the Beck Youth Inventories for Children and Adolescents—Second Edition (J. S. Beck et al., 2005) that include five separate 20-item measures of depression, anxiety, anger, disruptive behavior, and self-concept; the Reynolds Adolescent Depression Scale, Second Edition (W. M. Reynolds, 2002); the Suicidal Ideation Questionnaire (W. M. Reynolds, 1987); and the State–Trait Anger Expression Inventory—2 Child

and Adolescent (Brunner & Spielberger, 2009). These measures are well established, supported by evidence of their psychometric adequacy, and widely used to assess the areas of dysfunction apparent in the scale name.

## Structured and Semistructured Interviews

**Mini International Neuropsychiatric Interview.** A clinical interview typically relies on two primary assessment methods: information self-reported by the patient to the interviewer and behavioral observations of the patient by the interviewer. Different types of interviews rely more heavily on the former than the latter, because clinical interviews can be unstructured, semistructured, or fully structured. Fully structured interviews follow a question-and-answer format and are essentially verbally presented questionnaires that do not draw on behavioral observation or rely on the judgment of the clinician interviewing the patient. As such, they are not commonly used by clinicians completing clinical assessments.

The most frequently used fully structured interview is the Mini International Neuropsychiatric Interview (MINI 6.0; Sheehan et al., 1998), which encompasses 381 possible questions answered in a yes–no format (although most are not administered to any one individual). The MINI typically take about 15 to 20 minutes to administer, and its items are keyed to 16 Axis I disorders in *DSM–IV* (e.g., generalized anxiety, major depressive disorder, manic and hypomanic episodes). A version of the MINI was recently created for assessing youth, the MINI for Children and Adolescents (MINI–KID; Sheehan et al., 2010). In addition to assessing disorders present in both adults and youths (e.g., major depression, mania, anxiety disorders, psychotic disorder), the MINI–KID also addresses disorders that are often or exclusively diagnosed in youngsters (e.g., eating disorders, attention deficit/hyperactivity disorder, Tourette's disorder, conduct disorder, oppositional defiant disorder, pervasive developmental disorder).

**Structured Clinical Interview for DSM–IV Axis I and Structured Clinical Interview for DSM–IV Axis II.** The most frequently used semistructured clinical interviews evaluate *DSM–IV* diagnostic criteria, and they incorporate observed behavior and the clinician's interpretation of the information reported by the patient. The primary semistructured interviews for adults include the Structured Clinical Interview for DSM–IV Axis I (SCID-I; First et al., 1996) and Axis II (SCID-II; First et al., 1997). In 2015, a parallel form of these instruments was made available for assessing *DSM–5* diagnostic criteria (https://www.appi.org/products/structured-clinical-interview-for-dsm-5-scid-5).

In its current form, the SCID-I covers the specific disorders found in the *DSM–IV* sections for mood episodes, psychotic and associated symptoms, psychotic disorders, mood disorders, substance use disorders, anxiety disorders, somatoform disorders, eating disorders, and adjustment disorder. The SCID-II covers all 10 of the *DSM–IV* personality disorders (avoidant, dependent, obsessive–compulsive, paranoid, schizotypal, schizoid, histrionic, narcissistic, borderline, and antisocial), as well as three disorders from the appendix (passive-aggressive, self-defeating, and depressive). The Structured Clinical Interview for DSM–IV, Childhood Diagnoses is available for the assessment of youths, although it is designed for research applications, and no formal research has yet been published using the instrument.

The standardized nature of semistructured interviews helps increase the reliability of the interviewer's diagnostic judgments. However, just as every psychological test has its limitations, so too do interview-based measures. Perhaps the largest concern with interview data is the inaccuracies that can occur as a result of the retrospective recall of events and experiences. As with self-report scales, clinical interviews require a person to recall not only past mental states, behaviors, and mood but also to choose what he or she considers most relevant and then summarize that information for the clinician. Research on memory has shown that recall accuracy tends to be impaired when the interval between events and their recall is longer, as well as when dates or subjective states are recalled as opposed to objective facts. As such, random inaccuracies should be anticipated during clinical interviews. However, systematic bias can also influence the information obtained. What is recalled tends to be congruent with current mood and the degree of

current symptomatology influences the degree to which past symptoms are recollected. This makes it important to corroborate interview information with other methods of assessment and review the material for consistency and fit with the empirical literature about the condition or diagnosis being assessed.

## Other Constructive or Expressive Measures

Sentence-completion methods and figure-drawing techniques represent another class of measures often used in clinical assessments of individuals of all ages. Known historically as projective techniques and sometimes described as expressive techniques, common to these approaches is the requirement that the examinee create a response either in the form of a sentence that builds on a stimulus word or phrase or as an illustration that expresses something of his or her self. These approaches typically have weak reliability and validity and should not be used as stand-alone measures. However, they are appealing for their different methodological contribution to an assessment battery and are often useful as an initial, nonthreatening assessment tool that promotes rapport.

**Rotter Incomplete Sentences Blank, Second Edition.** The Rotter Incomplete Sentences Blank, Second Edition (Rotter, Lah, & Rafferty, 1992) is the best known and most widely used sentence-completion test. Originally developed for adults as a screening tool for maladjustment, it was not intended to reveal fundamental aspects of personality. It is now available in three parallel forms for adults, college students, and high school students. Each form contains 40 items consisting of sentence stems; the respondent is asked to complete them to express his or her real feelings.

The test authors have provided a quantitative scoring system that yields an overall adjustment score, derived from weighted ratings of each response in conflict and positive categories. The manual reports an optimal cut score to differentiate adjustment from maladjustment with the caveat that it needs to be adjusted for specific populations. However, interpretation of the Rotter Incomplete Sentences Blank typically involves a qualitative analysis of response content to ascertain thoughts, feelings, self-attitudes, interpersonal relationships, and problem areas. The intent is to identify prevailing characteristics such as needs, motives, conflicts, and defenses in addition to situational difficulties. The revised Rotter Incomplete Sentences Blank is considered a useful addition to an assessment battery despite its psychometric limitations.

**Draw-a-Person, House–Tree–Person, Kinetic Family Drawing.** Figure-drawing techniques are considered particularly useful in the assessment of young children because they do not require verbal expression and are congruent with children's age-appropriate activities. They may also be applied with adult patients who are nonverbal, are highly guarded, or have significant psychopathology. The most common forms are the Draw-a-Person Test, House–Tree–Person test, and the Kinetic Family Drawing.

In each of these methods, the examinee is given a sheet of paper and a pencil and is asked to draw a whole picture of the requested image; for the Kinetic Family Drawing, the instruction includes drawing a family doing something together. Supplements to the standard figure-drawing approaches have included chromatic drawings using crayons, human drawings of both sexes, and inquiry of the drawings.

Several scoring approaches have been introduced over the years that fall into two broad categories: (a) a sign approach that assesses for pathognomonic indicators and (b) a global approach that yields an overall maladjustment score. However, important cautions about scoring and interpretation of drawings should be noted (e.g., Lilienfeld et al., 2000). Interrater and test–retest reliabilities of human figure-drawing signs vary considerably across studies, little evidence of reliability and validity of the interpretations is obtained from them, and the incremental validity of these methods have not been determined empirically. Determinations of psychopathology are often confounded by artistic skill, although global scoring approaches show some promise.

Overall, the pros and cons of drawing techniques have been well identified. Advantages include ease of

use, rich clinical content, and research efforts to generate normative data and evaluate applications with cultural subgroups. Limitations include the apparent subjectivity of interpretations derived from drawings and insufficient psychometric support for their use in assessing psychopathology. The competent psychologist will take these issues into consideration when incorporating figure-drawing measures into the multimethod assessment battery.

## KEY ACCOMPLISHMENTS

Psychopathology assessment today is supported by compelling evidence of its effectiveness and utility. In this section we review a number of recent advances.

### Clinical Utility

A central accomplishment of psychopathology assessment is its widespread utility for improving clinical decision making and treatment directions. The use of standardized, psychometrically sound, norm-referenced instruments as well as less standardized idiographic tools helps psychologists attain an accurate and elaborated understanding of patients across several settings. Assessment data are more reliable and valid than psychologists' clinical judgments and are less vulnerable to the impact of personal biases and drift in internal norms over time (Meyer et al., 1998).

Psychopathology assessment findings illuminate facets of complex disorders, particularly underlying personality pathology that may not otherwise be evident in patients' presenting complaints, and facilitate differential diagnosis. Furthermore, standardized assessments aid in determining various forms of risk, such as suicide or violence risk. Recent examples include predicting suicidal acts with Rorschach scores (Blasczyk-Schiep et al., 2011), determining level of care required by patients the PAI (Sinclair et al., 2015), or predicting sex offender recidivism from various risk assessment instruments (e.g., Smid et al., 2014). Psychopathology assessment measures also provide tools for psychologists to monitor the course and outcome of treatment, and newer models of assessment serve as brief interventions in themselves. In short, psychopathology assessment offers helpful insights into patients so that psychologists can empathically understand them and provide effective treatment. Psychopathology assessment is uniquely a product of and toolkit for psychologists because it is at the intersection of the science of test development and psychometric evaluation and the realities of clinical practice with its demand for accurate information to guide treatment.

### Improved Psychometrics

With respect to scale development and psychometrics, some of the notable accomplishments in psychopathology assessment are tied to improvements in the psychometric foundation of measures. This is in part because the standards for the field have evolved to require a higher level of documentation of reliability and validity to warrant publication in the research literature. It is also a function of the increased use of sophisticated statistical procedures to evaluate and understand the internal structure of assessment measures, as well as their external correlates. Psychopathology assessment today (a) builds on both true score theory and item response theory for psychometrics; (b) refines test structure using exploratory, confirmatory, and bifactor analysis, as well as structural modeling; and (c) documents validity using convergent and discriminant coefficients as well as process-based models demonstrating how shifts in mental states causally produce shifts in test scores (Bornstein, 2011; Byrne, 2005).

### Diagnostic Studies

Another achievement in psychopathology assessment concerns advances in diagnostic studies in which the goal is to identify a particular criterion or outcome. Often, the criterion or outcome is a clinical diagnosis, which can beneficially link assessment to treatment-related issues. For instance, recent studies have examined correspondence between the MMPI–2 or MMPI–2–RF with a range of *DSM* disorders (van der Heijden et al., 2013) or the ways in which Rorschach scores differentiate patients with major depression from patients with bipolar disorder (Kimura et al., 2013). One of the features of these kinds of studies is that they can generate diagnostic efficiency statistics (sensitivity, specificity, positive and negative predictive power) and receiver operating characteristic curves, all of which provide information about how well a test score value

correctly identifies those people with the condition and those people without the disorder.

## Incremental Validity

Over the past decade or so, a substantial achievement in psychopathology assessment is that it has begun to address and overcome the multimethod conundrum. There has been significantly increased awareness of methodological distinctions and the ways in which assessment methods (a) uniquely shape the constructs assessed and the inferences that can be made from assessment findings and (b) also lead to seeming inconsistencies and discrepancies in assessment findings that must be resolved. For instance, with virtually all psychological phenomena, when the same construct or characteristic is assessed by distinct methods, different conclusions are obtained. To know the extent of depression in a boy referred for psychotherapy, one would arrive at different conclusions depending on whether the source of information about his depression came from the child himself, his mother, his father, his teacher, his peers, or his previous therapist (e.g., Achenbach, McConaughy, & Howell, 1987). This heightened awareness has led to better specification of the scope and limitations associated with different assessment methods, as well as better appreciation of the unique strengths offered by each of the major methods (Mihura, 2012).

Simultaneously, this awareness has led to a better ability to document the incremental validity of psychopathology assessment measures, both in research and in applied practice. Researchers are now much more regularly evaluating the extent to which different methods provide unique descriptive or predictive information (e.g., Dao, Prevatt, & Horne, 2008; Meyer, 2000). Valid information that can be obtained using one method but not another documents the incremental validity of that method (Hunsley & Meyer, 2003).

In many ways, making sense of multimethod assessment data that disagree is much easier in idiographic clinical assessment than it is in research. In clinical practice, the goal is to understand what it means for a particular person to have a specific pattern of disagreeing test scores. Thus, in practice the goal is to conceptually make sense of all scores as accurate indicators of a valid inference, but with a strong appreciation of how the method of assessment shapes the construct assessed and the appropriate scope of inferences. For instance, consider a boy with a low level of depression when assessed by a self-reported method but an elevated level of depression when assessed by teacher report and mother report. A reasonable inference might be that this boy does not recognize his distress, perhaps because of cognitive limitations that impair insight, perhaps because of habituation to unpleasantness, perhaps because of defensive denial, or perhaps because of a faulty evaluation of how he compares with others in which he assumes his level of distress is typical for everyone. Conversely, consider a boy with a high level of depression when assessed by self-report but a low level when assessed by teacher report and mother report. A reasonable inference might be that this boy does not share his distress and discomfort with others, perhaps hiding it to protect vulnerability or perhaps keeping it to himself because of a depressive sense that others will not care. Obviously, these competing possibilities that may explain a particular pattern of data would need to be resolved by taking into account other sources of information—and optimally by discussion with the boy and his mother—to determine which of the competing multimethod inferences is most correct. The point here, though, is that any one source of information often cannot tell the full story. All sources give some correct inferences about depression but also some incomplete or incorrect inferences about depression.

The synthesis of discrepant information across methods allows the assessment psychologist to derive an understanding—an overarching inference about how the data fit for this particular person—that is not possible when relying on any single source of information. Doing so is a demonstration of incremental validity in practice. Thus, psychopathology assessment today involves more complex and sophisticated models of its testing tools and use of that information to obtain accurate and informed understanding of disorders.

## Enhanced Assessment Approaches

One of the most exciting accomplishments in psychopathology assessment is the adoption

of collaborative and therapeutic assessment in practice (e.g., Finn, Fischer, & Handler, 2012) and documentation of its clinical utility. Collaborative–therapeutic assessment models represent an evidence-based approach that has proven effectiveness in a broad range of applications with various age groups (adult, adolescent, child–family) and in diverse settings (inpatient, outpatient, forensic). Numerous quantitative case studies (e.g., J. D. Smith et al., 2014) have demonstrated the use of therapeutic assessment with patients presenting with various disorders (e.g., adult attention deficit disorder, child oppositional defiant disorder, trauma and dissociation, eating disorders, personality disorders). This literature has also shown worldwide, cross-national applications (e.g., De Saeger et al., 2014). Therapeutic assessment applications have begun to extend from traditional mental health settings into the broader health care arena, where they can support systemic goals in addition to individual patient care in cases involving the interface of medical and psychological disorders (Krishnamurthy et al., 2016). A specific application of collaborative assessment, the Collaborative Assessment and Management of Suicidality, is supported by evidence of its utility with suicidal patients in a variety of settings (Jobes, 2012).

## Increasing Standards

The development of standards for psychological assessment training and practice, and emerging consensus for these standards, represents a major advance in clinical assessment. Most well-known among them are the *Standards for Educational and Psychological Testing* (American Educational Research Association, APA, & National Council on Measurement in Education, 2014), which is a necessary resource in every clinical assessor's library.

Other notable accomplishments in the 21st century are as follows:

1. The work of the psychological assessment work group at the 2002 Competencies Conference generated a set of eight core domains of knowledge, skills, and attitudes deemed essential for psychological assessment competency. Listed among them is knowledge of the scientific, theoretical, empirical, and contextual bases of psychological assessment; ability to evaluate critically the multiple roles, contexts, and relationships within which clients and psychologists function and the reciprocal impact of these areas on assessment activity; understanding of the relationship between assessment and intervention, assessment as an intervention, and intervention planning; and a variety of technical assessment skills (Krishnamurthy et al., 2004).
2. Recognizing that psychological assessment requires intensive education and training for competent and ethical practice and for protection of consumers, in 2006 the Society for Personality Assessment published a set of standards for education and training in psychological assessment ("Standards for Education and Training," 2006). These standards describe the necessary components of graduate-level coursework, encompassing didactic instruction and practical experience. Among them are theory, administration, and interpretation of major self-report inventories and performance-based measures; appropriate selection of instruments to answer specific referral questions; and integration of data from multiple data sources.
3. In 2007, the National Council of Schools and Programs of Professional Psychology released a set of competencies, known as developmental achievement levels, identifying expected knowledge, skills, and attitudes at the points of beginning practicum, beginning internship, and completing the doctoral degree. Assessment competencies are further grouped into the domains of interviewing and relationships, case formulation, psychological testing, ethics, and professionalism (Krishnamurthy & Yalof, 2009).
4. A Competencies Benchmarks document was put together in 2007 by a professional work group coordinated by APA, addressing multiple areas of professional psychology competency at three markers: readiness for practicum, readiness for internship, and readiness for entry into practice. The assessment competency section addresses six primary domains: knowledge of measurement and psychometrics, knowledge of assessment methods, application of assessment methods, diagnosis, conceptualization and recommendations, and

communication of assessment findings. A revised version of this document (Fouad et al., 2009) may be downloaded from the APA Education Directorate's website, with delineation of essential components and behavioral anchors (http://www.apa.org/ed/graduate/competency.aspx).

These and other similar guides represent accomplishments revitalizing assessment. Other important resources include various guidelines furnished by APA for assessment practice, such as the guidelines for test user qualifications, guidelines for assessment of and intervention with people with disabilities, and guidelines for psychological evaluations in child protection matters.

## LIMITATIONS

The main limitation associated with psychopathology assessment is the relative lack of research data documenting its utility in relation to the pragmatic demands of clinical psychology practice. The utility of assessment today is often defined in terms of cost–benefit ratios that emphasize economic costs (Hunsley, 2003). These costs consist of the monetary value of resources used in assessment, which include the psychologist's time, the price of test materials and equipment, office space, and overhead expenses (Yates & Taub, 2003). There is evidence of broad health care cost savings in terms of reduced medical expenses when reliable and valid assessments facilitate effective psychological interventions for patients seeking medical services. However, much more has to be done through cost-offset studies to demonstrate appreciable savings in mental health care costs.

The cost-effectiveness of psychopathology assessment, in terms of benefits to clients directly and aiding psychologists in treatment planning and delivery, has certainly been shown by recent research. However, research that helps define the boundaries of when assessment data do and do not have utility will be important. Similar research will be needed to help determine when utility is evident with testing data alone versus with assessment data integrated by a consulting psychologist versus with assessment data integrated by a consulting psychologist working from a collaborative and therapeutic approach. In addition, at present it is not known to what extent the typical psychologist providing psychopathology assessment from a traditional approach produces positive and helpful information for patients or referring clinicians. The current literature speaks only to the value of assessments completed from a collaborative and therapeutic approach.

A related issue concerns how utility is defined. Improvement in symptomatology may be one indicator. However, many assessments are not designed to decrease symptoms; they are designed to enhance knowledge of various aspects of an individual's functioning. Thus, utility metrics need to be defined in ways that mirror this focus and evaluate the extent to which the information provided by the assessment was helpful—to the patient or to the referral source.

Another limitation is that there are not clearly defined conceptual models for how to optimally integrate multimethod assessment data or minimize the chance that clinical judgments will err and lead to misunderstandings and misconceptions rather than to insight and empathic understanding. However, a growing number of articles and books are addressing this limitation and providing case illustrations that show how to integrate discrepant multimethod data into a more complete and accurate picture of the client (Finn et al., 2012; Hopwood & Bornstein, 2014).

The assessment literature also needs to go much further in addressing diversity considerations. Research published in assessment journals has focused primarily on scale development and validation with diverse clients. For example, research on ethnicity and culture has largely centered on questions about using standard tests and test norms, linguistic translations of tests, and cross-cultural comparative studies (see Chapter 13, this volume). Less is known about specific cultural influences on assessment results. Investigations of gender have focused mostly on the development of nongendered norms for several major assessment measures or provision of reference group scores separately by gender. Little has been reported about any adverse or differential impact of assessment findings based

on gender, for example, in child custody determinations or psychiatric hospitalization decisions.

The empirical literature has paid scant attention to the impact of sexual orientation, religion, and disability (other than cognitive or intellectual disability) on psychological test scores. Thus, several questions remain unanswered. Furthermore, most scholarly assessment texts typically encourage the assessor to take diversity variables into consideration without a detailed exposition of how exactly to do it. Clearly, there is a need to develop and evaluate specific diversity-centered approaches to assessment and intersections of multiple diversity variables as they affect psychopathology assessment findings.

## FUTURE DIRECTIONS

Prognostication is fraught with challenges and often wrong. However, as we consider the future of psychopathology assessment we believe several trends will be salient in the coming decade. These trends include the increased use of computing technology in assessments, the internationalization of assessment psychology, and the extent to which psychopathology assessment will be seen as central to evidence-based clinical practice.

### Use of Technology

The 21st century has witnessed a marked increase in the use of technology in all spheres of life, and this increase has begun to have a noticeable influence on psychological assessment. Although computerized test scoring and computer-generated interpretations have been in use for several decades, newer applications of technology have begun to emerge with growing empirical evidence to support their utility. Examples include (a) web-based computer-assisted interviewing, which has been shown to produce data comparable to face-to-face interviews in reliability and validity with the added advantages of faster access and lower cost (Wolford et al., 2008); (b) software applications for handheld personal digital assistants, such as the MiniCog, which can be used to administer and score cognitive assessment tests involving simple visually based psychological tasks (Shephard et al., 2006); and (c) interactive assessment methods using digital platforms, such as the Q-interactive service offered by Pearson to administer and score clinical assessments using iPad tablets connected via Bluetooth (NCS Pearson, 2013). Applications such as these will undoubtedly pave the way for expanded technology-based assessment delivery in the future. These applications have the potential to improve the efficiency and accuracy of assessments (Krishnamurthy, 2013) as well as expand accessibility to patients in remote rural settings and people with physical limitations (Naglieri et al., 2004).

In the near future, we are also likely to see testing-based assessments involving the adaptation of the number and type of items presented to the client on the basis of his or her previous responses (e.g., Makransky, Mortensen, & Glas, 2013). Such adaptive testing will reduce the length of testing time, resulting in greater efficiency and cost savings (Groth-Marnat, 2009).

### Internationalization of Assessment Psychology

The Internet is altering how people learn and train because it allows for both interconnectedness and asynchronous learning. These factors are transforming universities, which are moving to embrace online learning and distance education. As far as we know, doctoral-level psychopathology assessment training is not systematically being offered in a strictly online format. However, it is likely only a matter of time before that becomes a reality. Already numerous professional webinars are available online, and it is increasingly common for assessment training to make uses of Internet-based resources (e.g., using Skype to provide cross-site meetings, bring in consultants, provide supervision).

As the Internet connects people, it also blurs national and regional boundaries, which raises questions about nationally based assessment norms. To the extent that people are people, regardless of what language they speak or what locale they live in, a global standard may be reasonable and realistic. The current literature supports the notion that people are more similar than different in personality across countries, despite cultural stereotypes (McCrae et al., 2013), which is fostering a movement toward global norming (Bartram, 2008), in which one

common normative standard is used for all individuals. This allows psychologists to see how individuals, as well as regional or national groups, may deviate from that standard.

The types of psychopathology assessment measures that lend themselves most readily to global norming are measures that do not require translation for use, such as the Rorschach and TAT. However, many linguistically based measures have been translated and adapted in many countries and cultures and would thus lend themselves to global norming efforts. The feasibility and utility of global norms for psychopathology assessment measures are likely to be the subject of future investigations.

## Role in Clinical Practice

In keeping with the higher demands in health care for evidence-based justification of practices, clinical psychology as a discipline and a profession will need to reestablish psychological assessment as integral to its professional identity and work. Although more than three quarters of clinical psychologists have reported routinely performing some assessment (Norcross & Karpiak, 2012), relatively few have devoted their entire practice to assessments. Recent trends have led to diminished use of psychological testing in many sectors of clinical practice, in part because of lower reimbursement rates from third-party payers and associated reductions in assessment training in graduate programs. Clinical psychologists compete with various mental health professionals trained in psychotherapy and counseling, but psychologists hold a distinctive advantage in testing competency. This advantage will continue to the extent that the field commits to thoughtful assessment research, high-quality assessment service activity, and comprehensive assessment training. Assessment skills offer a value-added contribution to the evaluation and treatment of mental disorders. Comprehensive assessment is cost-effective in the long term, and it provides dependable treatment outcome data. It deserves its due importance within the field and in the broader mental health marketplace.

## References


Achenbach, T. M. (2009). *The Achenbach System of Empirically Based Assessment (ASEBA): Development, findings, theory, and applications*. Burlington: University of Vermont, Research Center for Children, Youth, & Families.

Achenbach, T. M., McConaughy, S. H., & Howell, C. T. (1987). Child/adolescent behavioral and emotional problems: Implications of cross-informant correlations for situational specificity. *Psychological Bulletin*, *101*, 213–232. http://dx.doi.org/10.1037/0033-2909.101.2.213

American Board of Professional Psychology. (2014). *Clinical psychology*. Retrieved from http://www.abpp.org/i4a/pages/index.cfm?pageid=3307

American Educational Research Association, American Psychological Association, & National Council on Measurement in Education. (2014). *Standards for educational and psychological testing*. Washington, DC: American Educational Research Association.

American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: Author.

American Psychological Association, Division 12, Society of Clinical Psychology. (2014). *About clinical psychology*. Retrieved from http://www.apa.org/divisions/div12/aboutcp.html#Anchor-WHAT-49575

Arbisi, P. A., Ben-Porath, Y. S., & McNulty, J. (2002). A comparison of MMPI–2 validity in African American and Caucasian psychiatric inpatients. *Psychological Assessment*, *14*, 3–15.

Archer, R. P. (2005). *MMPI–A: Assessing adolescent psychopathology* (3rd ed.). Mahwah, NJ: Erlbaum.

Archer, R. P., Buffington-Vollum, J. K., Stredny, R. V., & Handel, R. W. (2006). A survey of psychological test use patterns among forensic psychologists. *Journal of Personality Assessment*, *87*, 84–94. http://dx.doi.org/10.1207/s15327752jpa8701_07

Archer, R. P., Handel, R. W., Tellegen, A., & Ben-Porath, Y. (2016). *Minnesota Multiphasic Personality Inventory—Adolescent—Restructured Form (MMPI–A–RF)*. Minneapolis: University of Minnesota Press.

Archer, R. P., & Krishnamurthy, R. (2002). *Essentials of MMPI–A assessment*. New York, NY: Wiley.

Bartram, D. (2008). Introduction to the special issue on global norming. *International Journal of Testing*, *8*, 303. http://dx.doi.org/10.1080/15305050802434980

Beck, A. T., & Steer, R. A. (1988). *Manual for Beck Hopelessness Scale*. San Antonio, TX: Psychological Corporation.

Beck, A. T., & Steer, R. A. (1993). *Beck Anxiety Inventory: Manual*. San Antonio, TX: Psychological Corporation.

Beck, A. T., Steer, R. A., & Brown, G. K. (1996). *Manual for Beck Depression Inventory—II*. San Antonio, TX: Psychological Corporation.

Beck, J. S., Beck, A. T., Jolly, A. T., & Steer, R. A. (2005). *The Beck Youth Inventories for Children and Adolescents* (2nd ed.). San Antonio, TX: Pearson Assessments.

Bellak, L., & Bellak, S. S. (1949). *Children's Apperception Test*. Larchmont, NY: CPS.

Benjamin, L. T., Jr. (2005). A history of clinical psychology as a profession in America (and a glimpse at its future). *Annual Review of Clinical Psychology*, *1*, 1–30. http://dx.doi.org/10.1146/annurev.clinpsy.1.102803.143758

Ben-Porath, Y. S. (2012). *Interpreting the MMPI–2–RF*. Minneapolis: University of Minnesota Press.

Ben-Porath, Y. S., & Tellegen, A. (2011). *MMPI–2–RF (Minnesota Multiphasic Personality Inventory—2 Restructured Form) manual for administration, scoring, and interpretation*. Minneapolis: University of Minnesota Press.

Beutler, L. E., & Clarkin, J. F. (2014). *Systematic treatment selection: Toward targeted therapeutic interventions*. New York, NY: Routledge.

Beutler, L. E., Rosner, R., Groth-Marnat, G., Harwood, T. M., & Tong, H. (2011). Introduction to integrative assessment of adult personality. In T. M. Harwood, L. E. Beutler, & G. Groth-Marnat (Eds.), *Integrative assessment of adult personality* (3rd ed., pp. 1–33). New York, NY: Guilford Press.

Blais, M. A., Baity, M. R., & Hopwood, C. J. (Eds.). (2010). *Clinical applications of the Personality Assessment Inventory*. New York, NY: Routledge/Taylor & Francis Group.

Blasczyk-Schiep, S., Kazén, M., Kuhl, J., & Grygielski, M. (2011). Appraisal of suicidal risk among adolescents and young adults through the Rorschach test. *Journal of Personality Assessment*, *93*, 518–526. http://dx.doi.org/10.1080/00223891.2011.594130

Bornstein, R. F. (2011). Toward a process-focused model of test score validity: Improving psychological assessment in science and practice. *Psychological Assessment*, *23*, 532–544. http://dx.doi.org/10.1037/a0022402

Bram, A. D., & Peebles, M. J. (2014). *Psychological testing that matters: Creating a road map for effective treatment*. http://dx.doi.org/10.1037/14340-000

Briere, J. (2010). *Trauma Symptom Inventory, 2nd ed. (TSI–2) professional manual*. http://dx.doi.org/10.1002/9780470479216.corpsy1010

Brunner, T. M., & Spielberger, C. D. (2009). *The State–Trait Anger Expression Inventory, Second Edition, Child Adolescent (STAXI-C/A)*. Lutz, FL: Psychological Assessment Resources.

Butcher, J. N. (Ed.). (2006). *MMPI–2: A practitioner's guide*. http://dx.doi.org/10.1037/11287-000

Butcher, J. N., Graham, J. R., Ben-Porath, Y. S., Tellegen, A., Dahlstrom, W. G., & Kaemmer, B. (2001). *MMPI–2: Manual for administration and scoring* (Rev. ed.). Minneapolis: University of Minnesota Press.

Butcher, J. N., Williams, C. L., Graham, J. R., Archer, R. P., Tellegen, A., Ben-Porath, Y. S., & Kaemmer, B. (1992). *MMPI–A (Minnesota Multiphasic Personality Inventory—Adolescent): Manual for administration, scoring, and interpretation*. Minneapolis: University of Minnesota Press.

Byrne, B. M. (2005). Factor analytic models: Viewing the structure of an assessment instrument from three perspectives. *Journal of Personality Assessment*, *85*, 17–32. http://dx.doi.org/10.1207/s15327752jpa8501_02

Camara, W. J., Nathan, J. S., & Puente, A. E. (2000). Psychological test usage: Implications in professional psychology. *Professional Psychology: Research and Practice*, *31*, 141–154. http://dx.doi.org/10.1037/0735-7028.31.2.141

Cashel, M. L. (2002). Child and adolescent psychological assessment: Current clinical practices and the impact of managed care. *Professional Psychology: Research and Practice*, *33*, 446–453. http://dx.doi.org/10.1037/0735-7028.33.5.446

Childs, R. A., & Eyde, L. D. (2002). Assessment training in clinical psychology doctoral programs: What should we teach? What do we teach? *Journal of Personality Assessment*, *78*, 130–144. http://dx.doi.org/10.1207/S15327752JPA7801_08

Choca, J. P. (2004). *Interpretive guide to the Millon Clinical Multiaxial Inventory* (3rd ed.). Washington, DC: American Psychological Association.

Choca, J. P. (2013). *The Rorschach Inkblot Test: An interpretive guide for clinicians*. http://dx.doi.org/10.1037/14039-000

Costantino, G., Malgady, R., & Rogler, L. (1988). *Tell-Me-a-Story (TEMAS) manual*. Torrance, CA: Western Psychological Services.

Dao, T. K., Prevatt, F., & Horne, H. L. (2008). Differentiating psychotic patients from nonpsychotic patients with the MMPI–2 and Rorschach. *Journal of Personality Assessment*, *90*, 93–101. http://dx.doi.org/10.1080/00223890701693819

De Saeger, H., Kamphuis, J. H., Finn, S. E., Smith, J. D., Verheul, R., van Busschbach, J. J., . . . Horn, E. K. (2014). Therapeutic assessment promotes treatment readiness but does not affect symptom change in patients with personality disorders: Findings from a randomized clinical trial. *Psychological Assessment*, *26*, 474–483. http://dx.doi.org/10.1037/a0035667

Dunning, D., Heath, C., & Suls, J. M. (2004). Flawed self-assessment: Implications for health, education,

and the workplace. *Psychological Science in the Public Interest*, *5*, 69–106. http://dx.doi.org/10.1111/j.1529-1006.2004.00018.x

Exner, J. E. (1974). *The Rorschach: A comprehensive system* (Vol. 1). New York, NY: Wiley.

Exner, J. E. (2001). *A Rorschach workbook for the comprehensive system* (5th ed.). Asheville, NC: Rorschach Workshops.

Exner, J. E. (2003). *The Rorschach: A comprehensive system: Vol. 1. Basic foundations and principles of interpretation* (4th ed.). New York, NY: Wiley.

Exner, J. E., & Weiner, I. B. (1995). *The Rorschach: A comprehensive system: Vol. 3. Assessment of children and adolescents* (2nd ed.). New York, NY: Wiley.

Finn, S. E. (1996a). Assessment feedback integrating MMPI–2 and Rorschach findings. *Journal of Personality Assessment*, *67*, 543–557. http://dx.doi.org/10.1207/s15327752jpa6703_10

Finn, S. E. (1996b). *Using the MMPI–2 as a therapeutic intervention*. Minneapolis: University of Minnesota Press.

Finn, S. E., Fischer, C. T., & Handler, L. (Eds.). (2012). *Collaborative/therapeutic assessment: A casebook and guide*. Hoboken, NJ: Wiley.

First, M. B., Gibbon, M., Spitzer, R. L., Williams, J. B. W., & Benjamin, L. S. (1997). *Structured Clinical Interview for DSM–IV Axis II personality disorders (SCID-II)*. Washington, DC: American Psychiatric Press.

First, M. B., Spitzer, R. L., Gibbon, M., & Williams, J. B. W. (1996). *Structured Clinical Interview for DSM–IV Axis I disorders (SCID-I)*. Washington, DC: American Psychiatric Press.

Fischer, C. T. (2000). Collaborative, individualized assessment. *Journal of Personality Assessment* 2–14. http://dx.doi.org/10.1207/S15327752JPA740102

Fisher, D., Beutler, L. E., & Williams, O. B. (1999). Making assessment relevant to treatment planning: The STS Clinician Rating Form. Systemic Treatment Selection. *Journal of Clinical Psychology*, *55*, 825–842. http://dx.doi.org/10.1002/(SICI)1097-4679(199907)55:7<825::AID-JCLP5>3.0.CO;2-3

Flanagan, R., & Esquivel, G. B. (2006). Empirical and clinical methods in the assessment of personality and psychopathology: An integrative approach for training. *Psychology in the Schools*, *43*, 513–526. http://dx.doi.org/10.1002/pits.20165

Fouad, N. A., Grus, C. L., Hatcher, R. L., Kaslow, N. J., Hutchings, P. S., Madson, M. B., . . . Crossman, R. E. (2009). Competency benchmarks: A model for understanding and measuring competence in professional psychology across training levels. *Training and Education in Professional Psychology*, *3*(4, Suppl.), S5–S26. http://dx.doi.org/10.1037/a0015832

Friedman, A. F., Bolinskey, P. K., Levak, R., & Nichols, D. S. (2015). *Psychological assessment with the MMPI–2/MMPI–2–RF* (3rd ed.). New York, NY: Routledge/Taylor & Francis.

Graham, J. R. (2012). *MMPI–2: Assessing personality and psychopathology* (5th ed.). New York, NY: Oxford University Press.

Greene, R. L. (2011). *The MMPI–2/MMPI–2–RF: An interpretive manual* (3rd ed.). Boston: Allyn & Bacon.

Groth-Marnat, G. (2009). *Handbook of psychological assessment* (5th ed.). Hoboken, NJ: Wiley.

Hall, G. C. N., Bansal, A., & Lopez, I. R. (1999). Ethnicity and psychopathology: A meta-analytic review of 31 years of comparative MMPI/MMPI–2 research. *Psychological Assessment*, *2*, 186–197. http://dx.doi.org/1040-3590/99/$3.00

Hemphill, J. F. (2003). Interpreting the magnitudes of correlation coefficients. *American Psychologist*, *58*, 78–79. http://dx.doi.org/10.1037/0003-066X.58.1.78

Hopwood, C. J., & Bornstein, R. F. (2014). *Multimethod clinical assessment*. New York, NY: Guilford Press.

Horn, S. L., Mihura, J. L., & Meyer, G. J. (2013). Psychological assessment in adult mental health settings. In K. F. Geisinger (Ed.), *APA handbook of testing and assessment in psychology: Vol. 2. Testing and assessment in clinical and counseling psychology* (pp. 231–252). Washington, DC: American Psychological Association.

Horowitz, L. M., Rosenberg, S. E., Baer, B. A., Ureño, G., & Villaseñor, V. S. (1988). Inventory of interpersonal problems: Psychometric properties and clinical applications. *Journal of Consulting and Clinical Psychology*, *56*, 885–892. http://dx.doi.org/10.1037/0022-006X.56.6.885

Hunsley, J. (2003). Introduction to the special section on incremental validity and utility in clinical assessment. *Psychological Assessment*, *15*, 443–445. http://dx.doi.org/10.1037/1040-3590.15.4.443

Hunsley, J., & Meyer, G. J. (2003). The incremental validity of psychological testing and assessment: Conceptual, methodological, and statistical issues. *Psychological Assessment*, *15*, 446–455. http://dx.doi.org/10.1037/1040-3590.15.4.446

Jankowski, D. (2002). *A beginner's guide to the MCMI–III*. http://dx.doi.org/10.1037/10446-000

Jenkins, S. R. (Ed.). (2008). *A handbook of clinical scoring systems for thematic apperceptive techniques*. Mahwah, NJ: Erlbaum.

Jobes, D. A. (2012). The Collaborative Assessment and Management of Suicidality (CAMS): An evolving evidence-based clinical approach to suicidal risk.

*Suicide and Life-Threatening Behavior*, *42*, 640–653. http://dx.doi.org/10.1111/j.1943-278X.2012.00119.x

Kimura, H., Osaki, A., Kawashima, R., Inoue, T., Nakagawa, S., Suzuki, K., . . . Koyama, T. (2013). Differences between bipolar and unipolar depression on Rorschach testing. *Neuropsychiatric Disease and Treatment*, *9*, 619–627.

Klopfer, W. G. (1964). The blind leading the blind: Psychotherapy without assessment. *Journal of Projective Techniques and Personality Assessment*, *28*, 387–392. http://dx.doi.org/10.1080/00916 51X.1964.10120154

Kovacs, M. (2011). *Children's Depression Inventory, 2nd edition (CDI 2)*. North Tonawanda, NY: Multi-Health Systems.

Krishnamurthy, R. (2010). Assessment of adolescents using the PAI-A. In M. A. Blais, M. R. Baity, & C. J. Hopwood (Eds.), *Clinical applications of the Personality Assessment Inventory* (pp. 55–76). New York, NY: Routledge.

Krishnamurthy, R. (2013). Developing "smart apps" for the personality assessment of the future: Address to the Society for Personality Assessment annual meeting. *SPA Exchange*, *25*(2), 1, 9–11.

Krishnamurthy, R., & Archer, R. P. (2001). An evaluation of the effects of Rorschach EB style on the diagnostic utility of the Depression Index. *Assessment*, *8*, 105–109.

Krishnamurthy, R., Finn, S. E., & Aschieri, F. (2016). Therapeutic assessment in clinical and counseling psychology practice. In U. Kumar (Ed.), *Personality assessment: The way forward* (pp. 228–239). Oxford, England: Wiley.

Krishnamurthy, R., VandeCreek, L., Kaslow, N. J., Tazeau, Y. N., Miville, M. L., Kerns, R., . . . Benton, S. A. (2004). Achieving competency in psychological assessment: Directions for education and training. *Journal of Clinical Psychology*, *60*, 725–739. http:// dx.doi.org/10.1002/jclp.20010

Krishnamurthy, R., & Yalof, J. A. (2009). The assessment competency. In M. B. Kenkel & R. L. Peterson (Eds.), *Competency-based education for professional psychology* (pp. 87–104). Washington, DC: American Psychological Association. http://dx.doi. org/10.1177/107319110100800110

Kubiszyn, T. W., Meyer, G. J., Finn, S. E., Eyde, L. D., Kay, G. G., Moreland, K. L., . . . Eisman, E. J. (2000). Empirical support for psychological assessment in clinical health care settings. *Professional Psychology: Research and Practice*, *31*, 119–130. http://dx.doi. org/10.1037/0735-7028.31.2.119

Lachar, D., & Gruber, C. P. (1995). *Personality Inventory for Youth (PIY) manual: Administration and interpretation guide; technical guide*. Los Angeles, CA: Western Psychology Services.

Lachar, D., & Gruber, C. P. (2001). *Personality Inventory for Children, Second Edition (PIC-2) manual*. Los Angeles: Western Psychological Services.

Levak, R., Siegel, L., Nichols, D. S., & Stolberg, R. (2011). *Therapeutic feedback with the MMPI–2: A positive psychology approach*. New York, NY: Routledge/ Taylor & Francis.

Lilienfeld, S. O., Wood, J. M., & Garb, H. N. (2000). The scientific status of projective techniques. *Psychological Science in the Public Interest*, *1*, 27–66.

Makransky, G., Mortensen, E. L., & Glas, C. A. W. (2013). Improving personality facet scores with multidimensional computer adaptive testing: An illustration with the NEO PI-R. *Assessment*, *20*, 3–13. http://dx.doi.org/10.1177/1073191112437756

Markon, K. E. (2010). Modeling psychopathology structure: A symptom-level analysis of Axis I and II disorders. *Psychological Medicine*, *40*, 273–288. http://dx.doi.org/10.1017/S0033291709990183

Maruish, M. E. (1999). Introduction. In M. E. Maruish (Ed.), *The use of psychological testing for treatment planning and outcomes assessment* (2nd ed., pp. 1–39). Mahwah, NJ: Erlbaum.

McArthur, D. S., & Roberts, G. E. (1982). *Roberts Apperception Test for Children manual*. Los Angeles: Western Psychological Services.

McCrae, R. R., Chan, W., Jussim, L., De Fruyt, F., Löckenhoff, C. E., De Bolle, M., . . . Terracciano, A. (2013). The inaccuracy of national character stereotypes. *Journal of Research in Personality*, *47*, 831–842. http://dx.doi.org/10.1016/j.jrp.2013.08.006

McCrae, R. R., & Costa, P. T. (2010). *NEO inventories for the NEO Personality Inventory—3 (NEO PI–3), NEO Five-Factor Inventory-3 (NEO FFI–3), NEO Personality Inventory-Revised (NEO PI–R) professional manual*. Lutz, FL: Psychological Assessment Resources.

McGrath, R. E. (2008). The Rorschach in the context of performance-based personality assessment. *Journal of Personality Assessment*, *90*, 465–475. http://dx.doi. org/10.1080/00223890802248760

Meyer, G. J. (2000). Incremental validity of the Rorschach Prognostic Rating Scale over the MMPI Ego Strength Scale and IQ. *Journal of Personality Assessment*, *74*, 356–370. http://dx.doi.org/10.1207/ S15327752JPA7403_2

Meyer, G. J. (2002). Exploring possible ethnic differences and bias in the Rorschach Comprehensive System. *Journal of Personality Assessment*, *78*, 104–129. http:// dx.doi.org/10.1207/S15327752JPA7801_07

Meyer, G. J., Erdberg, P., & Shaffer, T. W. (2007). Toward international normative reference data for the Comprehensive System. *Journal of Personality*

*Assessment*, *89*(Suppl. 1), S201–S216. http://dx.doi.org/10.1080/00223890701629342

Meyer, G. J., Finn, S. E., Eyde, L. D., Kay, G. G., Kubiszyn, T. W., Moreland, K. L., . . . Dies, R. R. (1998). *Benefits and costs of psychological assessment in healthcare delivery: Report of the Board of Professional Affairs Psychological Assessment Work Group, Part 1*. Washington, DC: American Psychological Association.

Meyer, G. J., Finn, S. E., Eyde, L. D., Kay, G. G., Moreland, K. L., Dies, R. R., . . . Reed, G. M. (2001). Psychological testing and psychological assessment: A review of evidence and issues. *American Psychologist*, *56*, 128–165.

Meyer, G. J., Giromini, L., Viglione, D. J., Reese, J. B., & Mihura, J. L. (2015). The association of gender, ethnicity, age, and education with Rorschach scores. *Assessment*, *22*, 46–64. http://dx.doi.org/10.1177/1073191114544358

Meyer, G. J., Hsiao, W. C., Viglione, D. J., Mihura, J. L., & Abraham, L. M. (2013). Rorschach scores in applied clinical practice: A survey of perceived validity by experienced clinicians. *Journal of Personality Assessment*, *95*, 351–365. http://dx.doi.org/10.1080/00223891.2013.770399

Meyer, G. J., Shaffer, T. W., Erdberg, P., & Horn, S. L. (2015). Addressing issues in the development and use of the composite international reference values as Rorschach norms for adults. *Journal of Personality Assessment*, *97*, 330–347. http://dx.doi.org/10.1080/00223891.2014.961603

Meyer, G. J., Viglione, D. J., & Giromini, L. (2014). *Current R-PAS transitional child and adolescent norms*. Retrieved from http://www.r-pas.org/CurrentChildNorms.aspx

Meyer, G. J., Viglione, D. J., Mihura, J. L., Erard, R. E., & Erdberg, P. (2011). *Rorschach Performance Assessment System: Administration, coding, interpretation, and technical manual*. Toledo, OH: Authors.

Mihura, J. L. (2012). The necessity of multiple test methods in conducting assessments: The role of the Rorschach and self-report. *Psychological Injury and Law*, *5*, 97–106. http://dx.doi.org/10.1007/s12207-012-9132-9

Mihura, J. L., Meyer, G. J., Dumitrascu, N., & Bombel, G. (2013). The validity of individual Rorschach variables: Systematic reviews and meta-analyses of the comprehensive system. *Psychological Bulletin*, *139*, 548–605. http://dx.doi.org/10.1037/a0029406

Millon, T. (1995). *Personality and psychopathology: Building a clinical science*. New York, NY: Wiley.

Millon, T. (2011). *Disorders of personality: Introducing a DSM/ICD spectrum from normal to abnormal* (3rd ed.). http://dx.doi.org/10.1002/9781118099254

Millon, T., Antoni, M., Millon, C., Meagher, S., & Grossman, S. (2001). *MBMD manual*. Minneapolis, MN: National Computer Systems.

Millon, T., Grossman, S., & Millon, C. (2015). *Millon Clinical Multiaxial Inventory—IV*. Retrieved from http://www.pearsonclinical.com/psychology/products/100001362/millonsupsup-clinical-multiaxial-inventoryiv-mcmi-iv.html

Millon, T., Millon, C., & Davis, R. (1993). *Millon Adolescent Clinical Inventory (MACI) manual*. Minneapolis, MN: NCS Assessments.

Millon, T., Millon, C., Davis, R., & Grossman, S. (2009). *Millon Clinical Multiaxial Inventory (MCMI–III) manual* (4th ed.). Minneapolis, MN: NCS Assessments.

Morey, L. C. (1991). *Personality Assessment Inventory professional manual*. Odessa, FL: Psychological Assessment Resources.

Morey, L. C. (2007a). *Personality Assessment Inventory—Adolescent professional manual* (2nd ed.). Lutz, FL: Psychological Assessment Resources.

Morey, L. C. (2007b). *Personality Assessment Inventory professional manual* (2nd ed.). Lutz, FL: Psychological Assessment Resources.

Morey, L. C., & Hopwood, C. J. (2007). *Casebook for the Personality Assessment Inventory: A structural summary approach*. Lutz, FL: Psychological Assessment Resources.

Murray, H. A. (1943). *Thematic Apperception Test: Manual*. Cambridge, MA: Harvard University Press.

Naglieri, J. A., Drasgow, F., Schmit, M., Handler, L., Prifitera, A., Margolis, A., & Velasquez, R. (2004). Psychological testing on the Internet: New problems, old issues. *American Psychologist*, *59*, 150–162. http://dx.doi.org/10.1037/0003-066X.59.3.150

NCS Pearson. (2013). *Welcome to Q-interactive*. Retrieved from http://www.helloq.com/home.html

Nelson-Gray, R. O. (2003). Treatment utility of psychological assessment. *Psychological Assessment*, *15*, 521–531. http://dx.doi.org/10.1037/1040-3590.15.4.521

Norcross, J. C. (Ed.). (2011). *Psychotherapy relationship that work: Evidence-based responsiveness* (2nd ed.). http://dx.doi.org/10.1093/acprof:oso/9780199737208.001.0001

Norcross, J. C., & Karpiak, C. P. (2012). Clinical psychologists in the 2010s: 50 years of the APA Division of Clinical Psychology. *Clinical Psychology: Science and Practice*, *19*, 1–13. http://dx.doi.org/10.1111/j.1468-2850.2012.01269.x

Ollendick, T. H., & Hersen, M. (1993). Child and adolescent behavioral assessment. In T. H. Ollendick & M. Hersen (Eds.), *Handbook of child and adolescent assessment* (pp. 3–14). Boston, MA: Allyn & Bacon.

Poston, J. M., & Hanson, W. E. (2010). Meta-analysis of psychological assessment as a therapeutic intervention. *Psychological Assessment*, *22*, 203–212. http://dx.doi.org/10.1037/a0018679

Presley, G., Smith, C., Hilsenroth, M., & Exner, J. (2001). Clinical utility of the Rorschach with African Americans. *Journal of Personality Assessment*, *77*, 491–507. http://dx.doi.org/10.1207/S15327752JPA7703_09

Rabin, L. A., Barr, W. B., & Burton, L. A. (2005). Assessment practices of clinical neuropsychologists in the United States and Canada: A survey of INS, NAN, and APA Division 40 members. *Archives of Clinical Neuropsychology*, *20*, 33–65. http://dx.doi.org/10.1016/j.acn.2004.02.005

Reese, J. B., Viglione, D. J., & Giromini, L. (2014). A comparison between Comprehensive System and an early version of the Rorschach Performance Assessment System administration with outpatient children and adolescents. *Journal of Personality Assessment*, *96*, 515–522. http://dx.doi.org/10.1080/00223891.2014.889700

Reynolds, C. R., & Kamphaus, R. W. (2004). *BASC-2: Behavioral Assessment System for Children* (2nd ed. manual). Circle Pines, MN: American Guidance Service.

Reynolds, W. M. (1987). *Suicidal Ideation Questionnaire*. Odessa, FL: Psychological Assessment Resources.

Reynolds, W. M. (2002). *Reynolds Adolescent Depression Scale, Second Edition (RADS-2)*. Lutz, FL: Psychological Assessment Resources.

Roberts, G. E. (2005). *Roberts-2*. Torrance, CA: Western Psychological Services.

Rorschach, H. (1942). *Psychodiagnostik* (H. H. Verlag, Trans.). Bern, Switzerland: Bircher. (Original work published 1921)

Rotter, J. B., Lah, M. I., & Rafferty, J. E. (1992). *Rotter Incomplete Sentences Blank, Second Edition manual*. Orlando, FL: Psychological Corporation.

Røysamb, E., Kendler, K. S., Tambs, K., Ørstavik, R. E., Neale, M. C., Aggen, S. H., . . . Reichborn-Kjennerud, T. (2011). The joint structure of *DSM–IV* Axis I and Axis II disorders. *Journal of Abnormal Psychology*, *120*, 198–209. http://dx.doi.org/10.1037/a0021660

Sheehan, D. V., Lecrubier, Y., Sheehan, K. H., Amorim, P., Janavs, J., Weiller, E., . . . Dunbar, G. C. (1998). The Mini-International Neuropsychiatric Interview (M.I.N.I.): The development and validation of a structured diagnostic psychiatric interview for *DSM–IV* and *ICD–10*. *Journal of Clinical Psychiatry*, *59*(Suppl. 20), 22–33.

Sheehan, D. V., Sheehan, K. H., Shytle, R. D., Janavs, J., Bannon, Y., Rogers, J. E., . . . Wilkinson, B. (2010). Reliability and validity of the Mini International Neuropsychiatric Interview for Children and Adolescents (MINI-KID). *Journal of Clinical Psychiatry*, *71*, 313–326. http://dx.doi.org/10.4088/JCP.09m05305whi

Shephard, J. M., Kho, S., Chen, J., & Kosslyn, S. M. (2006). MiniCog: A method for administering psychological tests and experiments on a handheld personal digital assistant. *Behavior Research Methods*, *38*, 648–655. http://dx.doi.org/10.3758/BF03193897

Sinclair, S. J., Smith, M., Chung, W.-J., Liebman, R., Stein, M. B., Antonius, D., . . . Blais, M. A. (2015). Extending the validity of the Personality Assessment Inventory's (PAI) Level of Care Index (LOCI) in multiple psychiatric settings. *Journal of Personality Assessment*, *97*, 145–152. http://dx.doi.org/10.1080/00223891.2014.941441

Smid, W. J., Kamphuis, J. H., Wever, E. C., & Van Beek, D. J. (2014). A comparison of the predictive properties of nine sex offender risk assessment instruments. *Psychological Assessment*, *26*, 691–703. http://dx.doi.org/10.1037/a0036616

Smith, J. D., Eichler, W. C., Norman, K. R., & Smith, S. R. (2015). The effectiveness of collaborative/therapeutic assessment for psychotherapy consultation: A pragmatic replicated single-case study. *Journal of Personality Assessment*, *97*, 261–270.

Smith, S. R., & Handler, L. (2007). The clinical practice of child and adolescent assessment. In S. R. Smith & L. Handler (Eds.), *The clinical assessment of children and adolescents: A practitioner's handbook* (pp. 1–18). Mahwah, NJ: Erlbaum.

Soldz, S., Budman, S., Demby, A., & Merry, J. (1995). A short form of the Inventory of Interpersonal Problems Circumplex Scales. *Assessment*, *2*, 53–63. http://dx.doi.org/10.1177/1073191195002001006

Spielberger, C. D. (1999). *State-Trait Anger Expression Inventory-2: Professional manual*. Lutz, FL: Psychological Assessment Resources.

Sroufe, L. A., & Rutter, M. (1984). The domain of developmental psychopathology. *Child Development*, *55*, 17–29. http://dx.doi.org/10.2307/1129832

Standards for education and training in psychological assessment: Position of the Society for Personality Assessment. (2006). *Journal of Personality Assessment*, *87*, 355–357. http://dx.doi.org/10.1207/s15327752jpa8703_17

Strack, S. (Ed.). (2008). *Essentials of Millon inventories assessment* (3rd ed.). New York, NY: Wiley.

Teglasi, H. (2010). *Essentials of TAT and other storytelling assessments* (2nd ed.). Hoboken, NJ: Wiley.

Valleley, R. J., & Clarke, B. L. (2010). Review of the Roberts–2. In R. A. Spies, J. F. Carlson, & K. F. Geisinger (Eds.), *The 18th mental measurements*

*yearbook* (pp. 492–494). Lincoln, NE: Buros Center for Testing.

van der Heijden, P. T., Egger, J. I. M., Rossi, G. M. P., Grundel, G., & Derksen, J. J. L. (2013). The MMPI–2 Restructured Form and the Standard MMPI–2 Clinical scales in relation to *DSM–IV*. *European Journal of Psychological Assessment*, *29*, 182–188. http://dx.doi.org/10.1027/1015-5759/a000140

Williams, C. L., & Butcher, J. N. (2011). *A beginner's guide to the MMPI–A*. Washington, DC: American Psychological Association.

Wilson, T. D., & Dunn, E. W. (2004). Self-knowledge: Its limits, value, and potential for improvement. *Annual Review of Psychology*, *55*, 493–518. http://dx.doi.org/10.1146/annurev.psych.55.090902.141954

Wolford, G., Rosenberg, S. D., Rosenberg, H. J., Swartz, M. S., Butterfield, M. I., Swanson, J. W., & Jankowski, M. K. (2008). A clinical trial comparing interviewer and computer-assisted assessment among clients with severe mental illness. *Psychiatric Services*, *59*, 769–775. http://dx.doi.org/10.1176/ps.2008.59.7.769

World Health Organization. (1992). *International statistical classification of diseases and related health problems, 10th revision*. Geneva, Switzerland: Author.

Yates, B. T., & Taub, J. (2003). Assessing the costs, benefits, cost-effectiveness, and cost-benefit of psychological assessment: We should, we can, and here's how. *Psychological Assessment*, *15*, 478–495.

CHAPTER 7

# NEUROPSYCHOLOGICAL ASSESSMENT

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Neuropsychology has seen tremendous growth as a psychological science and practice, from a specialty once devoted to examination of adults with brain injury or illness to one that details typical and atypical brain structure and function from infancy through geriatric populations. As neuropsychology expanded to meet client needs, practice changed as well. Whereas clinical neuropsychology once focused on differential diagnosis of disorders to determine client eligibility for services, it quickly evolved to address treatment planning, implementation, monitoring, and evaluation of response. Because virtually all psychological practice is affected by—and actually affects—brain structure and function, clinical psychologists routinely incorporate knowledge of brain–behavior relationships into assessment and treatment activities.

Specialty training in neuropsychological assessment can help clinicians determine how brain structures, systems, and neuropsychological functions are related to cognitive (e.g., working memory, cognitive distortions, obsessive ruminations), emotional (e.g., anxiety, anhedonia, euphoria), and behavioral (e.g., impulsivity, atypical risk, self-injurious behavior) function and dysfunction. Understanding these symptoms can be important in helping children with genetic (e.g., Klinefelter syndrome, Angelman syndrome), congenital (e.g., chiari malformation, spina bifida), neurodevelopmental (e.g., attention-deficit/hyperactivity disorder [ADHD], reading disability), and acquired (e.g., traumatic brain injury, encephalitis) disorders. As a result, the practice of neuropsychological assessment today is far more sophisticated and far reaching than it once was, extending its reach to diverse populations and clinical practices.

## DESCRIPTION AND DEFINITION

Neuropsychological assessment is similar to other comprehensive psychological evaluations, but it differs in a fundamental way. Neuropsychological evaluation requires integration of multiple data sources, such as history, observation, and objective and qualitative data analysis, for the purpose of case conceptualization, diagnosis, and treatment purposes. Unlike traditional psychological assessment, in which the data obtained from the client guides interpretation, neuropsychologists use their understanding of brain structures and functions to interpret the client's observable behaviors and data obtained. As such, neuropsychological assessment uses neuropsychosocial conceptualization to facilitate understanding of an individual's cognitive, academic, adaptive, and behavioral functioning for purposes of identifying individual strengths and needs; differential diagnosis of disability; and developing, implementing, and monitoring intervention. Because neuropsychological interpretation is both nomothetic (norm-referenced) and idiographic (individual-referenced) in nature, neuropsychological assessment can be used to understand not only brain dysfunction,

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damage, or disease but also an individual's neurocognitive assets and reserve, which can aid in differential diagnosis, forensic decisions, intervention development, and treatment monitoring (Beaumont, 2008; Reddy, Weissman, & Hale, 2013).

## HISTORICAL FOUNDATIONS

In the past 40 years, scientific discoveries have led to significant advances in neuropsychological assessment. Increasingly sophisticated findings from the clinical neurosciences and neurology have led to an evolution in neuropsychological theory and practice, as suggested by the five neuropsychological assessment phases. Not only does this evolution document how the field has grown and matured, but it also highlights how science has guided practice.

### Foundation Phase

In the first historical phase of neuropsychological assessment, neurological exam, clinical assessment, and patient interview predominated. In the 1800s, when Paul Broca and Carl Wernicke described expressive (nonfluent) and receptive (fluent) aphasia, respectively, practice was based on neurological assessment traditions. Clinical interpretation and nonstandardized tasks were used in combination with other neurological data to identify adult language brain functions (Witsken, D'Amato, & Hartlage, 2008). Specifically, Broca identified the association between nonfluent aphasia and left inferior frontal damage (e.g., Broca's area; Brodmann's area 44 - pars opercularis, and area 45 - pars triangularis); whereas, Wernicke discovered the link between fluent aphasia and left posterior superior temporal lobe damage (e.g., Wernicke's area, Brodmann's area 22). Norman Geschwind furthered this emphasis on the "dominant" left-hemisphere language processes associated with language use and dysfunction. A contemporary of Broca and Wernicke, Korsakoff also described neurological impairment in people with chronic alcoholism, expanding clinical and research interest beyond language to executive and memory processes.

Although brain structures and their functions received increased attention, few objective tools were available for research or practice. With pioneering work in the late 1800s in Galton's Anthropometric Laboratory and the efforts of Binet and Simon to develop a test of intelligence, the field became focused on psychometric test development. Concerns over localization of brain function in the early 1900s were supported by psychometric test research, epitomized by Spearman's notion of general intelligence, or *g,* for which IQ scores emerged as a dominant force in psychometric psychological testing (e.g., global instead of discrete abilities). During this same period, Lashley's animal research indirectly supported psychometric efforts when he concluded that the brain was equipotential, not made of discreet "compartments" for doing single processes. Instead, the amount of brain damage was what determined test performance, not the location of the damage. This orientation, combined with psychometric IQ score emphasis, led to clinical focus on an individual's level of performance (e.g., high, average, low), not his or her pattern of performance.

### Divergent Phase

Eastern and Western neuropsychology began to diverge in the early 20th century. Epitomized by the iconic neuropsychologist Alexander Luria, who condemned IQ and psychometric approaches to brain functioning, the Eastern neuropsychology approach pioneered clinical neuropsychological assessment of individual strengths and deficits for the purpose of guiding intervention (Witsken et al., 2008). In Ukraine and Russia during the 1920s and 1930s, Luria and his mentor, Lev Vygotsky, began mapping symptoms and deficits in adults with brain injury. However, these early attempts were insufficient because the results suggested considerable cognitive and behavioral outcome variability in affected individuals, even for patients with similar lesions (Glozman, 2007). As a result, Luria developed a qualitative and quantitative approach to understanding patient symptoms and observable behaviors (Luria, 1973), with his syndromal analysis used to identify the causes, results, and treatment of brain dysfunction (Goldberg, 2001). Luria saw brain structures functioning within highly interdependent systems or networks—an idea still useful in the understanding of brain–behavior relationships today. Interestingly, despite the allure of Luria's approach,

his methods were not readily recognized or valued in Western neuropsychology, where the emphasis was on psychometric—not clinical—interpretation.

Although Western neuropsychology was mesmerized by psychometric *g,* it also recognized that Spearman had also argued for *s,* or specific abilities not accounted for by *g.* In the late 1930s, Wechsler presented an intelligence model that included global IQ, but he also argued for psychological process interpretation beyond IQ for clinical assessment. This led many in Western neuropsychology to focus on developing single tests to evaluate brain function and disability (e.g., *s;* Spreen & Benton, 1965). Clinicians were taught to look for signs of organicity using a single test such as the Bender Visual–Motor Gestalt Test, Kahn Symbol Arrangement, or the Patch Test. Although some findings were promising, the focus on pathognomonic signs and red flags indicating brain damage did not adequately explain the client variability observed in practice.

## Fixed-Battery Phase

In the third phase, the predominant psychometric focus in Western neuropsychology led to development of standardized test batteries (e.g., Halstead–Reitan Neuropsychological Test Battery, Luria-Nebraska Neuropsychological Battery) for identifying and localizing brain dysfunction or damage. Test publishers raced to produce test batteries with normative data that could be used to analyze brain systems and dysfunctional syndromes. Researchers such as Halstead and Reitan developed measures for their standardized neuropsychological assessment approach that emphasized normative data, reliability, and validity (Witsken et al., 2008). These initial test batteries were specifically developed, normed, and validated with adults, with many tasks extended downward to children (e.g., Reitan-Indiana Neuropsychological Test Battery for Children). With strong psychometric roots in place, Western neuropsychology training models often incorporated these tools into neuropsychological assessment to evaluate specific brain deficits beyond the effects of brain damage on general intelligence.

Still a favored neuropsychological assessment approach among some clinicians, the fixed-battery approach offers several advantages over early practices. One advantage is that the same measures are used across all clients, leading the seasoned clinician to have greater clinical insight into test performance deviations. This approach is also useful for research because the same data are collected across subjects. Although fixed batteries are validated, flexible batteries (discussed below) are not, therefore, some have suggested fixed battery results are more clinically useful (Russell, Russell, & Hill, 2005). However, some fixed-battery subtests lack psychometric integrity, which limits their sensitivity and specificity. In addition, some processes such as executive or memory functions may be minimally addressed, the time and cost of administering extensive batteries is high, and intellectual and neuropsychological subtests are not discrete or orthogonal (Hale & Fiorello, 2004).

## Flexible-Battery Phase

The fourth, flexible-battery phase emphasized the integration of neuropsychological assessment data from multiple data sources, including history, direct observation, neuroimaging, and test data, to understand individual patterns of performance. Advocated by leaders in neuropsychology (e.g., Adams & Gable, 2014; Ashendorf, Swenson, & Libon, 2013; Bernstein, 2000; Fletcher-Janzen, 2005; Hale & Fiorello, 2004; Lezak, Howieson, & Loring, 2004; Milberg, Hebben, & Kaplan, 1996; Schneider et al., 2013), the field began to focus on generating functional profiles of individual strengths and weaknesses that led to specific cognitive, academic, adaptive, and behavioral outcomes useful in both differential diagnosis and treatment planning. In the flexible-battery approach, the clinician chooses the battery on the basis of referral questions, history, observation, and specific areas (e.g., motor, attention, executive, or memory) of concern.

The intuitive appeal of using a hypothesis-driven approach to determine individual neuropsychological strengths and weaknesses is a powerful one (Lezak et al., 2004), especially when one considers that individuals with disabilities use different areas of their brain to process information than typical individuals (Koziol, Budding, & Hale, 2013), and early localizationist perspectives have been replaced with notions that dysfunction occurs along a continuum of interdependent brain systems (Goldberg, 2001). In addition to evoked potentials, the focus

on brain system profiles was driven in part by advancements in neuroimaging technologies such as functional MRI, positron emission tomography, and single-photon emission computed tomography (Vakil, 2012), which permit the assessment of brain functioning and dysfunction or damage from a systems level of analysis, much like a Lurian syndromal approach. In addition, neuroscience, psychopharmacology, and neuroimaging findings furthered neuropsychological assessment advocates to adopt more comprehensive practice models that elucidate important relationships between brain dysfunction and psychosocial factors (Vakil, 2012).

Similar to the cross-battery approach in school psychology (e.g., Flanagan, Ortiz, & Alfonso, 2013), flexible neuropsychological test batteries are developed in a step-by-step hypothesis-testing fashion using a variety of standardized assessment tools, with the goal of expanding neuropsychological assessment practices beyond differential diagnosis to include treatment planning and intervention monitoring (Glozman, 2007). Extensive cross-battery factor analyses have shown how these tests measure different constructs, which allows clinicians to approach interpretation with a normative standard on which to base their conclusions (e.g., Flanagan et al., 2013). Given the psychometric mindset of many clinicians in the Western hemisphere, this approach remains the predominant approach in neuropsychology today, but generalization of results to clinical populations may not be warranted, because most empirical efforts have focused on normative populations, which are not comparable across measures (Decker, Schneider, & Hale, 2011).

## Cognitive Hypothesis-Testing Phase

The fifth phase gaining popularity in modern practice emphasizes a cognitive hypothesis-testing (CHT; Hale & Fiorello, 2004) flexible-battery approach, using a wide range of neuropsychological processing assessment data for evaluation and intervention for individuals with a wide range of disorders. In CHT, neuropsychological assessment can be used to guide intervention decisions by identifying interrelationships among individual strengths and weaknesses and can also be used to monitor intervention efficacy (Fiorello, Hale, & Wycoff, 2012). Governed by the scientific method, CHT (see Figure 7.1) has been used to iteratively link neuropsychological assessment results to targeted interventions, ensuring both ecological validity and treatment efficacy of results in a number of studies (Fenwick et al., 2015).

Modern neuropsychological assessment practices have reconsidered the validity of categorical diagnostic models based on behavioral criteria or rigid psychometric cutpoints in favor of a more realistic appraisal of brain function and dysfunction. Similar to the clinical approach first recognized by Eastern neuropsychology more than 40 years ago

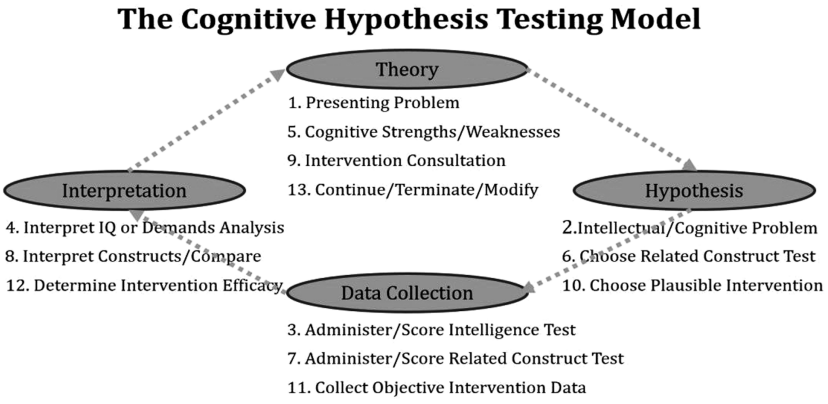


**FIGURE 7.1. The cognitive hypothesis-testing model. From *School Neuropsychology: A Practitioner's Handbook* (p. 129), by J. B. Hale & C. A. Fiorello, 2004, New York, NY: Guilford Press. Copyright 2004 by Guilford Press. Reprinted with permission.**

(e.g., Luria & Majovski, 1977), current evidence has suggested that clinical neuropsychologists must embrace this enduring legacy in modern neuropsychological assessment (Christensen, Goldberg, & Bougakov, 2009). Clinical neuropsychologists now recognize that their current understanding of brain system function and dysfunction must guide interpretive practice and that psychometric approaches have limitations in understanding brain–behavior relationships in individuals (Koziol et al., 2013), even if they may be valid for large populations of children or adults.

The impetus for recognizing the value of a Lurian CHT clinical approach comes from two sources of evidence. First, over the past 20 years neuroimaging findings have shown that not every brain processes information in the same way—children and adults with brain dysfunction or damage use different brain areas and systems than typically functioning individuals when responding to test stimuli and the environment (Schneider et al., 2013). In addition, different brain areas may be used to compensate for deficits, even for individuals with similar conditions, resulting in varied clinical presentations. In many cases, a low or atypical brain function is offset by a higher functioning one that serves a compensatory function (e.g., Broca's area activation in children with word reading disability; Shaywitz et al., 2004; Simos et al., 2007), so interpretation must examine the interrelationships of brain structures and functions. Thus, individuals with disabilities do not just fall at the lower end of the normal distribution in a processing area; rather, they attempt to use other processing strengths to compensate for their weaknesses. In essence, this CHT approach recognizes that the same normative score may not mean the same thing for every individual (Hale et al., 2010), a finding that limits traditional psychometric approaches to data interpretation.

CHT clinicians also recognize that any assessment score is has both state and trait variance (Hale et al., 2013). Clinicians know that psychological states vary, but traits should remain stable. From a traditional psychometric approach, a client's psychological state during testing becomes error variance, but from a CHT approach the client's state becomes essential in the interpretative process. A client's performance on a standardized test is highly reliable during one assessment, and also the next one, but test–retest reliability is typically lower. Why? Because the client's state has changed or learning has taken place. In fact, Luria (1973) would argue that if the test performance did not change from one administration to the next, it would suggest a significant problem—because the individual had not learned or modified performance on the basis of prior experience. To overcome the limitations of a fixed- or flexible-battery approach (often completed in a single session) to examining client states, CHT requires at least two test sessions, with the initial assessment followed by a hypothesis-testing phase that is used to verify or refute initial findings.

## CORE APPLICATIONS AND PRINCIPAL TESTS

From a fixed battery focus on brain lesion assessment to a mature field addressing the neuropsychological assessment and intervention needs of children and adults across the life span, clinical neuropsychology has benefited from tremendous growth and development in test development and clinical application in recent years. However, with the field's increasingly sophisticated and varied methods comes added responsibility among researchers and practitioners alike as they try to keep abreast of the remarkable changes, which we attempt to highlight in the sections that follow.

### Pediatric Neuropsychology

As the field expanded beyond the study of adults with brain lesions to pediatric populations, it became clear that pediatric neuropsychology could have far-reaching impact on psychological practices related to children. With the establishment of the American Academy of Pediatric Neuropsychology in 1996, the empirical and clinical focus on brain–behavior relationships in children began in earnest. With empirical efforts in the past two decades, pediatric neuropsychology has guided our understanding of individual differences in children and helped clinical neuropsychologists to develop treatment, rehabilitation, and intervention approaches tailored to individual needs.

The following is a brief synopsis of common pediatric disorders served by pediatric neuropsychologists in their differential diagnosis of and interventions for affected children. Because it is not possible to identify all the childhood disorders requiring neuropsychological assessment in a single chapter, we discuss three main areas of interest: neurodevelopmental disorders, mental disorders, and medical disorders affecting neuropsychological functioning, with exemplars offered for each. Because co-occurring symptoms with neuropsychological disorders is common, comorbid diagnoses are often the norm among people with these conditions. However, the concept of comorbidity may indeed become passé when one considers the neurobiological basis of symptoms instead of the behavioral diagnostic criteria typically used to identify areas of clinical concern (e.g., Insel, 2014; Koziol et al., 2013).

**Neurodevelopmental disorders.** In this section, we consider common learning disorders as exemplars, but neuropsychological services are also required for children with autism spectrum disorder, speech and language disability, developmental coordination disorder, and intellectual disability. Table 7.1 highlights the neuropsychological characteristics associated with these neurodevelopmental disorders.

Specific learning disorders (SLDs) are caused by neuropsychological processing strengths and deficits that lead to poor academic achievement (Hale et al., 2006). Prior SLD research has been limited however, because the method for determining SLD—ability–achievement discrepancy—has been dismissed by most as an ineffectual approach for determining whether a child has an SLD (Fletcher et al., 1994), and that is how most samples were defined in most studies. Because SLD identification methods vary significantly, the SLD incidence is unclear, but nearly 50% of all special education students are identified as having SLD (Kavale, Holdnack, & Mostert, 2006). Although some have suggested that SLD is a brain-based neuropsychological problem, consistent with neuroimaging research (e.g., Geary, 2010; Simos et al., 2007), others have suggested that it is an instructional or environmental one (Shinn & Walker, 2010). In reality, the interaction of these important determinants may be most relevant for understanding and serving children with SLD (Fiorello et al., 2012).

We briefly mention Response-to-Intervention (RTI) as an alternative method of SLD identification because it has been supported by a recognized neuropsychologist (e.g., Fletcher et al., 2004). Despite its empirical allure and support by the government when the last iteration of the Individuals With Disabilities Education Act of 2004 was released, research has suggested that response to intervention is not an effective SLD identification method (e.g., Barth et al., 2008), in part because there is no true positive in an RTI model (Hale et al., 2010), so there is no way to determine the sensitivity and specificity of RTI measures. There are just too many reasons why a child does not respond to suggest that the child has an SLD. Instead, a third method approach, recognized by 58 leaders in SLD service delivery (Hale et al., 2010), may hold the greatest promise for SLD identification. Because this third method typically requires an assessment of processing strengths and weaknesses (Flanagan, Fiorello, & Ortiz, 2010), neuropsychological assessment approaches are particularly useful.

Of the third-method processing approaches, the concordance–discordance model (Hale & Fiorello, 2004), which establishes a cognitive strength, a cognitive weaknesses, and an achievement deficit associated with the cognitive weakness, has received the most empirical attention. Concordance–discordance model research has revealed important brain–behavior characteristics for children with reading, mathematics, written expression, and psychosocial SLD, with profile differences among the subtypes suggesting that different neuropsychological assessment and intervention strategies are necessary.

Approximately 5% to 7% of schoolchildren have reading SLD, which represents a very large proportion of the special education population (Semrud-Clikeman, Goldenring Fine, & Harder, 2005). Not surprisingly, reading SLD has multiple causes, with subtypes linked to specific cognitive processing deficits (Feifer & Della Tofallo, 2007). These deficits include auditory memory (McDougall et al., 1994), phonological processing (Ramus et al., 2003),

TABLE 7.1

**Major Neurodevelopmental Learning Disorders and Neuropsychological Issues**

| Neurodevelopmental disorder | Major neuropsychological issues | Associated issues |
|---|---|---|
| Autism spectrum disorder | Controversial: evidence supporting and rejecting "spectrum," more in favor of eliminating "Asperger"; Traditional autism is associated with left-hemisphere weaknesses and overactive executive problems (obsessive–compulsive disorder–like features); autism of Asperger type is a more severe form of right-hemisphere learning disability, with underactive executive problem (attention deficit/hyperactivity disorder–like features); may be hyperverbal in Asperger type, appearing normal or gifted in elementary-age children. Simple skill—adequate vs. complex skill—impaired pattern consistent, suggesting abnormal connectivity across intellectual levels, so autism-Asperger distinction may not be relevant (i.e., autism "spectrum") | Social problems may have different neuropsychological causes and interventions; may have intellectual disability, but not flat profile; more severe presentation has more adaptive impairment and medical complications, often requiring coordination of multiple service providers; 20% show genetic abnormalities, but not consistent. Social impairment in ASD, but look for 'Hale's Sign' - some with autism find social interaction aversive, Asperger's often seeks social exchange but also impaired |
| Speech, language, or both | Primarily considered left hemisphere, can be either explicit (left hemisphere) or implicit (right hemisphere) problem; phonological (left) or prosody (right) problems, influence of working memory and comprehension; expressive language can be nonfluent or language formulation problem | Phonological issues can affect word reading; receptive language can affect understanding (oral and reading); expressive language problem, motor, and executive system interactions; coordination with speech-language pathologists |
| Intellectual | More neuropsychologically diverse than is typically thought, especially if cause is brain trauma or genetic; considerable variability in presentation, prognosis, and treatment | Medical, language, motor, academic, psychosocial, and adaptive impairments often require coordinated service delivery |
| Developmental coordination | Focus is motor, but can be spatial, directional, somatosensory, premotor, or supplementary motor; integration or cerebellar in origin | Differential diagnosis of symptoms for correct intervention; coordination with occupational therapy |
| Reading learning disorder | Reading problems include phonological, orthographic, phoneme–grapheme, lexical–semantic, receptive language, rapid naming or fluency, working memory, language formulation, expressive language | May resolve with differentiated instruction based on subtype; may not be learning disorder if no processing deficit, but instructional casualty |
| Math learning disorder | Calculation problems related to number–quantity association, rapid naming or fluency for math facts, frontal executive for computation; math word problems also include more executive demands for increased attention, working memory and fluid reasoning demands, or receptive–expressive language systems for linguistic processing | May resolve with differentiated instruction based on subtype; may not be learning disorder if no processing deficit, but instructional casualty; subtype may occur with or without other disorders on the basis of processing cause |
| Written language learning disorder | Most complex of all academic disorders, with multiple causes and different interventions; executive demands highest for planning, organizing, coordinating, maintaining, evaluating, and revising work; motor or expressive language dysfunction can often co-occur, both interfering with writing | May resolve with differentiated instruction based on subtype; may not be learning disorder if no processing deficit, but instructional casualty, most difficult task to teach and evaluate, with few good tools available |

visual–orthographic processing (Facoetti et al., 2009), integration of sounds with letters (alphabetic principle; Blau et al., 2009), rapid automatic naming (Torgesen et al., 1997), working memory (Swanson, 2011), and receptive and expressive language (Hulme & Snowling, 2011). In their review and study of reading SLD subtypes, Fiorello, Hale and Snyder (2006) reported on four reading SLD subtypes (phonological, orthographic, working memory, and language). They noted that many brain areas can be affected in reading SLD, including the superior (phonological), middle (lexical–semantic memory), and inferior (rapid naming or fluency) temporal lobe, the inferior (angular and supramarginal gyrus)

parietal lobe, the dorsolateral or oculomotor (frontal cortical–subcortical circuits) regions, Wernicke's and Broca's areas, and finally the cingulate and cerebellum as well.

Children identified with mathematics SLD constitute about 7% of the population (Geary et al., 2012). Math SLD is a heterogeneous disorder, with semantic memory (number sense and math facts problems; presumed left hemisphere systems in origin), procedural (working memory and algorithm sequencing problems; presumed dorsolateral or anterior cingulate executive problems), and visual–spatial (representing quantitative relationships; presumed right hemisphere or white matter problems) subtypes identified. Psychological processing deficits can include fluid reasoning, concept formation, quantitative reasoning, abstract thinking, and perception of complex relations (Desco et al., 2011). Hale et al. (2008) found five subtypes in their study, suggesting right posterior (visual–spatial), right frontal (fluid reasoning and novel problem solving), frontal–subcortical circuit (FSC; executive or working memory), left posterior parietal (crystallized number sense and computation; Gerstmann syndrome), and high-functioning children who may not have had SLD. The visual–spatial and fluid reasoning SLD subtypes were also found in another study to have the highest math impairment, with the fluid reasoning subtype showing the most psychosocial disturbance (Hain, Hale, & Glass-Kendorski, 2008). This would be consistent with Rourke's (2000) assumptions about nonverbal or right-hemisphere SLD causing math and psychosocial dysfunction, but Backenson et al. (2013) suggested the white matter dysfunction posited in Rourke's work could be more related to processing speed than to nonverbal processes.

Written expression SLD is the most difficult academic task from a neuropsychological perspective, but the least understood and researched (Fenwick et al., 2015; Hooper et al., 2011). Of particular interest to neuropsychologists is the parallel between cognitive executive functions and written expression. For instance, one has to plan one's writing, organize one's thoughts, implement the writing, monitor the accuracy of one's writing in relation to the plan, evaluate the content and mechanics, and flexibly alter or revise to arrive at the final product. In a recent study on writing SLD subtypes, Fenwick et al. (2015) found differences in lexical–semantic memory, auditory–sequential memory, praxis, and executive interference control variables for their crystallized, fluid, processing speed, working memory, and executive subtypes. Given the high FSC executive demands of written expression, the comorbidity of psychopathology and writing SLD is likely to be high (Mayes & Calhoun, 2006). As such, identifying the processing deficits causing the writing SLD would be particularly important for guiding both written expression intervention and psychosocial functioning interventions (Fenwick et al., 2015; Hooper et al., 2011).

**Neuropsychiatric disorders.** In this section, we consider common childhood disorders in the context of ADHD—the most common and researched one—because attention problems are ubiquitous in clinical disorders, yet only some of these children have "true" ADHD (Hale et al., 2009). As a result, neuropsychological assessment may be required for disorders affecting emotion, behavior, and emotional functioning, including mood disorders, tic disorders, anxiety disorders, and conduct disorder (see Table 7.2). Differentiating between true ADHD and "pseudo" ADHD may be the key to appropriate treatment planning and beneficial outcomes (Hale et al., 2013).

ADHD is the most commonly diagnosed mental disorder, affecting approximately 5% of children worldwide (Polanczyk et al., 2007). Although once known as a disruptive behavior disorder, ADHD also affects cognitive, neuropsychological, academic, and socioemotional functioning and is now correctly considered a neurodevelopmental disorder in the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* (American Psychiatric Association, 2013). It frequently co-occurs with SLD and other neuropsychiatric diagnoses (e.g., oppositional defiant disorder, anxiety disorder), complicating both diagnostic and treatment practices (Friedman et al., 2007). Attention problems are typical of most mental disorders, so most clients could be considered to have ADHD if evaluations are based on behavioral criteria alone (Hale et al., 2013).

TABLE 7.2

**Major Mental Disorders and Neuropsychological Issues**

| Neuropsychiatric disorder | Major neuropsychological issues | Associated issues |
|---|---|---|
| ADHD | Probably not attention deficit, but "intention" deficit, or executive control of attention most likely impaired; more right frontal response inhibition problem, with inattentive type most often some other disorder; executive impairments numerous and affecting dorsolateral function and cognitive impulsivity, but pure emotional response inhibition problem likely orbital in nature; problems with executive functions include poor memory retrieval but not memory encoding | Associated learning, social, and emotional–behavioral symptoms affect multiple domains in school and community; combined type more likely to respond to stimulants, but lower dose better for cognition, higher dose better for behavior; neuropsychological impairment predicts medication response better than behavior ratings |
| Mood (depression and bipolar) | Depression more likely dorsolateral, and bipolar more likely orbital and dorsolateral; depressive symptoms lead to inattention, poor processing speed, memory encoding problems, difficulty with decision making and error monitoring; manic symptoms appear to be ADHD-like (racing thoughts lead to inattention), with impulsivity and distractibility likely; poor theory of mind in bipolar | Lethargy in depression state likely to lead to appearing unmotivated and passive, distracted by internal thoughts; prefers withdrawal but engagement with others is key treatment; bipolar likely to be confused with ADHD, and stimulants may exacerbate symptoms |
| Tic disorders | Anxiety buildup leads to internal distraction and tics, which serve as release function; waxes in obsessive–compulsive disorder state, internal distraction, compulsiveness, and perseveration; wanes and may include ADHD-like symptoms with external distraction and impulsivity | More common than recognized, with simple and complex tics not identified; social problems are not unlike those seen in autism; may be considered diagnosis if tics not identified |
| Anxiety disorders, obsessive–compulsive disorder | Orbital overactivity and dorsolateral underactivity with internal distraction, may have poor empathy regulation and theory of mind, mental flexibility and working memory interference; PTSD may appear to be anxiety disorder and lead to internal distraction and memory problems | Anxiety can lead to internal distraction and fidgeting and to overly emotional response, so can be mistaken for ADHD; PTSD symptoms may be more common (not just traumatic event), appearing to be anxiety |
| Conduct disorder | Least amount of dorsolateral executive dysfunction and most likely to be orbital, leading to poor theory of mind (leading to limited empathy) and emotion regulation problems, including labile impulsivity and poor social response | May be unresponsive to normal contingencies or cognitive-behavior therapy; behavioral contracting, social skills, and high structure needed for success |

*Note*. ADHD = attention-deficit/hyperactivity disorder; PTSD = posttraumatic stress disorder. Adapted from *Neuropsychological Assessment and Intervention for Emotional and Behavior Disordered Youth: An Integrated Step-by-Step Evidence-Based Approach* (p. 364), by L. A. Reddy, A. Weissman, and J. B Hale (Eds.), 2013, Washington, DC: American Psychological Association. Copyright 2013 by the American Psychological Association.



ADHD is a neurobiological disorder (Dickstein et al., 2006) affecting FSC executive functions (see Figure 7.2). FSC dysfunction likely explains the cognitive, academic, and behavioral impairments of ADHD (Dickstein et al., 2006; Hale et al., 2009), but it likely explains symptoms in other mental disorders as well (see Table 7.2). Differentiating ADHD from other disorders using behavioral criteria leads to considerable population heterogeneity (Kubas et al., 2012; Wåhlstedt, Thorell, & Bohlin, 2009). This heterogeneity limits the sensitivity and specificity of neuropsychological tests (Hale et al., 2011), suggesting that combining neuropsychological data with behavioral rating scales may be useful in the differential diagnosis of the disorders (Kubas et al., 2012).

With neuroimaging advances, neuropsychologists are beginning to understand differences in FSC functions in relation to different mental disorders. The FSC executive functions manage and control other brain functions like a "brain boss." They are responsible for planning, organizing, strategizing, problem-solving, monitoring,

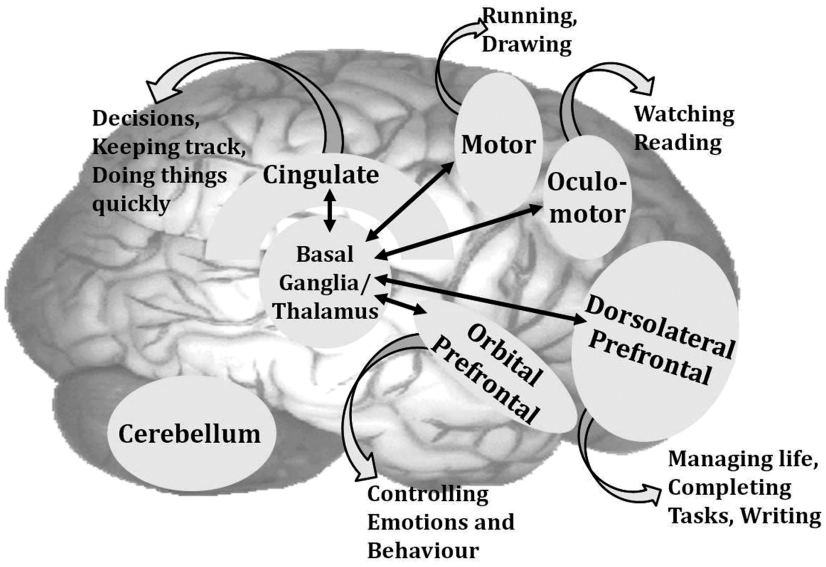


**FIGURE 7.2. Frontal–subcortical circuits and their functions.**

evaluating, and changing behavior (Hale & Fiorello, 2004). As such, children with the combined type or true ADHD do not have a primary attention problem, rather the problem is with executive control of attention, making it a disorder of intention (Denckla, 1996). In addition, other structures affected include the anterior cingulate (e.g., Rubia et al., 2005) and corpus callosum (e.g., Semrud-Clikeman et al., 1994), which undermines regulation of other psychological processes (Liotti et al., 2007). As a result, a child with ADHD may perform adequately on many tasks, but performance variability or small score decrements can be expected because of executive dyscontrol of attention and self-regulation (Hale et al., 2012).

Of the neuropsychological measures most likely to be impaired in ADHD, response inhibition is the most common finding, with vigilance, working memory, and planning measure deficits also noted (Willcutt et al., 2005). Differential executive deficits in ADHD could be accounted for by "cool" (e.g., working memory, mental flexibility, sustained attention) and "hot" (e.g., behavioral regulation, inhibition) executive deficits (Castellanos et al., 2006; Hale et al., 2009). However, ADHD–inattentive type may be a neuropsychologically and behaviorally distinct disorder (Diamond, 2005). For instance, children with visual–spatial and novel problem-solving difficulties may experience a primary attention problem as a result of parietal (not frontal) dysfunction, which also leads to poor attention to self and the environment (Hale et al., 2006).

Delineation of the genetic, neuropsychological, cognitive, psychosocial, behavioral, and environmental determinants of ADHD endophenotypes may translate into scientific advances in ADHD practice (Coghill et al., 2005) and understanding of other FSC disorders that may mimic ADHD (e.g., Koziol et al., 2013). Until the shift is made from using behavioral rating criteria to neuropsychological criteria in diagnosing ADHD (e.g., Insel, 2014; Nigg et al., 2004), neuropsychological tests are likely to have limited sensitivity and specificity, and treatment effects will remain attenuated for large samples because some will respond well to intervention, and others will not.

As noted earlier, most—if not all—mental disorders include attention problems and FSC dysfunction. Differences among FSC and executive function disorders are beginning to emerge (Reddy et al., 2013), and circuit overactivity and underactivity may be one defining feature. According to circuit balance theory (Hale et al., 2009), an optimal amount of executive function allows an individual to balance internal experiences and external responsiveness to environmental stimuli to maximize adaptive responding. If there is too little

or too much circuit function, a disorder may occur and limit an individual's capability to adjust to environmental demands. For instance, too little (e.g., ADHD) or too much (e.g., obsessive–compulsive disorder [OCD]) executive function due to circuit hypoactivity (ADHD) or circuit hyperactivity can lead to poor attention because the former person with ADHD is externally distracted, whereas the latter person with OCD is internally distracted. These opposite disorders are likely to receive a problematic caregiver or teacher behavior rating on an item measuring difficulty in paying attention, and if enough similar items are endorsed, both children could be diagnosed with ADHD. Perhaps the child with OCD would receive an inattentive type ADHD diagnosis, and the child with true ADHD would receive a combined type diagnosis, but only the latter would likely respond to stimulant treatment (Hale et al., 2011). With this balance premise in mind, achieving circuit equilibrium may hold the key to successful interventions for children with ADHD and other psychopathologies. In addition, it is important to identify these learning and behavioral concerns early, before the problematic symptoms become automatized in the cerebellum (Koziol et al., 2013).

**Medical disorders affecting neuropsychological functioning.** The prevalence of chronic medical conditions in children has increased dramatically in recent decades (Perrin, Bloom, & Gortmaker, 2007), with approximately 7% of children having chronic medical conditions that affect their medical, developmental, academic, and psychosocial functioning (Middleton & Burt, 2006). Multiple factors account for this increased prevalence, including declining infant mortality, improved medical care for life-threatening conditions, and increased exposure to communicable diseases that affect the brain. In addition to genetic or neurodevelopmental causes, neurotoxin exposure, infectious disease, and acquired injuries may lead to brain dysfunction and the need for neuropsychological services (Phelps et al., 2013). As a result, there are numerous medical disorders that affect brain functioning; we present examples of the major disorders presented in Table 7.3.

Medical stabilization is the primary concern when treating pediatric health conditions, but secondary impact on brain function may be significant. Particularly at risk are the FSC executive functions, which are of critical importance for adaptive behavior, psychosocial adjustment, and psychopathology (Lichter & Cummings, 2001). This interaction of cause, treatment, and environmental impact can lead to greater adaptive impairments, and the need for intensive multidisciplinary care, as well as neuropsychological evaluation and consultation regarding rehabilitation and school-based services (Phelps et al., 2013). Neuropsychological service delivery will vary considerably on the basis of the medical condition in question, severity and chronicity of the condition, individual response to treatment regimens, and psychosocial adjustment to the condition and treatment.

There are many standardized neuropsychological measures with excellent technical quality for use in pediatric neuropsychological evaluation. We provide a brief synthesis of some of the widely used neuropsychological assessments for youth in Table 7.4. The measures listed in the table are examples of what we typically use in practice and do not reflect a special merit or status. As noted earlier, tests and test scores are merely one source of data; much can be gained by obtaining a thorough history and informant reports, and conducting careful observations to confirm/refute initial impressions for both diagnostic and treatment purposes. Finally, it is critical to consider all data within a neurodevelopmental framework that recognizes the dramatic and dynamic changes in brain-behaviour relationships in children and youth (e.g., Giedd & Rapoport, 2010).

## Adult Neuropsychology

Adults are referred for a neuropsychological assessment for a variety of reasons, including job requirements (e.g., pilots, law enforcement), legal (e.g., culpability, child custody), differential diagnosis (e.g., psychiatric vs. neuropsychological), and evaluation of medical conditions. Neuropsychological assessment is critical for considering the consequences of acquired adult medical conditions affecting the brain and must consider both the cause of the dysfunction and, in many cases, the medications and other interventions used to treat it. As a result, careful review of premorbid history is essential practice,

## TABLE 7.3

**Major Medical Disorders and Neuropsychological Issues**

| Medical condition | Major neuropsychological issues | Associated issues |
|---|---|---|
| Prematurity and low birth weight | Inattention, poor self-regulation, social processing deficits, poor motor skills, low or variable intellectual functioning | May have ADHD inattentive type, internalizing disorders, separation anxiety, tic disorders, and adjustment or adaptive deficits |
| Neonatal stroke | Inattention; poor visual–spatial, memory, problem solving, and cognitive flexibility; slow processing speed | Psychosocial adjustment may be impaired; apathy or ADHD inattentive type |
| Cerebral palsy | Seizure disorder common; intellectual and cognitive impairment, fine and gross motor impairment, learning and memory deficits, difficulty with attention and executive function | Psychosocial and socioemotional concerns; no consistent internalizing or externalizing psychopathology pattern |
| Neoplasms or tumors | Cerebellar and posterior fossa tumors common and lead to hydrocephalus; affects arousal, attention, learning, memory, and frontal–subcortical circuit executive function; sequential, linguistic, and visual–spatial processing may be impaired | If vermis affected, may lead to cerebellar cognitive affective syndrome and other psychopathologies depending on lesion; poor psychosocial adjustment requires adaptive and social skills instruction |
| Concussion (mild brain injury) or postconcussive syndrome | Attention, concentration, processing speed, reaction time, executive function, and hemispheric integration in postconcussive syndrome | ADHD and mood disorder symptoms; could include difficulties with academic performance and psychosocial adjustment |
| Traumatic brain injury | Primary injury includes diffuse axonal injury, and secondary injury may be more significant, with edema and intercranial pressure leading to further damage; frontal–subcortical circuit executive and fluid reasoning deficits, but deficits in processing speed most common; difficulty with emotional self regulation and impulse control | Problems with socioemotional and social competence most likely, with ADHD diagnosis, depression, or emotional lability–mood swings; poor academic performance may be blamed on motivation, oppositional behavior, or difficulty adjusting to injury when it may in fact be biological in nature |
| Viral or bacterial encephalitis | Cognitive and intellectual functioning lower, with attention and memory interference; problem-solving, organization, and cognitive flexibility executive deficits likely | Depends on treatment and response regarding impairment; attention and disinhibition concerns lead to aggressive behavior, inattention, and depression symptoms |
| Lyme disease | Persistent headache, confusion, and neuritis lead to poor attention, auditory, and visual sequential processing deficits; fine motor coordination may be impaired; planning, memory retrieval, mental flexibility, and processing speed deficits | Internalizing disorders, autism-like features, even symptoms of potential thought disorder or schizophrenia symptoms; depressive; controversial–some suggest no lasting effects, especially if treated successfully with antibiotics |
| HIV/AIDS | Decline in cognitive and intellectual functioning during disease progression; delay or regression in developmental milestones; multiple attention and executive problems lead to emotional–behavioral and learning disability | Medical symptoms and treatment may affect developmental status; socioemotional, behavioral, and psychosomatic complaints lead to both internalizing and externalizing disorders, with increased risk for psychiatric hospitalization |
| Fetal alcohol spectrum | Growth retardation and white matter hypoplasia lead to low arousal, increased activity, intellectual, academic, and executive deficits; learning and memory impairments lead to developmental delays; reaction time, psychomotor, decision speed, and fluency problems | ADHD symptoms lead to emotional irritability and poor self-regulation, with mix of internal and externalizing symptoms, and possibly early-onset bipolar disorder, poor interpersonal relationships, limited academic achievement, and social skills deficits |
| Lead exposure | Attention and short-term memory, working memory, and visual verbal, visual, and fine motor impairments; lower intellectual functioning | Externalizing problems (e.g., ADHD and antisocial behavior) and achievement deficits common; controversial long-term impact |
| Epilepsy | Attention, memory, language, fine motor, processing speed, mental flexibility, response inhibition, and working memory deficits; can be specific depending on type (e.g., absence leads to inattention, partial-complex leads to memory deficit) | ADHD (inattentive type more common) symptoms lead to poor functional and psychosocial outcomes; lower academic and occupational achievement; "temporal lobe personality" leads to mood, anxiety, and conduct problems |

*Note*. ADHD = attention-deficit/hyperactivity disorder. Adapted from *Neuropsychological Assessment and Intervention for Emotional and Behavior Disordered Youth: An Integrated Step-by-Step Evidence-Based Approach* (p. 364), by L. A. Reddy, A. Weissman, and J. B Hale (Eds.), 2013, Washington, DC: American Psychological Association. Copyright 2013 by the American Psychological Association.

TABLE 7.4

**Examples of Neuropsychological Tests Commonly Used in Neuropsychological Assessment**

| Test battery or instrument | Neuropsychological constructs measured | Child (C), Adult (A), or Child + Adult (B) |
|---|---|---|
| | **Halstead–Reitan Neuropsychological Test Battery** | |
| Category Test[b] | Concept formation, fluid reasoning, learning skills, mental efficiency | B |
| Tactual Performance Test[b] | Tactile sensitivity, manual dexterity, kinesthetic functions, bimanual coordination, spatial memory, incidental learning | B |
| Sensory–Perceptual Examination | Simple and complex sensory functions | B |
| Finger Tapping Test | Simple motor speed | B |
| Trail Making Test, Part A and Part B | Processing speed, graphomotor coordination, sequencing, number–letter facility (Trails B also requires working memory, mental flexibility, set shifting) | B |
| | **CMS** | |
| Stories | Auditory attention, semantic long-term memory encoding and retrieval, sequencing and grammar, verbal comprehension, expressive language | C |
| Word Pairs | Paired-associate task; auditory attention, learning novel word pairs | C |
| Word Lists | Selective reminding task; long-term memory encoding, storage, and retrieval of unrelated words | C |
| Dot Locations | Visual–spatial memory encoding and retrieval (dorsal stream), susceptibility to interference | C |
| Faces | Visual–facial memory encoding and retrieval (ventral stream) | C |
| | **Comprehensive Test of Phonological Processing** | |
| Elision | Phonological perception, segmentation, individual phonemes | B |
| Blending Words | Phonological assembly | B |
| Sound Matching | Phonological perception, segmentation, individual phonemes | B |
| Phoneme Isolation | Phonological perception, segmentation, individual phonemes | B |
| Blending Nonwords | Phonological assembly | B |
| Segmenting Nonwords | Phonological perception, segmentation, individual phonemes | B |
| Memory for Digits | Rote auditory memory | B |
| Nonword Repetition | Phonemic analysis, assembly, auditory working memory | B |
| Rapid Color Naming | Naming automaticity, processing speed, speed of lexical access, verbal fluency | B |
| Rapid Object Naming | Object recognition, naming automaticity, processing speed, speed of lexical access, verbal fluency | B |
| Rapid Digit Naming | Number automaticity, processing speed, speed of lexical access, verbal fluency | B |
| Rapid Letter Naming | Letter automaticity, processing speed, speed of lexical access, verbal fluency | B |
| | **Delis–Kaplan Executive Function System** | |
| Sorting Test | Problem solving, verbal and spatial concept formation, categorical thinking, flexibility of thinking on a conceptual task | B |
| Trail Making Test | Mental flexibility, sequential processing on a visual–motor task, set shifting | B |
| Verbal Fluency Test | Verbal fluency | B |
| Design Fluency Test | Visual fluency | B |
| Color–Word Interference Test | Attention and response inhibition | B |
| Tower Test | Planning, flexibility, organization, spatial reasoning, inhibition | B |
| 20 Questions Test | Hypothesis testing, verbal and spatial abstract thinking, inhibition | B |
| Word Context Test | Deductive reasoning, verbal abstract thinking | B |

(*continues*)

TABLE 7.4 (*Continued*)

**Examples of Neuropsychological Tests Commonly Used in Neuropsychological Assessment**

| | | |
|---|---|---|
| | **NEPSY–II** | |
| Auditory Attention and Response Set | Sustained auditory attention, vigilance, inhibition, set maintenance, mental flexibility | C |
| Design Fluency | Visual–motor fluency, mental flexibility, graphomotor responding in structured and unstructured situations | C |
| Animal Sorting | Ability to formulate basic concepts and to transfer those concepts into action | C |
| Clocks | Planning and organization and visual–perceptual and visual–spatial skills | C |
| Inhibition | Ability to inhibit automatic responses | C |
| Phonological Processing | Similar to WJ III *Ga* subtests; auditory attention, phonological awareness, segmentation, assembly | C |
| Comprehension of Instructions | Receptive language, sequencing, grammar, simple motor response | C |
| Repetition of Nonsense Words | Auditory presentation of nonsense words; phonemic awareness, segmentation, assembly, sequencing, simple oral expression | C |
| Speeded Naming | Rapid semantic access | C |
| Word Generation | Verbal productivity | C |
| List Memory | Memory for list of unrelated words over multiple learning trials; one delayed trial after interference list | C |
| Memory for Designs | Visual–spatial memory; also requires maintenance of rules | C |
| Memory for Faces | Select previously viewed photo from an array | C |
| Memory for Names | Learn the names of line drawings of children's faces over multiple trials | C |
| Narrative Memory | Recall of orally presented narratives; recall of details and inferential comprehension | C |
| Sentence Repetition | Rote auditory recall; grammatical knowledge | C |
| Word List Interference | Rote repetition of unrelated words, with each set of two followed by recall of both sets; working memory | C |
| Affect Recognition | Matching photos expressing the same feeling: happy, sad, fear, anger, disgust, neutral | C |
| Theory of Mind | Understand how others are feeling, understand false beliefs; also requires verbal comprehension and memory | C |
| Fingertip Tapping | Simple motor speed, perseverance | C |
| Imitating Hand Positions | Visual perception, memory, kinesthesis, praxis | C |
| Visuomotor Precision | Visual–motor integration, graphomotor coordination without constructional requirements | C |
| Manual Motor Sequences | Motor imitation | C |
| Design Copying | Visual perception of abstract stimuli, visual–motor integration, graphomotor skills | C |
| Arrows | Spatial processing, visualization, line orientation, inhibition, no graphomotor demands | C |
| Block Construction | Similar to WISC–III Block Design | C |
| Geometric Puzzles | Mental rotation, visual–spatial analysis, and attention to detail | C |
| Picture Puzzles | Visual discrimination, spatial localization, spatial localization, and visual spanning | C |
| Route Finding | Visual–spatial relations and directionality | C |
| | **Test of Memory and Learning—Second Edition** | |
| Memory for Stories | See CMS Stories (Table 4.3 lists this and other CMS subtests) | B |
| Word Selective Reminding | Similar to CMS Word Lists, but no interference task | B |
| Paired Recall | See CMS Word Pairs | B |
| Digits Forward | Auditory rote memory, sequential recall, attention | B |
| Digits Backward | Similar to WISC–III and WJ III versions; more demands on attention, working memory, executive functions | B |
| Letters Forward | Auditory rote memory, sequential recall, attention | B |
| Letters Backward | Working memory, attention, executive functions | B |

| | | |
|---|---|---|
| Facial Memory | See CMS Faces; good ventral stream measure | B |
| Visual Selective Reminding | Visual analogue to word selective reminding, with dots; dorsal stream, visual–motor coordination, praxis without visual discrimination | B |
| Abstract Visual Memory | Visual discrimination of abstract symbols, recognition memory | B |
| Visual–Sequential Memory | Visual discrimination of abstract symbols, sequencing, praxis | B |
| Memory for Location | See CMS Dot Locations; good dorsal stream measure | B |
| Manual Imitation | Short-term visual–sequential memory, praxis | B |
| Object Recall | Visual and verbal presentation of objects with verbal recall over multiple trials. | B |
| **Repeatable Battery for the Assessment of Neuropsychological Status** | | |
| Immediate and Delayed Memory: List Learning | Learning list of unrelated words | A |
| Immediate and Delayed Memory: Story Memory | Learning short story over two trials | A |
| Visuospatial/Constructional: Figure Copy | Measures direct copying of a complex geometric figure | A |
| Visuospatial/Constructional: Line Orientation | Measures subject identification of matching lines from an array | A |
| Language: Picture Naming | Measures naming of object drawings | A |
| Language: Semantic Fluency | Measures rapid naming within category | A |
| Attention: Digit Span | See Digit Span | A |
| Attention: Coding | See Coding | A |
| Delayed Memory: Figure Free Recall | Measures free recall of previously copied figure | A |
| **Additional measures for hypothesis testing** | | |
| Children's Category Test (Boll, 1993) | See Halstead–Reitan Category Test (Table 4.2) | C |
| Wisconsin Card Sorting Test (Heaton et al., 1993) | Executive functions, problem solving, set maintenance, goal-oriented behavior, inhibition, ability to benefit from feedback, mental flexibility, perseveration | C |
| Tower of London (Culbertson & Zillmer, 1998) | Planning, inhibition, problem solving, monitoring, and self-regulation | B |
| Stroop Color–Word Test (Golden, 1978) | See Cognitive Assessment System—Second Edition Expressive Attention (Table 4.4) | B |
| Rey–Osterrieth Complex Figure (Meyers & Meyers, 1995) | Visual–motor integration, constructional skills, graphomotor skills, visual memory, planning, organization, problem solving | B |
| Conners Continuous Performance Test, Third Edition (Conners, 2012) | Computerized measure of sustained attention, impulse control, reaction time, persistence, response variability, perseveration, visual discrimination | B |
| Hale-Denckla Cancellation Task | Attention, concentration, visual scanning | C |
| California Verbal Learning Test—Children's Version (Delis, Kaplan, & Kramer, 1994) | Verbal learning, long-term memory encoding and retrieval, susceptibility to interference | |
| Comprehensive Trail-Making Test (Reynolds, 2002) | Attention, concentration, resistance to distraction, cognitive flexibility and set shifting | B |
| Behavior Rating Inventory of Executive Function (Gioia et al., 2000) | Parent and teacher rating scales of behavioral regulation, metacognition; includes clinical scales assessing inhibition, cognitive shift, emotional control, task initiation, working memory, planning, organization of materials, and self-monitoring; includes validity scales assessing inconsistent responding and negativity | C |
| Test of Variables of Attention (Leark et al., 2007) | Computerized measure of sustained and selective attention | B |
| Developmental Test of Visual–Motor Integration, Sixth Edition (Beery & Beery, 2010) | Visual–perceptual skills, fine motor skills, visual–motor integration | C |
| Purdue Pegboard (Tiflin, 1948) | Fine motor skills, bimanual integration, psychomotor speed | B |
| Grooved Pegboard (Trites, 1977) | Complex visual–motor–tactile integration, psychomotor speed (compare with simple sensory–motor integration) | B |
| Judgment of Line Orientation (Benton, 1994) | See NEPSY Arrows (Table 4.7) | B |

(*continues*)

TABLE 7.4 (*Continued*)

**Examples of Neuropsychological Tests Commonly Used in Neuropsychological Assessment**

| | | |
|---|---|---|
| Oral and Written Language Scales, Second Edition (Carrow-Woolfolk, 1999) | Listening comprehension, oral expression, written expression; not limited to single-word responses, as are the PPVT–IV and EVT–II (see below) | B |
| Comprehensive Assessment of Spoken Language (Carrow-Woolfolk, 1999) | Language processing in comprehension, expression, and retrieval in these categories: lexical–semantic, syntactic, supralinguistic, pragmatic; the supralinguistic and pragmatic categories show promise in the assessment of right-hemisphere language skills | B |
| Clinical Evaluation of Language Fundamentals—Fifth Edition (Wiig, Semel, & Secord, 2013) | Assesses receptive and expressive language with the core subtests, but also allows assessment of language structure, language content, and memory; includes standardized observations in the classroom and assessment of pragmatic language skills, in addition to individual assessment | B |
| Test of Language Development—Primary and Intermediate (Newcomer & Hammill, 2008) | Primary version assesses phonology, semantics, and syntax; intermediate version assesses semantics and syntax | C |
| Wepman Auditory Discrimination Test—Second Edition (Wepman & Reynolds, 1987) | Auditory attention, phonemic awareness, phonemic segmentation, phoneme position (primary, medial, recent) | C |
| Peabody Picture Vocabulary Test, Fourth Edition (Dunn & Dunn, 2007) | Receptive vocabulary (visual scanning, impulse control); conormed with EVT–2 (see below) | B |
| Controlled Oral Word Association Test (Spreen & Benton, 1977) | See NEPSY–II Verbal Fluency (Table 4.7) | B |
| Boston Naming Test (Kaplan, Goodglass, & Weintraub, 2010) | Expressive vocabulary, free-recall retrieval from long-term memory versus cued-recall retrieval (semantic–phonemic) | B |
| EVT–2 (Williams, 2007) | Expressive vocabulary (picture naming); conormed with PPVT–4 (see above) | B |
| Ruff Figural Fluency Test (Ruff, 1987) | Nonverbal initiation, planning, and divergent reasoning | A |
| Smedley Hand Dynamometer | Hand strength | B |
| Test of Memory Malingering (Tombaugh, 1996). | Distinguish between low performance due to poor effort and actual low performance | B |

*Note.* CMS = Children's Memory Scale; EVT–II = Expressive Vocabulary Test, Second Edition; PPVT–IV = Peabody Picture Vocabulary Test, Fourth Edition; WISC–III = Wechsler Intelligence Scale for Children, Third Edition; WJ III = Woodcock–Johnson III.

as well as review of factors such as the treatment protocol used, whether the problem is acute or chronic in nature, and loss versus recovery of function. For comparison purposes to current assessment results, conducting an assessment of premorbid intellectual functioning (e.g., NAART, Barona equation) would be important when developing diagnostic and prognostic conclusions.

**Common adult brain disorders.** Approximately 1.7 million people in the United States sustain a traumatic brain injury each year (Faul, Xu, & Wald, 2010). Individuals with moderate to severe traumatic brain injury have high rates of learning, memory, and psychosocial problems (Sabaz et al., 2014). Because traumatic brain injury often leads to tearing and shearing of white matter pathways, diffuse global processing problems rather than circumscribed, specific deficits are typical (Kinnunen et al., 2011), with attention, processing speed, learning and memory, language, visual–spatial, executive, academic, occupational, and intellectual functioning deficits reported (Hanks, Ricker, & Millis, 2004). Emotional consequences include apathy and decreased emotional inhibition, as well as depression and anxiety.

Another white matter problem in adults is multiple sclerosis, a degenerative disorder marked by demyelination. It results in physical, psychological, and cognitive deterioration as neural signals are delayed or degraded. Physical challenges related to multiple sclerosis include visual (double vision,

blurring, decreasing acuity) and motor (dysarthria, weakness in upper limbs, ataxia, spastic paraplegia, spasms) problems (Samkoff & Goodman, 2011). Although performance on general assessments of intellectual functioning, basic attention, basic verbal skills, and procedural memory may be relatively spared, semantic memory, word retrieval, visual–perceptual, novel problem solving, concept development, processing speed, shifting sets, and executive functioning are often negatively affected. Approximately 50% of patients with multiple sclerosis have cognitive impairment caused by it, as well as the side effects of the medication, fatigue, anxiety, stress, and depression that accompany a chronic disease (LaRocca, 2011).

Cerebral vascular accidents, or strokes, although commonly associated with older adults, occur throughout the life span, beginning in utero. Neuropsychological and psychological symptoms after a stroke vary in both location and magnitude, as well as secondary injury (bleeding, edema) that affects mental status, which is, in part, mediated by therapeutic hypothermia (Yenari & Han, 2012). Although the problems with spoken explicit language and motor praxis are easily seen in patients with left-hemisphere cerebrovascular accident, patients who have right-hemisphere strokes are sometimes unaware of or in denial of their deficits, in addition to experiencing the visual–spatial, fluid reasoning, and implicit language deficits expected with right-hemisphere dysfunction (Bryan & Hale, 2001). Approximately 20% to 25% of stroke patients experience depression due to both brain damage and difficulty adjusting to cognitive and physical limitations (Guido, 2010), but type of lesion might lead to a loss, release, or suppression of neuropsychological function.

As is the case with children, seizure disorders are notable for abnormal neuronal discharge, with occurrence varying significantly depending on several factors. Symptoms are related to the brain areas involved and the type of seizure (e.g., generalized [tonic–clonic], partial [simple, complex], absence) and can lead to cognitive, adaptive, and psychosocial dysfunction, which is also complicated by seizure medications that reduce neural activity (Farina, Raglio, & Giovagnoli, 2015). Neuropsychological evaluation may be important in determining the impact of the lesions, but it is also sometimes used to examine patients with intractable seizures before and after surgery (e.g., Wada technique; Sherman et al., 2011) and can be useful in determining long-term patient prognosis post-surgery. A variety of tumors can also impair brain functioning, depending on type of tumor, medical care, and protective factors (Jalali & Dutta, 2012). In addition, a controversy exists as to whether patients treated with chemotherapy experience cognitive decline (e.g., "chemo fog"; Raffa, 2011). Neuropsychological assessment is vital in understanding how these disorders impair functioning and affect patients' lives and care needs. It can also be used to monitor surgical treatment effects or medication effects on cognitive, adaptive, or occupational status.

**Neuropsychological assessment in geriatric patients.** Neuropsychological assessment offers a valuable complement to bedside instruments used by physicians such as the Montreal Cognitive Assessment and Mini-Mental State Examination in the evaluation of older patients (Ballard et al., 2008). Longevity and increased public awareness of dementia has resulted in a greater focus on prodromal dementia and more patients seeking neuropsychological evaluation because of concerns about their declining memory, which suggests that more sophisticated and sensitive assessments are needed (Morris & Brookes, 2012). The combination of decreased performance on one or more cognitive domains, with mostly preserved functioning in activities of daily living, and mild to no impairment in social or occupational functioning suggests mild cognitive impairment (Albert et al., 2011). Although not all mild cognitive impairment leads to dementia, additional psychosocial concerns such as depression, previous head injuries, or specific genetic profiles (i.e., APP gene on chromosome 21, apoE gene on chromosome 19) make dementia more likely (Gabryelewicz et al., 2007; Smith & Rush, 2006).

Frontotemporal dementia is a common form of dementia with a fairly early onset (around age 50). It is marked by significant changes in personality, behavior, executive functioning, aphasia, or all of these depending on type. Variations of

TABLE 7.5

**Common Adult Disorders and Associated Neuropsychological Impairments**

| | Alzheimer's | Parkinson's | Vascular | Frontotemporal | Lewy body |
|---|---|---|---|---|---|
| Orientation and attention | Normal to impaired | Normal | Impaired | Normal | Fluctuates |
| Memory | Impaired immediate and severely impaired delayed retrieval and recognition | Impaired retrieval; normal recognition | Impaired retrieval; better recognition; poor procedural memory | May be normal early; strategy difficulty can interfere | Mildly impaired early; benefit from context |
| Executive functioning or problem solving | Severely impaired | Severely impaired | Can be more impaired than memory; poor concept formation | Impaired judgment; cognitive inflexibility | Impaired but variable |



frontotemporal dementia include progressive nonfluent aphasia (anomia with greater difficulty with verbs than nouns, labored speech), semantic dementia (gradual loss of memory for word meaning, agnosia), and behavioral or dysexecutive frontotemporal dementia (impulsivity, aggression, restlessness, relatively preserved intellectual functioning early on; Welsh-Bohmer & Warren, 2006). Vascular dementia, a common form of dementia seen in 10% to 50% of adult cases (Cato & Crosson, 2006) can result in cognitive impairment without memory loss (Bowler & Hachinski, 2000). Vascular dementia is caused by damage resulting from hemorrhagic or ischemic damage, and may be misdiagnosed as Alzheimer's disease. The level of impairment is associated with the location and extent of damage sustained (see Table 7.5). Because there are often multiple events over time, the decline tends to be stepwise rather than progressive.

Cognitive impairment in geriatric patients can have many causes other than dementia and, in some cases, is reversible. Normal-pressure hydrocephalus, while occurring throughout the life span, is most common in older adults and is caused by increased pressure from cerebrospinal fluid resulting in urinary incontinence, cognitive impairment, and wide gait problems. Treatment, including shunting, can reduce symptoms (Houston & Bondi, 2006; Twamley & Bondi, 2004). Other treatable conditions include delirium, hypothyroidism, diabetes, vitamin B12 and thiamine deficiencies, and sleep and breathing problems (Houston & Bondi, 2006). Hence, these other conditions should be screened and treated before continuing with a neuropsychological assessment to avoid confounding the results.

Differential diagnosis is particularly important in geriatric populations because many medical and psychological problems lead to similar symptoms, and comorbidity of medical, psychological, and neuropsychological conditions is common. For instance, there is an apparent association between delirium and urinary tract infections in older patients (Balogun & Philbrick, 2013), but results are not consistent. Likewise, it is important to differentiate between age-related cognitive decline, mild cognitive impairment, various dementias (Twamley & Bondi, 2004), and other, potentially reversible causes of impairment in older adults. Rather than viewing psychogenic and neurological problems as a dichotomy, it is more accurate to view them as a bidirectionally informing continuum (Hartlage & D'Amato, 2008).

Multiple standardized neuropsychological measures with excellent technical quality are available to assess a variety of neuropsychological domains (e.g., attention, language, memory, executive function). Earlier, we provided a list of some of widely used standardized neuropsychological assessments for use in child and adult populations (see Table 7.5).

Most adults first seek a neuropsychological assessment when there is a perceived change in functioning; consequently, a baseline measure is seldom available. Several methods are currently used to estimate premorbid cognitive functioning, including preexisting data and assessments. Performance

on preexisting standardized assessments in high school and early adult life (e.g., SAT, Armed Services Vocational Aptitude Battery) are sometimes used, and other sources, such as education level and occupation, are easier to obtain. Educational level attained and occupation, although affected by cognitive functioning, are also significantly affected by other factors (e.g., study strategies, perseverance, interest level), reducing their utility. Finally, crystallized measures, such as current performance on vocabulary tests, can be used to estimate premorbid functioning.

Patient performance variability on neuropsychological tests can influence results. Clinicians should distinguish among suboptimal performance, poor effort, and inflated reports of psychological symptoms, or exaggeration. There are many reasons for malingering, including monetary gain (i.e., lawsuit, workmen's compensation, disability benefits) and legal avoidance (i.e., standing trial, not guilty by reason of insanity; Iverson, 2006). However, adults sometimes intentionally minimize or underreport symptoms for fear of losing independence if they appear impaired (Bush et al., 2005). Failing even one neuropsychological symptom validity measure may invalidate findings, accounting for almost five times the amount of variance in performance on neuropsychological assessments than actual brain damage (Fox, 2011). The American Academy of Clinical Neuropsychology has recommended that all performance should be considered to potentially underestimate actual functioning if suboptimal effort is found on any measure (Heilbronner et al., 2009).

Older patients are likely to experience physical limitations, including poor vision and hearing, motor impairment, limited stamina, and pain, that may impair their performance during testing. It is imperative that clinicians ensure patients use prescribed sensory aids (e.g., glasses, hearing aids) so that they are not measuring physical problems or fatigue instead of neuropsychological functioning. In addition, the challenge and novelty of the testing experience may lead to anxiety in older patients. As a result, shortening the sessions, taking more frequent breaks, and explaining what will happen next may be helpful in reducing performance anxiety (Morris & Brookes, 2012). Special consideration must be taken for adults who may be prescribed multiple medications, some with adverse effects and interactions that have a negative impact on daily functioning and neuropsychological assessment results. In addition, older adults have high rates of not taking medication as prescribed, either missing doses or taking multiple doses because of lapses in memory (Jamora, Ruff, & Connor, 2008). Benzodiazepines are often prescribed to older adults to treat anxiety and insomnia. Although medications may be helpful, sedation, dependence, increased risk for falls, cognitive impairment, slowed processing speed, memory deficits, and attention problems may result.

A final consideration when working with geriatric populations is that many tests have not been normed on older adults and those that have been normed on older adults often do not differentiate between young-old and old-old adults or between various demographic groups or do not provide sufficient discrimination between various neurological diagnoses (Morris & Brookes, 2012). Likewise, the norms for many neuropsychological tests are based on small samples that often do not include variability in gender, education, and ethnicity, which could interfere with accurate interpretation of performance (Norman et al., 2011). Moreover, the norms that are published vary widely, resulting in significantly divergent interpretations of the same performance and vague description of how the norming data were collected, requiring clinicians to read the studies closely to determine which norms are appropriate in a given case (Mitrushina et al., 2005).

## MAJOR ACCOMPLISHMENTS

Neuropsychological assessment has advanced our understanding of the developmental pathways of brain-based child and adult disorders. It not only informs case conceptualization and diagnosis, but it also provides valuable information for intervention planning, implementation, and monitoring. Better understanding of brain-based impairments and their interrelationship with environmental determinants of behavior have led psychologists to use a neuropsychological framework for assessing symptom severity, diagnostic comorbidity, and intervention

responsiveness with greater clinical acumen. It has grown from a specialty area designed to provide diagnostic information for brain-injured adults to one applied to people with typical and atypical brain functioning in home, school, occupation, and community settings.

Public awareness of the value of neuropsychological assessment in both diagnosis and intervention (e.g., neurodevelopmental disorders, sports-related concussions, oncology, age-related cognitive decline), along with forensic legal interpretation (Bush, MacAllister, & Goldberg, 2012) and third-party payers (Gasquoine, 2010), have increased the demands for neuropsychological assessments (e.g., Chelune, 2010).

The strong impetus for translating neuroscience into practice has led to changes in literature, training, and organizational recognition. One notable change is the proliferation of books on neuropsychological assessment across settings. American Psychological Association–accredited psychology doctoral programs, and many state licensure boards, require courses on the biological bases of behavior, and more recently neuropsychologists have been called on to teach these courses. Neuropsychology postdoctoral programs, training institutes, and continuing education training have grown to meet the demand for advanced training in neuropsychological assessment.

Relatedly, international and national organizations such as the American Academy of Pediatric Neuropsychology, American Academy of Clinical Neuropsychology, National Academy of Neuropsychology, International Neuropsychological Society, Society of Neuroscience, and the American Psychological Association all recognize the benefits of neuroscience and neuropsychology in clinical diagnosis and intervention. Likewise, the federal government (e.g., National Institute of Mental Health, U.S. Department of Education's Institute of Education Sciences) has set clinical and translation research as a top priority for grant funding.

## LIMITATIONS

There are several limitations to neuropsychological assessment. Probably one of the most important limitations is its financial cost—both the cost to the trainee learning how to conduct neuropsychological evaluations and the cost to patients who undergo them. However, the cost of not effectively assessing and treating child and adult disorders may be even higher (e.g., Pritchard et al., 2014).

Another limitation concerns the psychometric approaches to study interrelationships among brain systems, as noted earlier, in which testing is often completed in a single day of extensive testing. This atheoretical psychometric approach using tests deemed "neuropsychological" is problematic in that interpretation is typically based on a cookbook approach. In a cookbook approach, a high score means a client is good in that construct, whereas a low score means the client has a deficit in that construct. However, research has recognized that similar scores may mean different things for different children or adults (Hale & Fiorello, 2004). Nomothetic representations of data serve as a foundation for idiographic interpretation, but they are not sufficient to account for the performance of all individuals, especially those with disabilities. After nomothetic explanations have been explored and exhausted, further fine-grain analysis of data requires idiographic examination of a child's pattern of performance, with any systematically derived hypothesis evaluated to ensure ecological and treatment validity.

## FUTURE DIRECTIONS

Neuropsychological research has evolved from viewing individual functioning from a categorical perspective (normal vs. abnormal) to viewing it from a neurodimensional perspective grounded in brain–behavior relationships (Schneider et al., 2013). A neurodimensional perspective recognizes that phenotypic presentation for any individual is highly variable and dependent on both the neurobiology of individual differences and the environmental determinants that shape them. Understanding the underlying psychological processes is more important than any summative score that hides individual differences in brain functioning (e.g., Luria, 1980). Because inferences need to be supported with additional evidence, findings must be integrated across historical, cognitive, neuropsychological, academic,

and behavioral data to ensure they have concurrent and ecological validity (Fiorello et al., 2010) and used to guide intervention. In the future, we anticipate that neuropsychological assessment will continue to proceed in this direction.

Evidence has shown that the brain is neither static nor unresponsive; it leads to brain changes that ameliorate disability (Koziol et al., 2013). To accomplish the linking of assessment to intervention, consultation methods after evaluation have been used in both group and single-subject research to establish treatment efficacy (Fenwick et al., 2015). Relatedly, research and neuroimaging have increasingly shown that the brain is much more malleable, or plastic, than previously thought and that the clinical presentations of individuals may be highly modifiable (Koziol et al., 2013). More work in the future will likely determine the parameters of improvement in brain functioning with targeted interventions. This also suggests that incorrect or delayed evaluations may lead to a more routinized, automatic problems, which will prove more difficult to overcome, even with intensive intervention (Koziol, et al., 2013).

In the future, psychologists will probably pursue greater interdisciplinary collaboration and consultation with professionals who conduct neuroimaging and neurology research. The development of neuroimaging technologies provides unprecedented windows into the neurobiology of many child and adult mental disorders (see Volume 2, Chapter 23, this handbook). In the future, information from neuroimaging and neuropsychological assessment will be combined to offer a more in-depth understanding of brain–behavior relationships for different populations, for instance, the FSC differences among children with ADHD, OCD, and tic disorders. Given these benefits, future validation of neuropsychological assessment tools will profit from the inclusion of neuroimaging studies to show the relationship between performance differences and brain changes and discriminant validity studies to reveal their sensitivity and specificity.

Despite advances in neuroscientific evidence, research on the neurodevelopment of functional brain systems is a critical need (Riccio & Reynolds, 2013). Future studies will probably examine the ecological and treatment validity of assessment tools, including whether tests are measuring functional skills and predicting learning and behavior in natural environments (Reddy et al., 2013). Future research will also examine how neuropsychological assessment relates to higher order cognitive functioning and how this influences learning, self-regulation, and environmental adaptation (Koziol et al., 2013; Riccio & Reynolds, 2013).

As the science emerges to guide practice, neuropsychological assessment offers new directions for clinical practice. Although most training programs require at least one course on biological bases, this minimum will be expanded for all psychologists and other professionals working with children and adults.

Training must consider how neuropsychological functions intersect with complicated school and occupational systems as well as how data gathered through neuropsychological assessment can inform individualized interventions. Taken together, the significant demand for training and innovation in neuropsychological assessment will continue to grow and likely expand with new integrated health care and education systems. Perhaps then people will realize that conducting neuropsychological assessment for intervention purposes is, in essence, a clinical endeavor designed to change brain functioning.

## References

Adams, K., & Gable, N. (2014). The Boston process approach to neuropsychological assessment [Book review]. *Archives of Clinical Neuropsychology*, *29*, 121–123. http://dx.doi.org/10.1093/arclin/act087

Albert, M. S., DeKosky, S. T., Dickson, D., Dubois, B., Feldman, H. H., Fox, N. C., . . . Phelps, C. H. (2011). The diagnosis of mild cognitive impairment due to Alzheimer's disease: Recommendations from the National Institute on Aging–Alzheimer's Association workgroups on diagnostic guidelines for Alzheimer's disease. *Alzheimer's and Dementia*, *7*, 270–279. http://dx.doi.org/10.1016/j.jalz.2011.03.008

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: Author.

Ashendorf, L., Swenson, R., & Libon, D. (2013). *The Boston process approach to neuropsychological assessment: A practitioner's guide*. New York, NY: Oxford University Press.

Backenson, E. M., Holland, S. C., Kubas, H. A., Fitzer, K. R., Wilcox, G., Carmichael, J. A., . . . Hale, J. B. (2015).

Psychosocial and adaptive deficits associated with learning disability subtypes. *Journal of Learning Disabilities*, *48*, 511–522. http://dx.doi.org/10.1177/0022219413511861

Ballard, C., Day, S., Sharp, S., Wing, G., & Sorensen, S. (2008). Neuropsychiatric symptoms in dementia: Importance and treatment considerations. *International Review of Psychiatry*, *20*, 396–404. http://dx.doi.org/10.1080/09540260802099968

Balogun, S. A., & Philbrick, J. T. (2013). Delirium, a Symptom of UTI in the Elderly: Fact or Fable? A Systematic Review*. *Canadian Geriatrics Journal, 17(1)*, 22–26.

Barth, A., Stuebing, K. K., Anthony, J. L., Denton, C. A., Mathes, P. G., Fletcher, J. M., & Francis, D. J. (2008). Agreement among response to intervention criteria for identifying responder status. *Learning and Individual Differences*, *18*, 296–307. http://dx.doi.org/10.1016/j.lindif.2008.04.004

Beaumont, J. G. (2008). *Introduction to neuropsychology* (2nd ed.). New York, NY: Guilford Press.

Beery, K. E., & Berry, N. A. (2010). *Beery–Buktenica Developmental Test of Visual–Motor Integration* (6th ed.). North Tonawanda, NY: Multi-Health Systems.

Benton, A. L. (1994). *Judgement of Line Orientation*. Odessa, FL: Psychological Assessment Resources.

Bernstein, J. H. (2000). Developmental neuropsychological assessment. In K. O. Yeates, D. M. Ris, & H. G. Taylor (Eds.), *Pediatric neuropsychology: Theory, research, and practice* (pp. 405–438). New York, NY: Guilford Press.

Blau, V., van Atteveldt, N., Ekkebus, M., Goebel, R., & Blomert, L. (2009). Reduced neural integration of letters and speech sounds links phonological and reading deficits in adult dyslexia. *Current Biology*, *19*, 503–508. http://dx.doi.org/10.1016/j.cub.2009.01.065

Boll, T. (1993). *Children's category test*. San Antonio, TX: Psychological Corporation.

Bryan, K. L., & Hale, J. B. (2001). Differential effects of left and right cerebral vascular accidents on language competency. *Journal of the International Neuropsychological Society*, *7*, 655–664. http://dx.doi.org/10.1017/S1355617701766015

Bush, S. S., MacAllister, W. S., & Goldberg, A. L. (2012). Ethical issues in pediatric forensic neuropsychology. In E. M. S. Sherman & B. L. Brooks (Eds.), *Pediatric forensic neuropsychology* (pp. 24–40). New York, NY: Oxford University Press.

Bush, S. S., Ruff, R. M., Tröster, A. I., Barth, J. T., Koffler, S. P., Pliskin, N. H., . . . Silver, C. H. (2005). Symptom validity assessment: Practice issues and medical necessity. NAN Policy & Planning Committee. *Archives of Clinical Neuropsychology*, *20*, 419–426. http://dx.doi.org/10.1016/j.acn.2005.02.002

Carrow-Woolfolk, E. (1999). *Comprehensive Assessment of Spoken Language*. Circle Pines, MN: American Guidance Service.

Castellanos, F. X., Sonuga-Barke, E. J., Milham, M. P., & Tannock, R. (2006). Characterizing cognition in ADHD: Beyond executive dysfunction. *Trends in Cognitive Sciences*, *10*, 117–123. http://dx.doi.org/10.1016/j.tics.2006.01.011

Cato, M. A., & Crosson, B. A. (2006). Stable and slowly progressive dementias. In D. K. Attix & K. A. Welsh-Bohmer (Eds.), *Geriatric neuropsychology: Assessment and intervention* (pp. 89–102). New York, NY: Guilford Press.

Chelune, G. J. (2010). Evidence-based research and practice in clinical neuropsychology. *Clinical Neuropsychologist*, *24*, 454–467. http://dx.doi.org/10.1080/13854040802360574

Christensen, A. L., Goldberg, E., & Bougakov, D. (Eds.). (2009). *Luria's legacy in the 21st century*. New York, NY: Oxford University Press.

Coghill, D., Nigg, J., Rothenberger, A., Sonuga-Barke, E., & Tannock, R. (2005). Whither causal models in the neuroscience of ADHD? *Developmental Science*, *8*, 105–114. http://dx.doi.org/10.1111/j.1467-7687.2005.00397.x

Conners, C. K. (2012). *Conners Continuous Performance Test* (3rd ed.). Toronto, Ontario, Canada: Multi-Health Systems.

Culbertson, W. C., & Zillmer, E. A. (1998). *Tower of London* (2nd ed.). North Tonawanda, NY: Multi-Health Systems.

Decker, S. L., Schneider, W. J., & Hale, J. B. (2011). Estimating base rates of impairment in neuropsychological test batteries: A comparison of quantitative models. *Archives of Clinical Neuropsychology*, *27*, 69–84. http://dx.doi.org/10.1093/arclin/acr088

Delis, D. C., Kaplan, E., & Kramer, J. H. (1994). *Delis–Kaplan Executive Function Scale*. San Antonio, TX: Pearson.

Denckla, M. B. (1996). Biological correlates of learning and attention: What is relevant to learning disability and attention-deficithy peractivity disorder? *Journal of Developmental and Behavioral Pediatrics*, *17*, 114–119. http://dx.doi.org/10.1097/00004703-199604000-00011

Desco, M., Navas-Sanchez, F. J., Sanchez-González, J., Reig, S., Robles, O., Franco, C., . . . Arango, C. (2011). Mathematically gifted adolescents use more extensive and more bilateral areas of the fronto-parietal network than controls during executive functioning and fluid reasoning tasks. *NeuroImage*, *57*, 281–292. http://dx.doi.org/10.1016/j.neuroimage.2011.03.063

Diamond, A. (2005). Attention-deficit disorder (attention-deficit/hyperactivity disorder without hyperactivity): A neurobiologically and behaviorally distinct disorder from attention-deficit/hyperactivity disorder (with hyperactivity). *Development and Psychopathology*, *17*, 807–825. http://dx.doi.org/10.1017/S0954579405050388

Dickstein, S. G., Bannon, K., Castellanos, F. X., & Milham, M. P. (2006). The neural correlates of attention deficit hyperactivity disorder: An ALE meta-analysis. *Journal of Child Psychology and Psychiatry*, *47*, 1051–1062. http://dx.doi.org/10.1111/j.1469-7610.2006.01671.x

Dunn, L. M, & Dunn, D. M. (2007). *Peabody Picture Vocabulary Test—Revised*. San Antonio, TX: Pearson.

Facoetti, A., Gori, S., Bigoni, A., Ruffino, M., Molteni, M., & Cecchini, P. (2009). Magnocellular-dorsal pathway and sub-lexical route in developmental dyslexia. *Perception ECVP Abstract*, *38*(103).

Farina, E., Raglio, A., & Giovagnoli, A. R. (2015). Cognitive rehabilitation in epilepsy: An evidence-based review. *Epilepsy Research*, *109*, 210–218. http://dx.doi.org/10.1016/j.eplepsyres.2014.10.017

Faul, M., Xu, L., & Wald, M. M. (2010). *Traumatic brain injury in the United States: Emergency department visits, hospitalizationsn and deaths, 2002–2006*. Atlanta, GA: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control.

Feifer, S. G., & Della Toffalo, D. A. (2007). *Integrating RTI with cognitive neuropsychology: A scientific approach to reading*. Middletown, MD: School Neuropsych Press.

Fenwick, M. E., Kubas, H. A., Witzke, J. W., Fitzer, K. R., Miller, D. C., Maricle, D. E., . . . Hale, J. B. (2015). Neuropsychological profiles of written expression learning disabilities determined by concordance–discordance model criteria. *Applied Neuropsychology: Child*. Advance online publication. http://dx.doi.org/10.1080/21622965.2014.993396

Fiorello, C. A., Hale, J. B., Decker, S. L., & Coleman, S. (2010). Neuropsychology in school psychology. In J. Kaufman, T. L. Hughes, & C. A. Riccio (Eds.), *Handbook of education, training, and supervision of school psychologists in school and community: Vol. 1. Foundations of professional practice* (pp. 213–232). New York, NY: Routledge.

Fiorello, C. A., Hale, J. B., & Snyder, L. E. (2006). Cognitive hypothesis testing and response to intervention for children with reading problems. *Psychology in the Schools*, *43*, 835–853. http://dx.doi.org/10.1002/pits.20192

Fiorello, C. A., Hale, J. B., & Wycoff, K. L. (2012). Cognitive hypothesis testing: Linking test results to the real world. In D. P. Flanagan & P. Harrison (Eds.), *Contemporary intellectual assessment: Theories, tests, and issues* (3rd ed., pp. 484–496). New York, NY: Guilford Press.

Flanagan, D. P., Fiorello, C. A., & Ortiz, S. O. (2010). Enhancing practice through application of Cattell–Horn–Carroll theory and research: A "third method" approach to specific learning disability identification. *Psychology in the Schools*, *47*, 739–760. http://dx.doi.org/10.1002/pits.20501

Flanagan, D. P., Ortiz, S. O., & Alfonso, V. C. (2013). *Essentials of cross-battery assessment* (3rd ed.). Hoboken, NJ: Wiley.

Fletcher, J. M., Coulter, W. A., Reschly, D. J., & Vaughn, S. (2004). Alternative approaches to the definition and identification of learning disabilities: Some questions and answers. *Annals of Dyslexia*, *54*, 304–331. http://dx.doi.org/10.1007/s11881-004-0015-y

Fletcher, J. M., Shaywitz, S. E., Shankweiler, D. P., Katz, L., Liberman, I. Y., Stuebing, K. K., . . . Shaywitz, B. A. (1994). Cognitive profiles of reading disability: Comparisons of discrepancy and low achievement definitions. *Journal of Educational Psychology*, *86*, 6–23. http://dx.doi.org/10.1037/0022-0663.86.1.6

Fletcher-Janzen, E. (2005). The school neuropsychological evaluation. In R. C. D'Amato, E. Fletcher-Janzen, & C. R. Reynolds (Eds.), *Handbook of school neuropsychology* (pp. 172–212). Hoboken, NJ: Wiley.

Fox, D. D. (2011). Symptom validity test failure indicates invalidity of neuropsychological tests. *Clinical Neuropsychologist*, *25*, 488–495. http://dx.doi.org/10.1080/13854046.2011.554443

Friedman, N. P., Haberstick, B. C., Willcutt, E. G., Miyake, A., Young, S. E., Corley, R. P., & Hewitt, J. K. (2007). Greater attention problems during childhood predict poorer executive functioning in late adolescence. *Psychological Science*, *18*, 893–900. http://dx.doi.org/10.1111/j.1467-9280.2007.01997.x

Gabryelewicz, T., Styczynska, M., Luczywek, E., Barczak, A., Pfeffer, A., Androsiuk, W., . . . Barcikowska, M. (2007). The rate of conversion of mild cognitive impairment to dementia: Predictive role of depression. *International Journal of Geriatric Psychiatry*, *22*, 563–567. http://dx.doi.org/10.1002/gps.1716

Gasquoine, P. G. (2010). Comparison of public/private health care insurance parameters for independent psychological practice. *Professional Psychology: Research and Practice*, *41*, 319–324. http://dx.doi.org/10.1037/a0020268

Geary, D. C. (2010). Mathematical disabilities: Reflections on cognitive, neuropsychological, and genetic components. *Learning and Individual Differences*, *20*, 130–133. http://dx.doi.org/10.1016/j.lindif.2009.10.008

Geary, D. C., Hoard, M. K., Nugent, L., & Bailey, D. H. (2012). Mathematical cognition deficits in children

with learning disabilities and persistent low achievement: A five-year prospective study. *Journal of Educational Psychology*, *104*, 206–223. http://dx.doi.org/10.1037/a0025398

Giedd, J. N., & Rapoport, J. L. (2010). Structural MRI of pediatric brain development: what have we learned and where are we going? *Neuron, 67(5)*, 728–734.

Gioia, G. A., Isquith, P. K., Guy, S. C., & Kenworthy, L. (2000). *Behavior Rating Inventory of Executive Function (BRIEF)*. Odessa, FL: Psychological Assessment Resources.

Glozman, J. M. (2007). A. R. Luria and the history of Russian neuropsychology. *Journal of the History of the Neurosciences*, *16*, 168–180. http://dx.doi.org/10.1080/09647040600550368

Goldberg, E. (2001). *The executive brain: Frontal lobes and the civilized mind*. New York, NY: Oxford University Press.

Golden, C. (1978). *Stroop Color–Word Test*. Chicago, IL: Stoelting.

Guido, G. (2010). The assessment and treatment of emotional disorders. In J. M. Gurd, U. Kischka, & J. C. Marshall (Eds.), *Handbook of neuropsychology* (2nd ed., pp. 418–435). Oxford, England: Oxford University Press.

Hain, L. A., Hale, J. B., & Glass-Kendorski, J. (2008). The comorbidity of psychopathology in cognitive and academic SLD subtypes. In S. Feifer & G. Rattan (Eds.), *Emotional disorders: A neuropsychological, psychopharmacological, and educational perspective* (pp. 199–225). Middletown, MD: School Neuropsych Press.

Hale, J., Alfonso, V., Berninger, V., Bracken, B., Christo, C., Clark, E., . . . Yalof, J. (2010). Critical issues in response-to-intervention, comprehensive evaluation, and specific learning disabilities identification and intervention: An expert white paper consensus. *Learning Disability Quarterly*, *33*, 223–236. http://dx.doi.org/10.1177/073194871003300310

Hale, J. B., & Fiorello, C. A. (2004). *School neuropsychology: A practitioner's handbook*. New York, NY: Guilford Press.

Hale, J. B., Fiorello, C. A., Miller, J. A., Wenrich, K., Teodori, A. M., & Henzel, J. (2008). WISC–IV assessment and intervention strategies for children with specific learning disabilities. *WISC–IV Clinical Assessment and Intervention*, *2*, 109–171.

Hale, J. B., Kaufman, A., Naglieri, J. A., & Kavale, K. A. (2006). Implementation of IDEA: Integrating response to intervention and cognitive assessment methods. *Psychology in the Schools*, *43*, 753–770. http://dx.doi.org/10.1002/pits.20186

Hale, J. B., Reddy, L. A., Semrud-Clikeman, M., Hain, L. A., Whitaker, J., Morley, J., . . . Jones, N. (2011). Executive impairment determines ADHD medication response: Implications for academic achievement. *Journal of Learning Disabilities*, *44*, 196–212. http://dx.doi.org/10.1177/0022219410391191

Hale, J. B., Reddy, L. A., Weissman, A. S., Lukie, C., & Schneider, A. N. (2013). Integration of neuropsychological assessment and intervention for children with ADHD. In L. A. Reddy, A. S. Weissman, & J. B. Hale (Eds.), *Neuropsychological assessment and intervention for emotional and behavior disordered youth: An integrated step-by-step evidence-based approach* (pp. 127–154). Washington, DC: American Psychological Association.

Hale, J. B., Reddy, L. A., Wilcox, G., McLaughlin, A., Hain, L., Stern, A., . . . Eusebio, E. (2009) Assessment and intervention practices for children with ADHD and other frontal-striatal circuit disorders. In D. C. Miller (Ed.), *Best practices in school neuropsychology: Guidelines for effective practice, assessment, and evidence-based intervention* (pp. 225–280). Hoboken, NJ: Wiley.

Hale, J. B., Yim, M., Schneider, A. N., Wilcox, G., Henzel, J. N., & Dixon, S. G. (2012). Cognitive and neuropsychological assessment of ADHD: Redefining a disruptive behavior disorder. In D. P. Flanagan & P. Harrison (Eds.), *Contemporary intellectual assessment: Theories, tests, and issues* (3rd ed., pp. 687–707). New York, NY: Guilford Press.

Hanks, R. A., Ricker, J. H., & Millis, S. R. (2004). Empirical evidence regarding the neuropsychological assessment of moderate and severe traumatic brain injury. In J. H. Ricker (Ed.), *Differential diagnosis in adult neuropsychological assessment* (pp. 218–242). New York, NY: Springer.

Hartlage, L. C., & D'Amato, R. C. (2008). Understanding the etiology of psychiatry and neurologic disorders in neuropsychiatry. In A. M. Horton, D. Wedding, & J. Webster (Eds.), *Neuropsychological handbook* (3rd ed., pp. 87–108). New York, NY: Springer.

Heaton, R. K., Chelune, G. J., Talley, J. L., Kay, G. G., & Curtiss, G. (1993). *Wisconsin Card Sorting Test manual: Revised and expanded*. Odessa, FL: Psychological Assessment Resources.

Heilbronner, R. L., Sweet, J. J., Morgan, J. E., Larrabee, G. J., & Millis, S. R.; Conference Participants. (2009). American Academy of Clinical Neuropsychology Consensus Conference Statement on the neuropsychological assessment of effort, response bias, and malingering. *Clinical Neuropsychologist*, *23*, 1093–1129. http://dx.doi.org/10.1080/13854040903155063

Hooper, S. R., Costa, L. J., McBee, M., Anderson, K. L., Yerby, D. C., Knuth, S. B., & Childress, A. (2011). Concurrent and longitudinal neuropsychological contributors to written language expression in

first and second grade students. *Reading and Writing*, *24*, 221–252. http://dx.doi.org/10.1007/s11145-010-9263-x

Houston, W. S., & Bondi, M. W. (2006). Potentially reversible cognitive symptoms in older adults. In D. K. Attix & K. A. Welsh-Bohmer (Eds.), *Geriatric neuropsychology: Assessment and intervention* (pp. 103–132). New York, NY: Guilford Press.

Hulme, C., & Snowling, M. J. (2011). Children's reading comprehension difficulties: Nature, causes, and treatments. Current *Directions in Psychological Science*, *20*, 139–142. http://dx.doi.org/10.1177/0963721411408673

Individuals With Disabilities Education Improvement Act of 2004, Pub. L. No. 108-446, 20 U.S.C. §§ 1400–1482.

Insel, T. R. (2014). The NIMH research domain criteria (RDoC) project: Precision medicine for psychiatry. *American Journal of Psychiatry*, *171*, 395–397. http://dx.doi.org/10.1176/appi.ajp.2014.14020138

Iverson, G. L. (2006). Ethical issues associated with the assessment of exaggeration, poor effort, and malingering. *Applied Neuropsychology*, *13*, 77–90. http://dx.doi.org/10.1207/s15324826an1302_3

Jalali, R., & Dutta, D. (2012). Factors influencing quality of life in adult patients with primary brain tumors. *Neuro-Oncology*, *14*(Suppl. 4), iv8–iv16. http://dx.doi.org/10.1093/neuonc/nos205

Jamora, C. W., Ruff, R. M., & Connor, B. B. (2008). Geriatric neuropsychology: Implications for front line clinicians. *NeuroRehabilitation*, *23*, 381–394.

Kaplan, E., Goodglass, H., & Weintraub, S. (2010). *Boston Naming Test* (2nd ed.). Austin, TX: Pro-Ed.

Kavale, K. A., Holdnack, J. A., & Mostert, M. P. (2006). Responsiveness to intervention and the identification of specific learning disability: A critique and alternative proposal. *Learning Disability Quarterly*, *29*, 113–127. http://dx.doi.org/10.2307/30035539

Kinnunen, K. M., Greenwood, R., Powell, J. H., Leech, R., Hawkins, P. C., Bonnelle, V., . . . Sharp, D. J. (2011). White matter damage and cognitive impairment after traumatic brain injury. *Brain*, *134*, 449–463. http://dx.doi.org/10.1093/brain/awq347

Koziol, L., Budding, D. R., & Hale, J. B. (2013). Understanding neuropsychopathology in the 21st century: Current status, clinical application, and future directions. In L. A. Reddy, A. S. Weissman, & J. B. Hale (Eds.), *Neuropsychological assessment and intervention for emotional and behavior disordered youth: An integrated step-by-step evidence-based approach* (pp. 327–345). Washington, DC: American Psychological Association.

Kubas, H. A., Backenson, E. M., Wilcox, G., Piercy, J. C., & Hale, J. B. (2012). The effects of methylphenidate on cognitive function in children with attention-deficit/hyperactivity disorder. *Postgraduate Medicine*, *124*, 33–48. http://dx.doi.org/10.3810/pgm.2012.09.2592

LaRocca, N. G. (2011). Cognitive impairment and mood disorders. In B. S. Giesser (Ed.), *Primer on multiple sclerosis* (pp. 241–262). Oxford, England: Oxford University Press.

Leark, R. A., Greenberg, L. K., Kindschi, C. L., Dupuy, T. R., & Hughes, S. J. (2007). *Test of Variables of Attention: Professional manual*. Los Alamitos, CA: TOVA.

Lezak, M. D., Howieson, D. B., & Loring, D. W. (2004). The rationale of deficit measurement. In M. D. Lezak, D. B. Howieson, & D. W. Loring (Eds.), *Neuropsychological assessment* (4th ed., pp. 86–99). New York, NY: Oxford University Press.

Lichter, D. G., & Cummings, J. L. (Eds.). (2001). *Frontal-subcortical circuits in psychiatric and neurological disorders*. New York, NY: Guilford Press.

Liotti, M., Pliszka, S. R., Perez, R., Luus, B., Glahn, D., & Semrud-Clikeman, M. (2007). Electrophysiological correlates of response inhibition in children and adolescents with ADHD: Influence of gender, age, and previous treatment history. *Psychophysiology*, *44*, 936–948. http://dx.doi.org/10.1111/j.1469-8986.2007.00568.x

Luria, A. R. (1973). *The working brain*. New York, NY: Basic Books.

Luria, A. R. (1980). *Higher cortical functions in man*. New York, NY: Springer.

Luria, A. R., & Majovski, L. V. (1977). Basic approaches used in American and Soviet clinical neuropsychology. *American Psychologist*, *32*, 959–968. http://dx.doi.org/10.1037/0003-066X.32.11.959

Mayes, S. D., & Calhoun, S. L. (2006). Frequency of reading, math, and writing disabilities in children with clinical disorders. *Learning and Individual Differences*, *16*, 145–157. http://dx.doi.org/10.1016/j.lindif.2005.07.004

McDougall, S., Hulme, C., Ellis, A., & Monk, A. (1994). Learning to read: The role of short-term memory and phonological skills. *Journal of Experimental Child Psychology*, *58*, 112–133. http://dx.doi.org/10.1006/jecp.1994.1028

Meyers, J. E., & Meyers, K. R. (1995). *Rey–Osterreith Complex Figure*. Odessa, FL: Psychological Assesment Resources.

Middleton, K. R., & Burt, C. W. (2006). *Availability of pediatric services and equipment in emergency departments, United States, 2002–2003*. Hyattsville, MD: National Center for Health Statistics.

Milberg, W. P., Hebben, N., & Kaplan, E. (1996). The Boston process approach to neuropsychological

assessment. In I. Grant & K. Adams (Eds.), *Neuropsychological assessment of psychiatric disorders* (pp. 58–80). New York, NY: Oxford University Press.

Mitrushina, M., Boone, K. B., Razini, J., & D'Elia, L. F. (2005). *Handbook of normative data for neuropsychological assessment* (2nd ed.). New York, NY: Oxford University Press.

Morris, R. G., & Brookes, R. L. (2012). Neuropsychological assessment of older adults. In L. H. Goldstein & J. E. McNeil (Eds.), *Clinical neuropsychology: A practical guide to assessment and management for clinicians* (2nd ed., pp. 347–373). West Sussex, England: Wiley.

Nigg, J. T., Blaskey, L. G., Stawicki, J. A., & Sachek, J. (2004). Evaluating the endophenotype model of ADHD neuropsychological deficit: Results for parents and siblings of children with ADHD combined and inattentive subtypes. Journal of Abnormal Psychology, 113, 614–625. http://dx.doi.org/10.1037/0021-843X.113.4.614

Norman, M. A., Moore, D. J., Taylor, M., Franklin, D., Jr., Cysique, L., & Ake, C.; HNRC Group. (2011). Demographically corrected norms for African Americans and Caucasians on the Hopkins Verbal Learning Test—Revised, Brief Visuospatial Memory Test, and Wisconsin Card Sorting Test 64—Card version. *Journal of Clinical and Experimental Neuropsychology*, *33*, 793–804. http://dx.doi.org/10.1080/13803395.2011.559157

Perrin, J. M., Bloom, S. R., & Gortmaker, S. L. (2007). The increase of childhood chronic conditions in the United States. *JAMA*, *297*, 2755–2759. http://dx.doi.org/10.1001/jama.297.24.2755

Phelps, L., Steck-Silvestri, E. L., McAllister, W. S., Ensign, J., Crevier-Quintin, E., & Hale, J. B. (2013). Integrated neuropsychological assessment and intervention for chronic pediatric medical conditions with comorbid psychopathology. In L. A. Reddy, A. S. Weissman, & J. B. Hale (Eds.), *Neuropsychological assessment and intervention for emotional and behavior disordered youth: An integrated step-by-step evidence-based approach* (pp. 299–323). Washington, DC: American Psychological Association.

Polanczyk, G., de Lima, M. S., Horta, B. L., Biederman, J., & Rohde, L. A. (2007). The worldwide prevalence of ADHD: A systematic review and metaregression analysis. *American Journal of Psychiatry*, *164*, 942–948. http://dx.doi.org/10.1176/ajp.2007.164.6.942

Pritchard, A. E., Koriakin, T., Jacobson, L. A., & Mahone, E. M. (2014). Incremental validity of neuropsychological assessment in the identification and treatment of youth with ADHD. *Clinical Neuropsychologist*, *28*, 26–48. http://dx.doi.org/10.1080/13854046.2013.863978

Raffa, R. B. (2011). A proposed mechanism for chemotherapy-related cognitive impairment ("chemo-fog"). *Journal of Clinical Pharmacy and Therapeutics*, *36*, 257–259. http://dx.doi.org/10.1111/j.1365-2710.2010.01188.x

Ramus, F., Rosen, S., Dakin, S. C., Day, B. L., Castellote, J. M., White, S., & Frith, U. (2003). Theories of developmental dyslexia: Insights from a multiple case study of dyslexic adults. *Brain*, *126*, 841–865. http://dx.doi.org/10.1093/brain/awg076

Reddy, L. A., Weissman, A. S., & Hale, J. B. (Eds.). (2013). *Neuropsychological assessment and intervention for emotional and behavior disordered youth: An integrated step-by-step evidence-based approach*. Washington, DC: American Psychological Association.

Reynolds, C. R. (2002). *Comprehensive Trail-Making Test*. Austin, TX: Pro-Ed.

Riccio, C. A., & Reynolds, C. R. (2013). Principles of neuropsychological assessment in children and adolescents. In D. H. Saklofske, C. R. Reynolds, & V. L. Schwean (Eds.), *The Oxford handbook of child psychological assessment* (pp. 331–347). http://dx.doi.org/10.1093/oxfordhb/9780199796304.013.0014

Rourke, B. P. (2000). Neuropsychological and psychosocial subtyping: A review of investigations within the University of Windsor Laboratory. *Canadian Psychology*, *41*, 34–51. http://dx.doi.org/10.1037/h0086856

Rubia, K., Smith, A. B., Brammer, M. J., Toone, B., & Taylor, E. (2005). Abnormal brain activation during inhibition and error detection in medication-naive adolescents with ADHD. *American Journal of Psychiatry*, *162*, 1067–1075. http://dx.doi.org/10.1176/appi.ajp.162.6.1067

Ruff, R. M. (1987). *Ruff Figural Fluency Test*. Odessa, FL: Psychological Assessment Resources.

Russell, E. W., Russell, S. L., & Hill, B. D. (2005). The fundamental psychometric status of neuropsychological batteries. *Archives of Clinical Neuropsychology*, *20*, 785–794. http://dx.doi.org/10.1016/j.acn.2005.05.001

Sabaz, M., Simpson, G. K., Walker, A. J., Rogers, J. M., Gillis, I., & Strettles, B. (2014). Prevalence, comorbidities, and correlates of challenging behavior among community-dwelling adults with severe traumatic brain injury: A multicenter study. *Journal of Head Trauma Rehabilitation*, *29*, E19–E30. http://dx.doi.org/10.1097/HTR.0b013e31828dc590

Samkoff, L. M., & Goodman, A. D. (2011). Symptomatic management in multiple sclerosis. *Neurologic Clinics*, *29*, 449–463. http://dx.doi.org/10.1016/j.ncl.2011.01.008

Schneider, A. N., Parker, D. J., Crevier-Quintin, E., Kubas, H. A., & Hale, J. B. (2013). Luria and learning: How neuropsychological theory translates into educational practice. In B. J. Irby, G. Brown, & R. Lara-Alecio (Eds.), *Handbook of educational theories* (pp. 749–756). Charlotte, NC: Information Age.

Semrud-Clikeman, M., Filipek, P. A., Biederman, J., Steingard, R., Kennedy, D., Renshaw, P., & Bekken, K. (1994). Attention-deficit hyperactivity disorder: Magnetic resonance imaging morphometric analysis of the corpus callosum. *Journal of the American Academy of Child and Adolescent Psychiatry*, *33*, 875–881. http://dx.doi.org/10.1097/00004583-199407000-00014

Semrud-Clikeman, M., Goldenring Fine, J., & Harder, L. (2005). Providing neuropsychological services to students with learning disabilities. In R. C. D'Amato, E. Fletcher-Janzen, & C. R. Reynolds (Eds.), *Handbook of school neuropsychology* (pp. 403–424). Hoboken, NJ: Wiley.

Shaywitz, B. A., Shaywitz, S. E., Blachman, B. A., Pugh, K. R., Fulbright, R. K., Skudlarski, P., . . . Fletcher, J. M. (2004). Development of left occipitotemporal systems for skilled reading in children after a phonologically-based intervention. *Biological Psychiatry*, *55*, 926–933. http://dx.doi.org/10.1016/j.biopsych.2003.12.019

Sherman, E., Wiebe, S., Fay-McClymont, T. B., Tellez-Zenteno, J., Metcalfe, A., Hernandez-Ronquillo, L., . . . Jetté, N. (2011). Neuropsychological outcomes after epilepsy surgery: systematic review and pooled estimates. *Epilepsia*, *52*, 857–869. http://dx.doi.org/10.1111/j.1528-1167.2011.03022.x

Shinn, M. R., & Walker, H. M. (2010). *Interventions for achievement and behavior problems in a three-tier model including RTI*. Bethesda, MD: National Association of School Psychologists.

Simos, P. G., Fletcher, J. M., Sarkari, S., Billingsley, R. L., Denton, C., & Papanicolaou, A. C. (2007). Altering the brain circuits for reading through intervention: A magnetic source imaging study. *Neuropsychology*, *21*, 485–496. http://dx.doi.org/10.1037/0894-4105.21.4.485

Smith, G., & Rush, B. K. (2006). Normal aging and mild cognitive impairment. In D. K. Attix & K. A. Welsh-Bohmer (Eds.), *Geriatric neuropsychology: Assessment and intervention* (pp. 27–55). New York, NY: Guilford Press.

Spreen, O., & Benton, A. L. (1965). Comparative studies of some psychological tests for cerebral damage. *Journal of Nervous and Mental Disease*, *140*, 323–333. http://dx.doi.org/10.1097/00005053-196505000-00002

Spreen, O., & Benton, A. L. (1977). *Neurosensory Center Comprehensive Examination for Aphasia*. Victoria, British Columbia, Canada: University of Victoria Neuropsychology Laboratory.

Swanson, H. L. (2011). Working memory, attention, and mathematical problem solving: A longitudinal study of elementary school children. *Journal of Educational Psychology*, *103*, 821–837. http://dx.doi.org/10.1037/a0025114

Tiflin, J. (1948). *Purdue Pegboard*. Lafayette, IN: Lafayette Instrument Co.

Tombaugh, T. N. (1996). *Test of Memory Malingering*. North Tonawanda, NY: Multi-Health Systems.

Torgesen, J. K., Wagner, R. K., Rashotte, C. A., Burgess, S., & Hecht, S. (1997). Contributions of phonological awareness and rapid automatic naming ability to the growth of word-reading skills in second-to fifth-grade children. *Scientific Studies of Reading*, *1*, 161–185. http://dx.doi.org/10.1207/s1532799xssr0102_4

Trites, R. L. (1977). *Grooved Pegboard neuropsychological test manual*. Lafayette, IN: Lafayette Instrument Co.

Twamley, E. W., & Bondi, M. W. (2004). The differential diagnosis of dementia. In J. H. Ricker (Ed.), *Differential diagnosis in adult neuropsychological assessment* (pp. 226–326). New York, NY: Springer.

Vakil, E. (2012). Neuropsychological assessment: Principles, rationale, and challenges. *Journal of Clinical and Experimental Neuropsychology*, *34*, 135–150. http://dx.doi.org/10.1080/13803395.2011.623121

Wåhlstedt, C., Thorell, L. B., & Bohlin, G. (2009). Heterogeneity in ADHD: Neuropsychological pathways, comorbidity, and symptom domains. *Journal of Abnormal Child Psychology*, *37*, 551–564. http://dx.doi.org/10.1007/s10802-008-9286-9

Welsh-Bohmer, K. A., & Warren, L. H. (2006). Neurodegenerative dementias. In D. K. Attix & K. A. Welsh-Bohmer (Eds.), *Geriatric neuropsychology: Assessment and intervention* (pp. 56–88). New York, NY: Guilford Press.

Wepman, J. M., & Reynolds, W. M. (1987). *Wepman Auditory Discrimination Test* (2nd ed.). Torrance, CA: Western Psychological Services.

Wiig, E. H., Semel, E., & Secord, W. A. (2013). *Clinical Evaluation of Language Fundamentals* (5th ed.). San Antonio, TX: Pearson.

Willcutt, E. G., Doyle, A. E., Nigg, J. T., Faraone, S. V., & Pennington, B. F. (2005). Validity of the executive function theory of attention-deficit/hyperactivity disorder: A meta-analytic review. *Biological Psychiatry*, *57*, 1336–1346. http://dx.doi.org/10.1016/j.biopsych.2005.02.006

Williams, K. T. (2007). *Expressive Vocabulary Test* (2nd ed.). Circle Pines, MN: American Guidance Service.

Witsken, D. E., D'Amato, R. C., & Hartlage, L. C. (2008). Understanding the past, present, and future of clinical neuropsychology. In R. C. D'Amato & L. C. Hartlage (Eds.), *Essentials of neuropsychological assessment: Treatment planning for rehabilitation* (2nd ed., pp. 3–29). New York, NY: Springer.

Yenari, M. A., & Han, H. S. (2012). Neuroprotective mechanisms of hypothermia in brain ischaemia. *Nature Reviews Neuroscience*, *13*, 267–278. http://dx.doi.org/10.1038/nrn3174

CHAPTER 8

# FORENSIC ASSESSMENT

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Anchored in the foundational discipline of clinical psychology, forensic assessment is designed to offer the legal system the most refined, established, and creditable opinions clinicians can produce. The stakes could scarcely be higher; forensic assessment outcomes may literally be matters of life or death. Expert witnesses are subjected to heightened, at times aggressive scrutiny, not only by the attorneys who oppose them, but often by the attorneys who hire them as well. In this rarified environment, it sometimes appears as though clinical psychology itself is on trial. In this chapter, we address how psychological assessment is used in the crucible of criminal and civil legal practice.

## DESCRIPTION AND DEFINITION

Forensic assessment is a unique service performed by a retained witness, typically as the result of the court's self-generated order or in response to the separate request of an attorney. The legal system relies on forensic assessment to answer those questions that neither a court nor a jury could be expected to answer without specialized assistance. Does a criminal defendant understand enough about the nature and consequences of legal proceedings to be considered competent to stand trial? Is a respondent in a guardianship matter capable of managing personal matters as well as financial affairs? Has a personal injury litigant—claiming to have become so traumatized by on-the-job injuries that returning to work is no longer a possibility—truly been suffering from symptoms of posttraumatic stress disorder or have symptoms in fact merely been faked all along, such that this is really just a case of malingering?

This process is not meant to constitute or evolve into treatment for the examinee but rather to bring social scientific clarity to a legal question. The forensic psychologist needs to be clear from the inception of these services about the lack of confidentiality because, unlike therapeutic care, forensic assessment is geared toward identifying an objective truth rather than catering to an examinee's emotional or other needs.

Much of what forensic psychology can contribute in this context cannot be duplicated or approximated by any other mental health discipline. Foremost among such considerations is the selection, administration, and interpretation of standardized psychological tests—not only traditional clinical measures but also those that are themselves forensic in nature, directly addressing the legal issue at hand. Forensic assessment also draws on a uniquely rich clinical research base that reflects the overtly scientific focus of its doctoral-level training model.

Forensic psychologists bear the responsibility to inform an examinee about the purpose of the evaluation and the fact that its results will in all probability be used in court. Corroborating data from both sides—such as medical records, police reports, civil documents, and interviews of witnesses and family members, in addition to standardized testing—can be essential to these evaluations. Such information lays the groundwork for an accurate

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sense of the context in which the legal questions are being posed. This information is important not only to assess the person objectively, but also because the evaluator may be deposed or cross-examined in court by the opposing side—or by both sides, if the judge selected, appointed, and hired the evaluator—concerning any failure to obtain the necessary background material.

Forensic assessment can be divided into two distinct legal categories: criminal and civil. The most salient difference between the two is that in criminal cases, the defendant may be sentenced to some form of punishment if found guilty, whereas in civil cases, the plaintiff is the one allegedly damaged by the defendant and seeking some form of compensation, almost always in the form of money or restorative services.

In criminal cases, forensic assessment addresses such matters as criminal responsibility, competence to stand trial, competency to testify, suitability to benefit from postconviction proceedings, sexual offender recidivism risk, and juvenile delinquency. In civil matters, forensic assessments are performed in multiple contexts, including personal injury, employment discrimination, abuse of vulnerable populations, educational entitlement, child custody and parental fitness, disability, dangerousness, malingering, guardianship, fitness for duty, and malpractice. In this chapter, we describe the most important of these forensic issues.

## BRIEF HISTORY AND CURRENT STATUS

A review of forensic psychology, in which a clinical expert opines in court on the defendant's legally relevant condition, necessarily turns to the roots of psychiatry, psychology, surgery, and general medicine. The field of psychological forensic practice dates back to the beginning of when expertise was needed in determining legal constructs that would form the foundation of society. Medical expert opinions in legal contexts can be traced through ancient, medieval, and modern civilization including in ancient Egypt, ancient India and China, Babylonia, ancient Greece, Roman law, and the Middle Ages, directly through to the modern era.

The most prominent historical figure in forensic assessment at the turn of the last century was Harvard professor Hugo Münsterberg, who "is generally credited with founding the field of forensic psychology" (Goldstein, 2003, p. 6). His 1908 textbook *On the Witness Stand* addressed a broad range of notions—including, for example, the validity of eyewitness identifications and the genesis of false confessions—that continue to form the basis of forensic assessment to this day (Vaccaro & Hogan, 2004). William Marston, holder of both a law degree and a PhD in psychology, was a student of Münsterberg's who served as a professor of legal psychology at American University and whose testimony in the seminal case of *Frye v. United States* (1923) was pivotal in establishing a standard for the admissibility of expert scientific evidence that continues to prevail in some jurisdictions (Bartol & Bartol, 2013).

American psychologists began to be engaged in forensic assessment almost 100 years ago (Huss, 2009), as in the West Virginia juvenile delinquency case of *State v. Driver* (1921); however, "it was not until much later, in the 1940s and 1950s, that psychologists testified in courts of law on a regular basis" (Bartol & Bartol, 2013, p. 14). In 1962, the U.S. Court of Appeals for the D.C. Circuit ruled—influenced in considerable part by an *amicus* brief filed by the American Psychological Association (APA)—in *Jenkins v. United States* (1962) that psychologists were competent to state opinions as expert witnesses on "mental disease" in insanity defense and related cases.

The participation of psychologists in forensic assessment practice has grown considerably in the course of the past 50 years, due in no small part to its encouragement at the national guild level. In 1969, the American Psychology-Law Society was formed, which merged with Division 41 of the APA some 15 years later (Grisso, 1991). Its goals included (a) advancing the contributions of psychology to the understanding of law and legal institutions through basic and applied research; (b) promoting the education of psychologists in matters of law and the education of legal personnel in matters of psychology; and (c) informing the psychological and legal communities and the

general public of current research and educational and service activities in the field of psychology and law (APA, 2015).

A watershed event for modern forensic psychology was the National Invitational Conference on Education and Training in Law and Psychology (commonly called the Villanova Conference), held at the Villanova University School of Law in May 1995. Invited attendees were chosen for their roles in "undergraduate education," "graduate social science programs," "graduate forensic programs," "practical training, including predoctoral practica, internships, and postdoctoral experiences," "joint-degree programs," and "continuing education" (Bersoff et al., 1997, p. 1303).

Reacting in part to the absence of a "generally accepted and well-codified training model" (Freeman & Roesch, 1992, p. 568) for forensic psychological assessment, Villanova Conference participants acknowledged the limitations of university-based clinical experiences and afforded particular attention to the unifying, standard-supportive effects of high-quality, postdoctoral continuing education experiences that would integrate greater awareness of "ethnic, cultural, and linguistic differences" with "real practical experience and case supervision" (Bersoff et al., 1997, p. 1308). The effects of this initiative are easy to discern in the wealth of sophisticated forensic assessment training offerings by such entities as the American Psychology-Law Society, APA Division 42 (Psychologists in Independent Practice), and the American Academy of Forensic Psychology.

Since 2001, APA has recognized forensic psychology as a specialty, and training in the field is now available in predoctoral, internship, and postdoctoral settings. The *Specialty Guidelines for Forensic Psychology* (APA, 2013b), which describe and encourage ethical practice, were first promulgated in 1991 and were recently revised to reflect the continuing evaluation of this mode of service provision.

## CORE PRINCIPLES AND APPLICATIONS

Even readers with a considerable degree of sophistication regarding clinical psychology could be excused for wondering just what sort of use criminal and civil courts might make of it in forensic settings. As addressed in greater detail later in this chapter, key forensic assessment questions include the following.

1. *Is this person competent to stand trial?* Forensic assessment here focuses on whether a criminal defendant understands the nature and consequences of current legal proceedings and whether the defendant is capable of participating rationally with counsel in fashioning a defense. Psychological testing will address whether the defendant possesses the necessary cognitive and intellectual capacities to meet these standards, and personality testing—if applicable—will address whether some form of major mental disorder is being manifested in hallucinations or delusions that interfere with otherwise sufficient deliberative processes. Clinical and forensic interviewing will address the defendant's legal knowledge base, as well as the defendant's ability to make rational decisions with whatever information is known or potentially teachable.
2. *Is this person dangerous?* Forensic assessment here focuses on whether an examinee is likely to commit some act in the future that might be harmful to self or others—a status that may lead to involuntary civil commitment. Psychological testing will address whether an examinee is intellectually capable of understanding those situations in which harm might occur and how to prevent it, and personality testing will address whether the examinee has a psychotic illness or malignant personality condition that that might lend itself to uncontrollable violence or planned aggression. Clinical and forensic interviewing will address the examinee's capacity for—and willingness to—exercise self-control in a range of potential settings, with particular attention to how the examinee has performed under stressful or otherwise provocative situations in the past.
3. *Is this person malingering?* Forensic assessment here focuses on whether an examinee is exaggerating symptoms of some disorder or incapacity, or perhaps faking that condition outright, to avoid prosecution, prevail in a personal injury

matter, or gain some other legal advantage or benefit. Psychological testing will address whether the condition in question ever existed in the first place, typically using measures that have embedded scales designed to detect unorthodox response styles. Some tests are entirely devoted to malingering issues, without any other assessment function. Clinical and forensic interviewing will address the apparent legitimacy—or lack thereof—of the examinee's symptomatic presentation, focusing in particular on the consistency with which various ailments are described over time.

4. *Is this person criminally responsible?* Forensic assessment here typically focuses—distinct from trial competency's basis in the here and now—on whether, at the time a crime was allegedly committed, the defendant understood the criminal nature of the actions underlying the arrest and whether the defendant was capable of conforming certain behaviors to the requirements of the law. Psychological testing will address whether the defendant possessed the intellectual wherewithal to grasp the notion of criminality in this context, and personality testing—if applicable—will address whether psychotic symptoms might still be present that could constitute residual evidence of a relevant psychiatric condition. Clinical and forensic interviewing will address the defendant's recollection of experiences and cognition at that critical prior juncture.
5. *Is this person in need of a guardian?* Forensic assessment here focuses on whether a respondent is capable of managing personal and financial matters without the imposition of a third-party decision maker appointed by the court. Psychological testing will assess the presence or absence of cognitive abilities that provide a basis for effective decision making and will also seek to determine whether a particular mental condition—for example, depression as opposed to dementia—is the source of alleged difficulties in this regard. Clinical and forensic interviewing will address the respondent's understanding of requirements for independent, unsupervised living, with particular attention to such statutorily defined areas as obtaining health care, arranging for shelter, paying bills, marrying, voting, and driving an automobile.

Given the adversarial nature of the legal arena and the inevitable cleavage among different approaches to forensic assessment, there exist divergent perspectives on how to interview, test, analyze, write, and testify in any given adjudicative setting. As examined in greater depth in subsequent portions of this chapter, APA has attempted to bring some order to this arena with a series of directive but nonbinding sources of assistance, including its *Record Keeping Guidelines* (2007), *Guidelines for Child Custody Evaluations in Family Law Proceedings* (2010), *Guidelines for Psychological Evaluations in Child Protection Matters* (2013a), and *Specialty Guidelines for Forensic Psychology* (2013b)—and, of course, more general guidance is available from the *Ethical Principles of Psychologists and Code of Conduct* (APA, 2002). At the institutional level, psychiatry has predictably weighed in as well (American Academy of Psychiatry and the Law, 2005; American Psychiatric Association, 2010).

In their landmark *Foundations of Forensic Mental Health Assessment*, Heilbrun, Grisso, and Goldstein (2009) have identified a series of principles of forensic mental health assessment that address a full range of issues, including those relevant to preparation, data collection, data interpretation, written communication, and testimony (pp. 135–137). Of these 38 principles, we have selected 10 of the most salient—reordering them to match the typical flow of forensic assessment practice—and have provided our own commentary to underscore their utility for this particular mode of service provision.

## Before Forensic Assessment

1. *Be familiar with the relevant legal, ethical, scientific, and practice literatures pertaining to* Foundations of Forensic Mental Health Assessment *(Heilbrun et al., 2009)*. Forensic mental health assessment is much more than simply the application of one's hard-won clinical skills in a different arena. Sophisticated counsel on both sides of the aisle will be alert to the possibility

the evaluator is unaware of, for example, the particular elements of the crime or civil wrong at issue or appellate legal decisions that bear on the nature and admissibility of different psychological opinions. The ongoing proliferation of sources of ethical guidance includes those that are specifically forensic as well as those that are clinical in nature. Scientific findings are more readily challenged than ever given innovations in continuing legal education. The practice literature regarding forensic mental health assessment has expanded dramatically with the growing popularity of this specialty area.

2. *Control potential evaluator bias in general by monitoring case selection, continuing education, and consultation with knowledgeable colleagues*. Controlling potential evaluator bias is potentially the most difficult to master, particularly for early-career forensic psychologists. Compensation for court-related work in private practice is typically much more lucrative than that for traditional clinical services in an era of capitation and managed care. When one is just starting to develop skills and a reputation in the forensic arena, it can be a vexing task to establish just what and are not the boundaries of one's relevant expertise. Fortunately, many more opportunities are available for forensically focused continuing education and professional networking these days
3. *Clarify the evaluator's role with the attorney*. As prepared as counsel may be to build up her or his own expert on direct examination and attack the opposing expert on cross-examination, counsel may have minimal insight into the nature and scope of the services that would best fit a given legal situation. Counsel's frequent pretrial assertion that "I don't want to bias you" is easily dismissed on the basis that the evaluator will want to develop as early as possible some sense of counsel's overall mental health theory of the case and to address those matters that counsel currently considers—or will eventually consider—most relevant. Sorting out these issues on the front end of the evaluator's involvement will help to ensure that a costly follow-up examination is not required. In addition, counsel may have a minimal grasp of the differences between the psychologist serving as a testifying expert witness on the one hand and as a consultant on the other.
4. *Avoid playing the dual roles of the therapist and the forensic evaluator*. Sometimes counsel is drawn to a particular evaluator because of a legally favorable opinion that emerged in the course of pretrial clinical services. In this situation, counsel may feel that he or she is faced with a known entity when it comes to a subsequent forensic psychological evaluation and anticipate with relish the opportunity to portray the evaluator on the witness stand as the client's doctor in rebuttal to the opposing side's characterization of the evaluator as a hired gun. The main problem with this approach is that clinical obligations to a patient or client—and a preformed opinion as to certain factual information and its implications—are ready fodder for cross-examination. The forensic evaluator who then became a psychotherapist would be forced to navigate significant trust issues in the event that his or her testimony proved damaging to the patient or client.

## During Forensic Assessment

5. *Use multiple sources of information for each area being assessed, review the available background information, and actively seek important missing elements*. This is not to suggest that in every forensic assessment matter counsel will provide—or the evaluator will be able to locate on her or his own—a substantial amount of legal, medical, educational, military, employment, or other background information about the person who is to be evaluated. In situations in which this material is available, a forensic opinion is buttressed not only by its inherent depth but also by the effort the evaluator expended in attempting to produce as even handed an opinion as possible under the circumstances. Of equal relevance are data that provide additional corroboration for key points and data that serve to disprove opinions that would otherwise have held sway in the face of comparatively minimal collateral input.

6. *Ensure that conditions for the evaluation are quiet, private, and distraction free*. Environmental considerations can be as critical for forensic assessment as they are for psychotherapy or mainstream clinical evaluation, although in such institutional settings as hospitals, jails, prisons, nursing homes, and attorneys' offices, these considerations may be substantially more difficult to control. Under some circumstances, in fact, the presence of situation-specific distractions can actually underscore the validity of a forensic opinion. This is because what the evaluator is assessing pertains to the examinee's ability to perform adequately in the setting in question, for example, when the forensic question involves the ability to participate rationally in one's own defense in the courtroom, to consult with counsel before trial while incarcerated, or to manage one's personal and financial affairs in the context of medical confinement.
7. *Determine whether the individual understands the purpose of the evaluation and the associated limits on confidentiality*. Although informed consent is a virtually absolute necessity for the provision of traditional clinical services, this construct may play out in unusual ways when the task at hand is a criminal or civil forensic evaluation. For one thing, the evaluation in question may be court ordered, such that matters of informed consent per se are essentially irrelevant. For another—similar to some more strictly clinical situations—it may be the examinee's apparent inability to function at the requisite cognitive level to provide informed consent that inspired the court to request an examination in the first place. This does not mean, of course, that it will not be necessary to ensure that the examinee understands why the evaluation is being conducted or to ensure that the potential distribution of obtained information is reviewed thoroughly.

## Subsequent to Forensic Assessment

8. *Carefully consider whether to answer the ultimate legal question; if it is answered, it should be in the context of a thorough evaluation*. The ultimate legal question is the question that the court is attempting to address—for example, "Is this examinee competent to stand trial?" In a competency evaluation, the forensic evaluator will always be asked to address such issues as intellectual functioning, the presence or absence of psychopathology, comprehension of the nature and consequences of the legal proceedings, and the ability to participate rationally in one's own defense. However, some jurisdictions will make commentary on the bottom-line competent-versus-incompetent issues the exclusive province of the judge or jury, some will be silent on this issue, and some will actually possess a statutory mandate that directs the evaluator to opine on the ultimate issue specifically.
9. *Use plain language; avoid technical jargon*. Predictably, this is a difficult line to walk when writing forensic reports, consulting with counsel, functioning in a deposition, or testifying in court. On one hand, information that no one understands will have no positive effect on the proceedings in question; however, on the other hand, no one—including judges, jurors, or attorneys—enjoys the feeling of being patronized by an evaluator who appears to be conveying that her or his audience is simply too limited to grasp the nuances of a social scientific opinion. In some cases, it is necessary to acknowledge certain technical terms, if only as an entrée to explaining them in lay terms. Counsel will also have a vested interested in displaying the sophistication and technical mastery of his or her expert, such that a judicious amount—so to speak—of technicality is not only permissible but in some situations actually desirable.
10. *Prepare*. Courtroom testimony inspires the forensic evaluator to draw on the same skill set that once enabled the successful defense of a doctoral dissertation, successful passage of a professional licensure examination, and successful completion of the oral portion of board certification proceedings. Although the retaining counsel will presumably—although not necessarily—have prepared sufficiently to ask good questions on direct examination, the evaluator cannot simply assume that these questions be the same ones he or she in anticipating.

Similarly, opposing counsel (and possibly the judge) will simultaneously be putting together a very negative string of inquiries designed to trap the unready evaluator for whom a considerable amount of time has passed since the examinations in question. Proper preparation for trials, depositions, and hearings ensures better control of the facts and greater confidence.

## LIMITATIONS

Forensic assessment services, like any other scientifically grounded endeavor, are bounded by limitations that must be acknowledged when writing reports and testifying in court. The two most prominent of these limitations involve pitfalls in retrospective assessment and the uneasy fit between clinical opinions and the law's adversarial system.

### Retrospective Assessment

The most prominent limitation inherent in providing forensic assessment services is the fact that most interview, testing, and other investigative modalities available to the evaluator were originally fashioned for the purpose of determining an examinee's current levels of cognitive and personality functioning. Forensic assessment—particularly with respect to such issues as criminal responsibility and testamentary capacity—often relies on the evaluator's ability to determine what someone was thinking, doing, or feeling, perhaps months or even years in the past.

Reconstructing an individual's mental state is a limited, task-specific procedure in regard to a defined legal issue. "It bears a certain analogy to a biopsy, which is specifically intended to determine the diagnosis but is not itself major surgery" (Simon, 2002, p. 2). In criminal responsibility matters, "the passage of more time permits more opportunity for normal forgetting to take place as well" (Gutheil, 2002, p. 81). Moreover, psychological autopsies "have not been adequately addressed with regard to standardized protocol," and interviews in this area of practice "have been a particular area of concern regarding vulnerability to bias, as outlined in the literature" (Dattilio & Sadoff, 2011, p. 598).

### Proffering Clinical Opinions for Use Within an Adversarial System

Traditional clinical services anticipate the formation of a therapeutic alliance and therapy services. Forensic assessment occurs in a vastly different arena—one in which the evaluator is prepared from the outset to function within a centuries-old adversarial system predicated upon conflict. Hess (2006) opined that "courtroom combat is not for the faint of heart, nor for those who like to argue but cannot cope with the rules of the court, which allow the attorney to attack but limit the expert's ability to retaliate" (pp. 669–670). A proper cross-examination "is designed to identify what the witness failed to do and the resulting limitations of what was learned or concluded" (Otto, Kay, & Hess, 2013, pp. 751–752).

When it comes to forensic psychological assessment and forensic reports, there are many avenues of vulnerability for testifying experts, such as imprecise assertions of certainty, a lack of understanding about probability, and scoring errors (Drogin, 2007). Automated testing is a problem in this context as well, particularly for clinicians who, when reaching forensic conclusions and constructing forensic reports, are "unable to rely on their own resources" and are thus "totally reliant on what the computerized interpretation may indicate" (Dattilio et al., 2011, p. 485).

Forensic assessment calls for a high level of scoring accuracy, an in-depth knowledge of the psychometric properties of psychological tests, and a solid grasp of the research that attests to a test's appropriateness for a given forensically oriented application. Traditional clinical techniques and report-writing formats—as appropriate as they might be for conveying progress in psychotherapy or determining the likely efficacy of treatment—will often constitute significant limitations in the forensic context. This is not to suggest that the clinical as opposed to forensic approach is an inherently less scientific or well-considered one; rather, the point here is that what may make perfect sense to fellow evaluators or psychotherapists is often going to draw fire from those parties who have other, nonclinical arguments to make.

## PRINCIPAL TESTS AND METHODS

Forensic assessment is conducted by psychologists in an increasing variety of legal contexts. In this section, we provide a sampling of the areas for which such services are most frequently used, with a description of major tests and methods for each.

### Competency to Stand Trial

The basic standard for competency to stand trial was established by the U.S. Supreme Court in *Dusky v. United States* (1960), in which it was determined that a defendant must possess "sufficient present ability to consult with his lawyer with a reasonable degree of rational understanding" as well as a "factual understanding of the proceedings against him" (p. 789). Counsel is expected to have a superior grasp of the technical requirements of the criminal justice system, but it is not enough for defendants merely to do what counsel tells them—or to refrain from participating in any meaningful fashion while counsel makes critical decisions in a vacuum. Although counsel is typically going to be the one to identify a potential competency problem and to make an initial representation about this to the court, the court will need to order a forensic assessment to determine whether difficulties are truly present, psychological in nature, and dire enough to run afoul of the legal standard.

The following are the general steps for data collection in competency-to-stand-trial evaluations (Stafford & Sadoff, 2011):

(1) Provide the defendant a verbal and written explanation of the purpose of the evaluation, and how and to whom the results will be communicated, at a level the defendant is likely to understand.
(2) Seek the defendant's verbal and written assent to consent to the evaluation.
(3) Conduct a targeted clinical interview of the defendant, including relevant history and a structured mental status examination.
(4) Administer psychological tests, as needed, to assess for intellectual functioning, literacy, neurocognitive deficits, psychopathology, and malingering.
(5) Use structured competency assessment instruments when appropriate.
(6) Review relevant third-party information, such as school, employment, and military records; medical and mental health treatment records; and legal history, witness statements, and investigation of the alleged offenses.
(7) Interview third parties, if necessary, to clarify history and level of functioning. (p. 12)

The tests typically used to assess underlying cognitive deficits and indicia of mental disorders will already be familiar to clinical psychologists—even those with little or no forensic experience. The key here, as noted above, is to bear in mind that one's choice of measures is likely to be subjected to withering scrutiny in the courtroom. For this reason, relatively obscure or minimally researched tests should be shunned in favor of more familiar, well-validated instruments such as the Wechsler Adult Intelligence Scale, Fourth Edition (Wechsler, 2008), Woodcock–Johnson IV Tests of Cognitive Abilities (Schrank, Mather, & McGrew, 2014), Minnesota Multiphasic Personality Inventory—2—Restructured Form (Ben-Porath & Tellegen, 2008), and Personality Assessment Inventory (Morey, 1991). Those conducting forensic assessments should remain in the habit of periodically reviewing the professional literature to determine the extent to which even these mainstream, commonly used tests may recently have been challenged.

Over the course of the past approximately four decades, psychologists have been able to draw on an increasing number of specifically forensic measures to supplement traditional clinical assessment tools and forensic interviews. These most prominently include the following:

- MacArthur Competence Assessment Tool—Criminal Adjudication (Zapf, Skeem, & Golding, 2005)
- Competence Assessment for Standing Trial for Defendants With Mental Retardation (Jurecska, Peterson, & Millkey, 2012)

- Competency Screening Test (Ustad et al., 1996)
- Competency to Stand Trial Assessment Instrument (Otto, 2006)
- Georgia Court Competency Test (Rogers et al., 1996)
- Computer-Assisted Competence Assessment Tool (Zapf & Viljoen, 2003)
- Interdisciplinary Fitness Interview (Golding, 2008).

If defendants are deemed incompetent to stand trial, is it possible to restore their competency? The answer is yes, if the underlying mental disorders and concomitant psychosocial issues underlying this forensic status are properly addressed. One promising approach called the Slater Method helps restore individuals with intellectual disabilities (Wall, Krupp, & Guilmette, 2003). As a formal training tool, this program uses various tactics to improve cognitive and organizational skills that help to ensure attainment of the goal of having a defendant tried and properly adjudicated. There are, predictably, a number of concerns associated with such programs. In particular, is a defendant's notably improved ability to display the effects of rote learning with respect to courtroom roles, legal terms, and penalty ranges going to overshadow a potential lack of behavioral capacity to collaborate more effectively with counsel? For these and related reasons, the current overall state of competency restoration suggests that this form of service provision can still be deemed a work in progress (Samuel & Michals, 2011).

## Dangerousness

This notion arises in all manner of criminal and civil matters. Lurking in the background of competency-to-stand-trial or criminal responsibility proceedings is the court's fear that a defendant who is too impaired to be tried—or who is ultimately found not guilty by reason of insanity—will be released from the system only to do something as bad as or worse than what current criminal charges are alleging. These concerns are often addressed by rules that enable the court to initiate involuntary civil commitment proceedings, which is the context in which dangerousness is addressed in this chapter.

The classically referenced case in this regard is *Lessard v. Schmidt* (1972). This matter resulted in a federal district court decision that established such procedural requirements as clearly defined commitment standards, adequate notice of hearings, the right to counsel, and the right to an independent forensic assessment. To hospitalize respondents against their will, the court will typically need to be satisfied—based on the specific statutory language of the jurisdiction in question—that because of mental disorder they constitute a danger to themselves or others, that they can reasonably benefit from hospitalization, and that hospitalization is the least restrictive alternative mode of treatment presently available. Given these criteria, the court will want to know not only whether negative events are likely to occur in the future but also what sorts of recommendations the clinical psychologist can make for treatment and how likely respondents are to improve within a given period of time.

With regard to psychological testing, no assessment instrument exists that has proven predictive value in identifying people likely to commit suicide (Appelbaum & Gutheil, 2007) and, "given the difficulty to date in formulating even *post hoc* predictive algorithms, one is not likely to be developed in the foreseeable future" (p. 54). This is not to suggest that there is no forensic utility in screening measures that can at least alert the evaluator to an examinee's overt expression of suicidal or other self-harming ideation; for example, the Beck Scale for Suicide Ideation (Healy et al., 2006) provides this opportunity. The Beck Depression Inventory—II (Dozois & Covin, 2004) contains an item dedicated to this purpose as well.

As with any other area of assessment—forensic or otherwise—psychologists are not unduly stymied by an inability to rely on tests per se. A properly conducted clinical and forensic interview is required in virtually all court-related matters and simply assumes greater prominence when other means of investigation are comparatively lacking.

Dangerousness can be broken down into two separate considerations: dangerousness toward one's self and dangerousness toward others. With respect to the former, Melton et al. (2007) noted that the primary

issues for forensic investigation include the following: frequency and intensity of suicidal ideation; whether person's thinking has progressed beyond generalities (e.g., "I would be better off dead") to the consideration of specific methods; lethality of those methods (e.g., relatively lower risk, such as cutting or pills, versus relatively higher risk, such as jumping or guns); whether there has been rehearsal or preliminary steps have been taken to put a plan into action; and whether the person has engaged in making final arrangements, such as recently making a will or disposing of valuable possessions.

Dangerousness toward others is increasingly assessed with resort to actuarial as opposed to clinical measures, honoring by default the longstanding assertions of clinical practitioners that they are simply not in a position to predict who might undertake to harm another individual. Despite its currency, this distinction is hardly a new one. The general superiority of statistical over clinical risk assessment in the behavioral sciences has been known for more than half a century (Monahan, 2013, p. 545). There are at least two actuarial measures of proven utility: the Violence Risk Appraisal Guide (VRAG; Rice, Harris, & Lang, 2013) and the HCR-20 (Gray et al., 2007).

For forensic assessments of dangerousness, three of the most salient questions are (a) "Is the clinical information that is presented based on a risk assessment or a prediction, (b) what method or approach was used to gather information to make the assessment or prediction, and (c) what are the reliability and validity of the testimony or opinion? In particular, for example, are there problems with generalizability because the Violence Risk Appraisal Guide and HCR-20 were both originally normed on male Canadian criminal offenders (Mrad & Nabors, 2007)?

## Malingering

As noted above, the contributions of clinical psychologists to the criminal and civil justice systems are not only welcomed but in many cases necessary. Undercutting the court's acceptance of forensic assessment conclusions is one constant concern in particular: Are litigants exaggerating—or outright fabricating—the mental health symptoms on which the opinions of the expert witness are based?

Malingering is characterized in the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* (American Psychiatric Association, 2013) not as a mental disorder, but rather as one of the other conditions that may be a focus of clinical attention, with a description that underscores the court's concerns: "The essential feature of malingering is the intentional production of false or grossly exaggerated physical or psychological symptoms, motivated by external incentives such as avoiding military duty, avoiding work, obtaining financial compensation, evading criminal prosecution, or obtaining drugs" (p. 726).

The research-supported forensic base-rate estimates for this phenomenon range from approximately 15% to 50%, depending on the specific context under consideration, with lesser prevalence ascribed to "the nonforensic setting" (LeBourgeois, Thompson, & Black, 2010, p. 455). Determinations of malingering often supersede all other clinical issues in importance. "Given the highly consequential nature of forensic evaluations, it is entirely understandable why a minority of examinees deliberately distort their clinical presentations by adopting a response style, such as malingering or defensiveness" (Rogers & Granacher, 2011, p. 659).

The aforementioned distinction between malingering and defensiveness is a critically relevant one. Judges, attorneys, and juries—and, in some instances, even expert witnesses—are at times prone to construe malingering as a catch-all term for any instance in which a litigant produces test results that fail to capture his or her "true" cognitive potential or personality style. In fact, malingering is but one facet of the broader phenomenon of dissimulation, which includes such other behaviors as irrelevant responding, random responding, defensiveness, role assumption, and hybrid responding.

In addition to scales embedded in such personality measures as the Minnesota Multiphasic Personality Inventory—2 (Butcher, 2013) and the Personality Assessment Inventory (Whiteside, Dunbar-Mayer, & Waters, 2009), a number of free-standing measures are specifically designed to

capture instances of a litigant's potential dissimulation. These prominently include the

- Miller Forensic Assessment of Symptoms Test (Nadolny & O'Dell, 2010);
- Structured Interview of Reported Symptoms (Kocsis, 2011);
- Validity Indicator Profile (Frederick, 2002);
- Rey's Fifteen Item Test (Stimmel et al., 2012);
- Structured Interview of Malingered Symptomatology (Clegg, Fremouw, & Mogge, 2009); and
- Test of Memory Malingering (Davis, Wall, & Whitney, 2012).

There is an unfortunate tendency for a litigant's poor performance on a single measure of dissimulation to be seen not only as an outright unwillingness to be truthful, but also as proof of criminal or civil relevant competency. In fact, those conducting as well those basing legal decisions on forensic assessment results would do well to bear in mind that it is predictably the most legitimately impaired individuals whose clumsy attempts at malingering and whose self-defeating task approach is likely to be discovered. The mere "intentional production of false or grossly exaggerated physical or psychological symptoms" (American Psychiatric Association, 2013, p. 726) does not serve to cure what is ironically a legally relevant disability that is being overplayed by a naïve litigant. In these instances it is often best to notify counsel what has occurred, encourage frank discussion of what has occurred, and then arrange to reevaluate employing alternative measures of effort.

## Criminal Responsibility

Courts are forever on guard against the possibility that in cases in which a defendant is asserting a criminal responsibility or insanity defense, that person is literally seeking to get away with murder. Forensic assessment in the context of criminal responsibility is often hampered by both of the key limitations identified earlier in this chapter: the difficulties inherent in retrospective assessment—because criminal responsibility always concerns behaviors that arguably happened at some time in the past—and also some of the worst excesses of the adversarial nature of the criminal justice system, given the often high-profile status of these cases and the provocative nature of the alleged crimes that they address.

From a legal perspective, standards for criminal responsibility have evolved considerably over the course of a few centuries. In some jurisdictions—largely because of the controversies these cases often engender—they have ceased to evolve and have simply become extinct (Morse & Bonnie, 2013). Historically, the most representative rule is the one found in the Model Penal Code of the American Law Institute (1962), which states that criminal defendants are not liable if at the time in question they suffered from a mental disease or defect that resulted in their lacking the substantial capacity to appreciate the wrongfulness of their actions or to conform their actions to the requirements of the law.

This focus on capacity signals, as with aforementioned strategies for addressing competency to stand trial, that an appropriate initial approach to testing would include the application of measures that could address the potential presence of intellectual disability (e.g., using the Wechsler Adult Intelligence Scale, Fourth Edition) or some form of major psychiatric disorder (e.g., using the Minnesota Multiphasic Personality Inventory—2). Some defendants, predictably, will be incapable of completing personality testing, either because of deficient language skills or because of overwhelming acute psychotic symptomatology.

Virtually alone among forensic tests of criminal responsibility are the Rogers Criminal Responsibility Scales (Rogers, Seman, & Clark, 1986). Sadoff and Dattilio (2011) described this measure as "a particularly helpful assessment tool because it provides criteria-based decision models that the forensic expert can complete to address the issue of criminal responsibility" (p. 131).

Beyond clinical and forensic testing, the most useful offense-related information that can be derived from a forensic assessment of criminal defendants in these cases follows:

(1) Defendant's present "general" response to offense—for example:
   a. Cognitive perception of offense
   b. Emotional response

(2) Detailed account of offense
   a. Evidence of intrapsychic stressors
   b. Evidence of external stressors
   c. Evidence of altered state of consciousness
   d. Claimed amnesia
(3) Events leading up to offense
   a. Evidence of major changes in environment
   b. Relationship with victim
   c. Preparation for offense
(4) Postoffense response
   a. Behavior following act
   b. Emotional response to act
   c. Attempts to explain or justify act
   (Melton et al. (2007, p. 254)

## Guardianship

Guardianship is a legal process for people who allegedly can no longer manage their personal affairs or financial matters, whereby "a finding of deficient capacities results in someone other than the patient having to make the decision in question" (Appelbaum & Gutheil, 2007, p. 186). The legal rules for this area of forensic assessment have not been driven by nationally prominent appellate decisions but rather by "jurisdiction-specific guardianship law [that has] been in place in every one of the United States for almost three decades" (Drogin & Gutheil, 2011, p. 521).

Although above-cited cognitive and personality measures may be used in some guardianship cases, the majority of respondents in these matters are so low functioning—given the very basic decision-making functions in question—that they are typically beyond the reach of most of the more lengthy and complex clinical assessment instruments. Fortunately, clinical and forensic interviews and a review of currently available records can be supplemented with the results of specifically tailored, albeit briefer forensic tests, including the following:

- Adult Functional Adaptive Behavioral Scale (Spirrison & Sewell, 1996)
- Community Competence Scale (Searight & Goldberg, 1991)
- Competency Interview Schedule (Douglas & Koch, 2001)
- Decision-Making Instrument for Guardianship (Moye, 2003)
- Direct Assessment of Functional Status (Mariani, 2004).
- FIM (Timbeck & Spaulding, 2004)

Drogin and Barrett (2010) have identified those general domains that typically align with a given jurisdiction's statutorily defined areas of concern:

(1) *Identifying Information*. Identifying information can include such elements as the examinee's full name, age, date of birth, place of birth, address (including street address, city, county, state, and country of residence), zip code, area code, telephone number, fax number, and e-mail address. Such data are important not only for the guardianship report itself but also to determine whether the examinee is actually aware of this information on her own.
(2) *Orientation*. In addition to personal aspects of the foregoing identifying information, is the examinee aware of his current location (in terms of street address, city, county, state, and country) and the current year, season, month, day of the week, and approximate hour? How long has the examinee been in this location? How did the examinee come to this location? Is it a hospital, nursing home, group home, private residence, or professional office?
(3) *Education*. This is a form of information that can be as important for its actual content as for the examinee's ability to recall it. As described later in this chapter, academic achievement is a critical factor in establishing a cognitive baseline for guardianship assessment. Does the

examinee recall where he attended nursery school, grammar school, junior high school, high school, or college? What were the various dates of attendance? How well did the examinee perform, and what were his favorite subjects? Did this education form the basis of a subsequent career?

(4) *Finances*. What is the examinee's current weekly, monthly, or annual income? What is the source of and basis for that income? How is it delivered, and what financial institutions are involved? Is the examinee currently receiving the assistance of a curator or other payee? How was this arrangement developed and instituted? What are the examinee's current weekly, monthly, or annual expenses? How are these paid, when, and to whom? What are the approximate typical costs of various standard items? What are the examinee's assets and future financial prospects? How would he cope with various hypothetical adjustments to either income or expenses?

(5) *Self-Care*. What are the examinee's current, prior, and anticipated resources for self-care? How confident is the examinee in her ability to provide for self-care on an individual basis? What is the status of the examinee's current residence, mode of dress, and personal hygiene? How would the examinee dress, arrange for transportation, and otherwise contend with such weather conditions as a blizzard, heavy rain, or a record heat wave? How would the examinee respond to such hypothetical emergent situations as a fire in the home, a flood, or a viral epidemic? How many meals does the examinee eat per day, who prepares them, how are they prepared, what do they contain, and when are they consumed?

(6) *Social Contact and Leisure Pursuits*. This is an often overlooked aspect of the examinee's day-to-day life, because it typically does not address core aspects of the guardianship scheme unless specified by statute, regulations, case law, or court order. Nonetheless, such aspects are frequently relevant to a full understanding of the examinee's existence and, in particular, the resources at his disposal in the event of emergent circumstances. Along these lines, is the examinee capable of identifying the persons with whom he associates? How does the examinee tend to spend his spare time?

(7) *Testamentary Capacity*. When the applicable statute or court order calls for assessment of this construct, does the examinee understand what it means to make a will? Has she done so? How might this be accomplished? What sort of real estate, funds, interests, and other possessions would be involved? Does the examinee have any sort of plan for distributing these assets? Who are the persons that would normally be expected to benefit from the examinee's will? How many of these persons are still living, and where are they located? What sort of relationships, if any, does the examinee still maintain with these individuals? Is there anyone currently seeking to be named in the examinee's will? Has that person threatened or made promises to the examinee? After a will has been duly executed, when does it take effect?

(8) *Medical Care*. What is the examinee's medical history, including hospitalizations, operations, childbirth, and acute and chronic physical and

mental conditions? How does the examinee characterize her current health status? From whom is she receiving medical or nursing care? Is this care delivered in the examinee's current place of residence? If not, where must the examinee go in order to receive this care? How often? When was the examinee's last medical, nursing, dental, or other appointment? When is the next one scheduled? How would the examinee handle the onset of various forms of life-threatening or non-life-threatening illness? Is the examinee currently taking medication? If so, what is it, what does it do, what contraindications are noted, and how often is it taken? Does the examinee have medical insurance? If so, whatsort of coverage does it provide?

(9) *Driving an Automobile*. Some states list driving an automobile as a specific area of competency for the guardianship report to address. Under these circumstances, it is reasonable for the evaluator to seek and convey information that informs this issue, while stopping short of rendering a bottom-line, *ultimate issue opinion* on the examinee's ability to drive. When the applicable statute or court order calls for assessment of this construct, does the examinee have access to a motor vehicle? Does the examinee possess a current driver's license? Can the examinee produce that license and describe when and how it should be renewed? Can the examinee identify and explain various signs, road markings, and common rules of the road, as listed in the relevant jurisdiction's current driver's licensing manual?

(10) *Voting*. When the applicable statute or court order calls for assessment of this construct, does the examinee understand the significance of voting? Is the examinee aware of the identities of the current president, vice president, senators, congresspersons, mayors, or selectpersons? Does the examinee recall the last time he voted? Is the examinee currently registered to vote, and if not, does he know how one would go about becoming registered? Does the examinee know when elections are usually held and where voting typically occurs? (pp. 75–79)

## MAJOR ACCOMPLISHMENTS

Forensic assessment has assumed a valid and supportable role in the arena of the applied social sciences for two reasons in particular. The first of these is its abandonment of reliance upon clinical judgment and its embrace of evidence-based conclusions. The second is the promulgation of specialty guidelines to assist practitioners in identifying and displaying appropriate professional conduct.

### From Clinical Judgment to Evidence-Based

In forensic assessment, the accomplishment of clinical psychologists that has perhaps had the most impact has been their steady migration from a primary reliance on clinical judgment (Borum, Otto, & Golding, 1993) to an evidence-based approach (Boone, 2013) to legally related matters. Expert witness report writing and testimony that adopts an *ipse dixit* ("he, himself, said it") perspective is effective only under those limited circumstances in which a locally revered or nationally prominent practitioner is allowed to proffer opinions without a properly constructed foundation. For these individuals, too, the advent of spirited courtroom challenges is typically only a matter of time.

Evidence-based principles are not applied solely to the bottom line of an expert witness opinion. Similar concerns apply to specific elements of evidence itself, including the psychometric qualities and ecological validity of the tests that these experts use.

Lally (2003) conducted an illuminating and widely referenced survey of tests used by forensic psychologists and identified a reasonably coherent sense of "what tests are appropriate for particular types of forensic evaluations" (p. 491). This is not to suggest, of course, that such factors as organizational setting and group affiliation do not continue to undermine purely evidence-based considerations on occasion (Piotrowski, 2007).

## Specialty Guidelines

Another significant key accomplishment in the forensic assessment arena has been the promulgation of the *Specialty Guidelines for Forensic Psychologists* (APA, 2013b), which unlike their predecessor have been adopted as policy for the entire organization as opposed to solely by its devising contributors—the American Academy of Forensic Psychology and the American Psychology-Law Society (APA Division 41), as was the case with an earlier version.

Among the highlights of these guidelines (APA, 2013b) are the following provisions. Their impact on the conduct of forensic assessment is likely to be significant, and it is just a matter of time before they become more prominently featured in direct and cross-examinations in civil and criminal cases nationwide:

> *Guideline 2.04: Knowledge of the Legal System and the Legal Rights of Individuals*
> Forensic practitioners recognize the importance of obtaining a fundamental and reasonable level of knowledge and understanding of the legal and professional standards, laws, rules, and precedents that govern their participation in legal proceedings and that guide the impact of their services on service recipients. Forensic practitioners aspire to manage their professional conduct in a manner that does not threaten or impair the rights of affected individuals. They may consult with, and refer others to, legal counsel on matters of law. Although they do not provide formal legal advice or opinions, forensic practitioners may provide information about the legal process to others based on their knowledge and experience. They strive to distinguish this from legal opinions, however, and encourage consultation with attorneys as appropriate. (p. 9)
>
> *Guideline 3.02: Responsiveness*
> Forensic practitioners seek to manage their workloads so that services can be provided thoroughly, competently, and promptly. They recognize that acting with reasonable promptness, however, does not require the forensic practitioner to acquiesce to service demands not reasonably anticipated at the time the service was requested, nor does it require the forensic practitioner to provide services if the client has not acted in a manner consistent with existing agreements, including payment of fees. (p. 10)
>
> *Guideline 4.02.01: Therapeutic–Forensic Role Conflicts*
> Providing forensic and therapeutic psychological services to the same individual or closely related individuals involves multiple relationships that may impair objectivity and/or cause exploitation or other harm. Therefore, when requested or ordered to provide either concurrent or sequential forensic and therapeutic services, forensic practitioners are encouraged to disclose the potential risk and make reasonable efforts to refer the request to another qualified provider. If referral is not possible, the forensic practitioner is encouraged to consider the risks and benefits to all parties and to the legal system or entity likely to be impacted, the possibility of separating each service widely in time, seeking judicial review and direction, and consulting with knowledgeable colleagues. When providing both forensic and therapeutic services, forensic practitioners seek to minimize the

potential negative effects of this circumstance. (p. 11)

*Guideline 8.02: Access to Information*
If requested, forensic practitioners seek to provide the retaining party access to, and a meaningful explanation of, all information that is in their records for the matter at hand, consistent with the relevant law, applicable codes of ethics and professional standards, and institutional rules and regulations. Forensic examinees typically are not provided access to the forensic practitioner's records without the consent of the retaining party. Access to records by anyone other than the retaining party is governed by legal process, usually subpoena or court order, or by explicit consent of the retaining party. Forensic practitioners may charge a reasonable fee for the costs associated with the storage, reproduction, review, and provision of records. (p. 14)

*Guideline 9.03: Opinions Regarding Persons Not Examined*
Forensic practitioners recognize their obligations to only provide written or oral evidence about the psychological characteristics of particular individuals when they have sufficient information or data to form an adequate foundation for those opinions or to substantiate their findings. Forensic practitioners seek to make reasonable efforts to obtain such information or data, and they document their efforts to obtain it. When it is not possible or feasible to examine individuals about whom they are offering an opinion, forensic practitioners strive to make clear the impact of such limitations on the reliability and validity of their professional products, opinions, or testimony. When conducting a record review or providing consultation or supervision that does not warrant an individual examination, forensic practitioners seek to identify the sources of information on which they are basing their opinions and recommendations, including any substantial limitations to their opinions and recommendations. (p. 15)

*Guideline 10.02: Selection and Use of Assessment Procedures*
Forensic practitioners use assessment procedures in the manner and for the purposes that are appropriate in light of the research on or evidence of their usefulness and proper application. This includes assessment techniques, interviews, tests, instruments, and other procedures and their administration, adaptation, scoring, and interpretation, including computerized scoring and interpretation systems. Forensic practitioners use assessment instruments whose validity and reliability have been established for use with members of the population assessed. When such validity and reliability have not been established, forensic practitioners consider and describe the strengths and limitations of their findings. (p. 15)

*Guideline 10.03: Appreciation of Individual Differences*
When interpreting assessment results, forensic practitioners consider the purpose of the assessment as well as the various test factors, test-taking abilities, and other characteristics of the person being assessed, such as situational, personal, linguistic, and cultural differences that might affect their judgments or reduce the accuracy of their interpretations. Forensic practitioners strive to identify any significant strengths and limitations of their procedures and interpretations. Forensic practitioners are encouraged to consider how the assessment process may be impacted by any disability an examinee is experiencing, make accommodations as possible, and consider such when interpreting and

communicating the results of the assessment. (pp. 15–16)

*Guideline 11.04: Comprehensive and Accurate Presentation of Opinions in Reports and Testimony*
Consistent with relevant law and rules of evidence, when providing professional reports and other sworn statements or testimony, forensic practitioners strive to offer a complete statement of all relevant opinions that they formed within the scope of their work on the case, the basis and reasoning underlying the opinions, the salient data or other information that was considered in forming the opinions, and an indication of any additional evidence that may be used in support of the opinions to be offered. The specific substance of forensic reports is determined by the type of psycholegal issue at hand as well as relevant laws or rules in the jurisdiction in which the work is completed. (p. 16)

## FUTURE DIRECTIONS

Forensic assessment cannot rest on its laurels. It must anticipate and meet the needs of the continuously evolving criminal and civil justice systems. Further development in two areas will be particularly critical in this regard: neuroscience and the accommodation of cultural complexities.

### Neuroscience and the Law

The field of neuroscience has been growing exponentially and, as a by-product of this phenomenon, it is increasingly visible in the courtroom, cropping up in both civil and criminal cases. The justice system relies heavily on insights into the mental states of all of its participants, including defendants, witnesses, jurors, and even lawyers and judges. To construe this as an exclusively medical specialty area is to ignore the increasingly vital role played by clinical psychologists—most emphatically demonstrated by the APA's launching of a journal titled *Psychology and Neuroscience*.

Neuroscience presents a unique opportunity for investigating mental capacity. With the arrival of neuroimaging—particularly in light of such tools as functional MRI, one can view an active area of the brain and its functioning in real time. No longer must practitioners and researchers rely on autopsy and other forms of retrospective analysis. The advent of this new technology in the courtroom brings with it challenges as well. Now that science can potentially address a physiological basis for areas ranging from movement and consciousness to moral beliefs, intentions, preferences and self-knowledge, will brain scans influence the sentencing of a convicted felon? Could neural circuits that illustrate intention and voluntary decision making affect accountability and responsibility (Gazzaniga, 2008)?

To explore these issues, the John D. and Catherine T. MacArthur Foundation funded the Law and Neuroscience Project in 2007 to address such matters as criminal behavior, criminal responsibility, and the overall potential for neuroscience in affecting legal decisions. Approximately 40 leading legal specialists, neuroscientists, and philosophers engaged in pilot research to expand this field, sustaining as many as 40 different interdisciplinary projects. This interdisciplinary focus is a critical matter: There is no reason to assume that psychology would not play at least as vital a role as do other professions. Subsequently, the Research Network on Law and Neuroscience was created in 2011.

Criminal responsibility is a significant area in which neuroscience ethics collide with the law. In the U.S. legal system, the law generally presumes that people are responsible for their actions. To be culpable, a person must display *mens rea* ("guilty mind"). *Mens rea* commonly encompasses four types of mentation that can lead to conviction: intention or purpose, recklessness, negligence, and knowledge that the act is done. Not all of these states need to be required for an act to be considered a crime, and *mens rea* can differ over time. Current neuroscience focuses mostly on the matter of intention, which is defined as the commitment to a plan of action and is the area most examined by modern neuroscientific investigations (Aharoni et al., 2008).

One prominent matter that reviewed the notion of culpability through the lens of neuroimaging was the 1992 case of Herbert Weinstein. Weinstein had thrown his wife out a window after strangling her to make his murder look like a suicide (*People v. Weinstein*, 1992). Although the defendant pleaded guilty to the murder, he also pleaded insanity. The insanity defense was partly based on an arachnoid cyst, visible on positron emission tomography, and argued Weinstein's defective ability to reason his actions. Although Weinstein still served multiple years in prison, the judge's admission of the scan evidence was hotly debated in both the legal and neuroscience fields (Denno, 2002; Jones & Shen, 2012). Although this was the beginning of neuroimaging as admissible evidence, more than 20 years later neuroimaging is rarely successful in helping defendants avoid convictions or overturn decisions (Jones & Shen, 2012), although it has been shown to mitigate sentencing.

There exist obvious limitations to neuroscience in the courtroom—including the potential for related findings to result in a mistaken overemphasis by juries and by the public at large (Gazzaniga, 2008). Neuroscience does not yet possess the ability to describe the cause of a particular act. Brain images and related studies can identify correlations between brain disease and behavior, but they cannot yet prove that the defect in question caused that behavior (Aharoni et al., 2008). For example, functional MRI can accurately describe brain structure and can measure changes in blood flow and oxygen levels to certain parts of the brain—thus confirming activity in that area—but reliably interpreting that activity to infer the thoughts and intentions of a particular individual remains elusive (Jones & Shen, 2012).

## Accommodating Cultural Complexities

Perhaps the most critical leading edge with the most impact for modern forensic assessment is the need for a straightforward embrace of cultural complexities. The United States has a long history of immigration of people from multiple ethnic and religious backgrounds, and the past few decades have seen the greatest influx of immigrants in the past 100 years. Although cultural diversity is a defining feature of the U.S. population, various groups often have unequal access to socioeconomic and educational resources and are at greatest risk of becoming disenfranchised by the rest of society. The United States's dark history of slavery, resulting in poverty among African Americans as well as increases in immigration, has contributed to the presence of record numbers of minority-identified individuals in the correctional system. U.S. prisons house a disproportionate number of African American and Hispanic people. Although 29% of the U.S. population are Black or Hispanic, people of minority status make up 60% of the country's prison population. Prison workers and forensic specialists are in an unusual situation—comparatively rare in other segments of the treatment community—of having minorities make up the majority of their evaluative clientele (Kapoor et al., 2013).

The need for cultural competency inspires a reexamination of already complex ethical issues in the civil and criminal justice systems. Bringing cultural concerns in front of the judge or jury is important to enhance due process in the court system and create rehabilitation services better suited to each affected individual. At the same time, it is important to recognize that finders of law and finders of fact alike may discriminate—deliberately or not—between different cultural circumstances. Some people will react to the poignant story of a refugee who has witnessed genocide, war, and poverty as an expression of a culturally related trauma, but some may overlook the comparative cultural disadvantages of a young person of color growing up in the urban projects on the margins of a sprawling U.S. city, regularly exposed to violence and tragedy (Kirmayer, Rousseau, & Lashley, 2007). Clearly, both traumas may have cognitive and emotional effects with substantial forensic relevance, but one may seem easy to perceive and credit than the other. Thus, cultural competency in the forensic system needs to take into account the history of migration and a person's status in the dominant society as part of the narrative of how that person has arrived at a given point in his or her life.

Understanding one's own cultural background can help an evaluator to form an alliance and provide a more accurate formulation of the person's

mental state. Obtaining the services of an impartial interpreter is imperative, as is the application of culturally sensitive standardized assessment measures. Psychological test results can play a large role in dispositions by the courts and correctional facilities, affecting decisions on such topics as sentencing, parole violation, and treatment. Because no psychological test is completely culturally aligned to a given individual, a few considerations may affect the veracity of test results. These considerations include the level of language fluency, how assimilated a person is to a testing environment, the consistency of the verbal and visual concepts used in the testing across cultures, and the interpersonal connection between the administrator and the examinee (Garg, Dattilio, & Miazzo, 2011).

Several identified areas of understanding can help to improve a clinician's forensic assessment (Mossman et al., 2007). Knowledge of a patient's culture (including history, traditions, values, and family systems) is a critical factor. Psychologists will need to know how the experience of racism and poverty may affect behavior, attitudes, and values. Awareness of how language, speech patterns, and communication styles differ among cultural communities will lend depth to any forensic psychological assessment that intersects with these issues. It is always important to recognize how professional values may conflict with or accommodate the emotional and legal needs of evaluees from different cultures. The culturally competent evaluator will develop an appropriate level of awareness of how community and institutional power relationships affect the individuals who make up each of the relevant groups involved.

In civil matters, notions of wrongfulness can vary depending on the culture in question. Examples of areas in which cultural variance is prevalent include child custody, divorce, family honor, finances, and property distribution. What may be considered normal to a Western family in these contexts may not be regarded similarly by a family of a different cultural background. For example, in some Asian cultures, marriage is considered more to represent the union of two families rather than of only two people. Although Westerners tend to be more focused on the nuclear family and individual achievements, Asians tend to be more collective and look at the best interests of a group over an individual. These differences can result in different priorities with corresponding forensic implications (Garg et al., 2011). In addition, the assessment of child maltreatment may be fraught with complications, given cultural differences in child-rearing practices (Raman & Hodes, 2012).

## References


Aharoni, E., Funk, C., Sinnott-Armstrong, W., & Gazzaniga, M. (2008). Can neurological evidence help courts assess criminal responsibility? Lessons from law and neuroscience. *Annals of the New York Academy of Sciences*, *1124*, 145–160. http://dx.doi.org/10.1196/annals.1440.007

American Academy of Psychiatry and the Law. (2005). *Ethical guidelines for the practice of forensic psychiatry*. Bloomfield, CT: Author.

American Law Institute. (1962). *Model penal code*. Washington, DC: Author.

American Psychiatric Association. (2010). *Principles of medical ethics with annotations especially applicable to psychiatry*. Washington, DC: Author.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: Author.

American Psychological Association. (2002). Ethical principles of psychologists and code of conduct. *American Psychologist*, *57*, 1060–1073. http://dx.doi.org/10.1037/0003-066X.57.12.1060

American Psychological Association. (2007). Record keeping guidelines. *American Psychologist*, *62*, 993–1004. http://dx.doi.org/10.1037/0003-066X.62.9.993

American Psychological Association. (2010). Guidelines for child custody evaluations in family law proceedings. *American Psychologist*, *65*, 863–867. http://dx.doi.org/10.1037/a0021250

American Psychological Association. (2013a). Guidelines for psychological evaluations in child protection matters. *American Psychologist*, *68*, 20–31. http://dx.doi.org/10.1037/a0029891

American Psychological Association. (2013b). Specialty guidelines for forensic psychology. *American Psychologist*, *68*, 7–19. http://dx.doi.org/10.1037/a0029889

American Psychological Association. (2015). *American Psychology-Law Society*. Retrieved from http://www.apadivisions.org/division-41/about/index.aspx

Appelbaum, P. S., & Gutheil, T. G. (2007). *Clinical handbook of psychiatry and the law* (4th ed.). Philadelphia, PA: Lippincott Williams & Wilkins.

Bartol, C. R., & Bartol, A. M. (2013). History of forensic psychology. In I. B. Weiner & R. K. Otto (Eds.), *The handbook of forensic psychology* (4th ed., pp. 3–34). Hoboken, NJ: Wiley.

Ben-Porath, Y. S., & Tellegen, A. (2008). *Minnesota Multiphasic Personality Inventory—2 Restructured Form: Manual for administration, scoring, and interpretation*. Minneapolis: University of Minnesota Press.

Bersoff, D. N., Goodman-Delahunty, J., Grosso, J. T., Hans, V. P., Poythress, N. G. J., & Roesch, R. G. (1997). Training in law and psychology: Models from the Villanova Conference. *American Psychologist*, *52*, 1301–1310. http://dx.doi.org/10.1037/0003-066X.52.12.1301

Boone, K. B. (2013). *Clinical practice of forensic psychology: An evidence-based approach*. New York, NY: Guilford Press.

Borum, R., Otto, R., & Golding, S. (1993). Improving clinical judgment and decision making in forensic evaluation. *Journal of Psychiatry and Law*, *21*, 35–76.

Butcher, J. N. (2013). Assessing MMPI-2 profile validity. In G. P. Koocher, J. C. Norcross, & B. A. Greene (Eds.), *Psychologists' desk reference* (3rd ed., pp. 116–119). http://dx.doi.org/10.1093/med:psych/9780199845491.003.0021

Clegg, C., Fremouw, W., & Mogge, N. (2009). Utility of the Structured Inventory of Malingered Symptomatology (SIMS) and the Assessment of Depression Inventory (ADI) in screening for malingering among outpatients seeking to claim disability. *Journal of Forensic Psychiatry and Psychology*, *20*, 239–254. http://dx.doi.org/10.1080/14789940802267760

Dattilio, F. M., & Sadoff, R. L. (2011). Psychological autopsy. In E. Y. Drogin, F. M. Dattilio, R. L. Sadoff, & T. G. Gutheil (Eds.), *Handbook of forensic assessment: Psychological and psychiatric perspectives* (pp. 593–611). http://dx.doi.org/10.1002/9781118093399.ch26

Dattilio, F. M., Sadoff, R. L., Drogin, E. Y., & Gutheil, T. G. (2011). Should forensic psychiatrists conduct psychological testing? *Journal of Psychiatry and Law*, *39*, 477–491. http://dx.doi.org/10.1177/009318531103900308

Davis, J. J., Wall, J. R., & Whitney, K. A. (2012). Derivation and clinical validation of consistency indices on the test of memory malingering. *Archives of Clinical Neuropsychology*, *27*, 706–715. http://dx.doi.org/10.1093/arclin/acs078

Denno, D. W. (2002). Crime and consciousness: Science and involuntary acts. *Minnesota Law Review*, *87*, 269–399.

Douglas, K. S., & Koch, W. J. (2001). Civil commitment and civil competence: Psychological issues. In J. R. Ogloff & R. A. Schuller (Eds.), *Introduction to psychology and law: Canadian perspectives* (pp. 353–374). Toronto, Ontario, Canada: University of Toronto Press.

Dozois, D. J. A., & Covin, R. (2004). The Beck Depression Inventory-II, Beck Hopelessness Scale, and Beck Scale for Suicide Ideation (BSS). In M. J. Hilsenroth & D. L. Segal (Eds.), *Comprehensive handbook of psychological assessment: Vol. 2. Personality assessment* (pp. 50–69). Hoboken, NJ: Wiley.

Drogin, E. Y. (2007). The forensic psychologist as consultant: Examples from a jurisprudent science perspective. *Journal of Psychiatry and Law*, *35*, 245–260.

Drogin, E. Y., & Barrett, C. L. (2010). *Evaluation for guardianship*. New York, NY: Oxford University Press.

Drogin, E. Y., & Gutheil, T. G. (2011). Guardianship. In E. Y. Drogin, F. M. Dattilio, R. L. Sadoff, & T. G. Gutheil (Eds.), *Handbook of forensic assessment: Psychological and psychiatric perspectives* (pp. 521–542). http://dx.doi.org/10.1002/9781118093399.ch23

Dusky v. United States, 362 U.S. 402 (1960).

Frederick, R. I. (2003). Review of the Validity Indicator Profile. *Journal of Forensic Neuropsychology*, *2*, 125–145. http://dx.doi.org/10.1300/J151v02n03_06

Freeman, R. J., & Roesch, R. (1992). Psycholegal education: Training for form and function. In D. K. Kagehiro & W. S. Laufer (Eds.), *Handbook of psychology and law* (pp. 567–576). http://dx.doi.org/10.1007/978-1-4757-4038-7_28

Frye v. United States, 293 F. 1013 (D.C. Cir. 1923).

Garg, S., Dattilio, F. M., & Miazzo, P. (2011). Transcultural considerations. In E. Y. Drogin, F. M. Dattilio, R. L. Sadoff, & T. G. Gutheil (Eds.), *Handbook of forensic assessment: Psychological and psychiatric perspectives* (pp. 679–695). http://dx.doi.org/10.1002/9781118093399.ch30

Gazzaniga, M. S. (2008). The law and neuroscience. *Neuron*, *60*, 412–415.

Golding, S. (2008). Interdisciplinary fitness interview. In B. L. Cutler (Ed.), *Encyclopedia of psychology and law* (pp. 377–379). http://dx.doi.org/10.4135/9781412959537.n148

Goldstein, A. M. (2003). Overview of forensic psychology. In I. B. Weiner (Series Ed.) & A. M. Goldstein (Vol. Ed.), *Comprehensive handbook of psychology: Vol. 11. Forensic psychology* (pp. 3–20). http://dx.doi.org/10.1002/0471264385.wei1101

Gray, N. S., Fitzgerald, S., Taylor, J., Macculloch, M. J., & Snowden, R. J. (2007). Predicting future reconviction

in offenders with intellectual disabilities: The predictive efficacy of VRAG, PCL-SV, and the HCR-20. *Psychological Assessment*, *19*, 474–479. http://dx.doi.org/10.1037/1040-3590.19.4.474

Grisso, T. (1991). A developmental history of the American Psychology-Law Society. *Law and Human Behavior*, *15*, 213–231. http://dx.doi.org/10.1007/BF01061710

Gutheil, T. G. (2002). Assessment of mental state at the time of the criminal offense: The forensic examination. In R. I. Simon & D. W. Shuman (Eds.), *Retrospective assessment of mental states in litigation: Predicting the past* (pp. 73–99). Washington, DC: American Psychiatric Publishing.

Healy, D. J., Barry, K., Blow, F., Welsh, D., & Milner, K. K. (2006). Routine use of the Beck Scale for Suicide Ideation in a psychiatric emergency department. *General Hospital Psychiatry*, *28*, 323–329. http://dx.doi.org/10.1016/j.genhosppsych.2006.04.003

Heilbrun, K., Grisso, T., & Goldstein, A. (2009). *Foundations of forensic mental health assessment*. New York, NY: Oxford University Press.

Hess, A. K. (2006). Serving as an expert witness. In I. B. Weiner & A. K. Hess (Eds.), *Handbook of forensic psychology* (3rd ed., pp. 652–697). New York, NY: Wiley.

Huss, M. T. (2009). *Forensic psychology: Research, clinical practice, and applications*. Chichester, England: Wiley.

Jenkins v. United States, 307 F.2d 637 (1962).

Jones, O. D., & Shen, F. X. (2012). Law and neuroscience in the United States. In T. M. Spranger (Ed.), *International neurolaw: A comparative analysis* (pp. 349–380). http://dx.doi.org/10.1007/978-3-642-21541-4_19

Jurecska, D. E., Peterson, M. A., & Millkey, A. (2012). Comparative study of the MacCAT-CA and CAST-MR for individuals with intellectual disabilities. *American Journal of Forensic Psychology*, *30*, 67–83.

Kapoor, R., Dike, C., Burns, C., Carvalho, V., & Griffith, E. E. (2013). Cultural competence in correctional mental health. *International Journal of Law and Psychiatry*, *36*, 273–280. http://dx.doi.org/10.1016/j.ijlp.2013.04.016

Kirmayer, L. J., Rousseau, C., & Lashley, M. (2007). The place of culture in forensic psychiatry. *Journal of the American Academy of Psychiatry and the Law*, *35*, 98–102.

Kocsis, R. N. (2011). The Structured Interview of Reported Symptoms 2nd Edition (SIRS-2): New benchmark towards the assessment of malingering. *Journal of Forensic Psychology Practice*, *11*, 73–81.

Lally, S. J. (2003). What tests are acceptable for use in forensic evaluations? A survey of experts. *Professional Psychology: Research and Practice*, *34*, 491–498.

LeBourgeois, H. W., Thompson, J. W., & Black, F. W. (2010). Malingering. In R. I. Simon & L. H. Gold (Eds.), *Textbook of forensic psychiatry* (2nd ed., pp. 453–481). Washington, DC: American Psychiatric Publishing.

Lessard v. Schmidt, 349 F. Supp. 1078 (E.D. Wis. 1972).

Mariani, C. (2004). Monitoring of functional deficits in neurology: Dementias. *Neurological Sciences*, *25*, S33.

Melton, G. B., Petrila, J., Poythress, N. G., Slobogin, C., Lyons, P. M., & Otto, R. K. (2007). *Psychological evaluations for the courts: A handbook for mental health professionals and lawyers* (3rd ed.). New York, NY: Guilford Press.

Monahan, J. (2013). Violence risk assessment. In I. B. Weiner (Series Ed.) & R. K. Otto (Vol. Ed.), *Comprehensive handbook of psychology*: *Vol. 11. Forensic psychology* (2nd ed., pp. 541–555). Hoboken, NJ: Wiley.

Morey, L. C. (1991). *The Personality Assessment Inventory professional manual*. Odessa, FL: Professional Assessment Resources.

Morse, S. J., & Bonnie, R. J. (2013). Abolition of the insanity defense violates due process. *Journal of the American Academy of Psychiatry and the Law*, *41*, 488–495.

Mossman, D., Noffsinger, S. G., Ash, P., Frierson, R. L., Gerbasi, J., Hackett, M., . . . Zonana, H. V.; American Academy of Psychiatry and the Law. (2007). AAPL practice guideline for the forensic psychiatric evaluation of competence to stand trial. *Journal of the American Academy of Psychiatry and the Law*, *35*(4, Suppl.), S3–S72.

Moye, J. (2003). Guardianship and conservatorship. In T. Grisso (Ed.), *Evaluating competencies* (2nd ed., pp. 309–310). New York, NY: Plenum Press.

Mrad, D. F., & Nabors, E. (2007). The role of the psychologist in civil commitment. In A. M. Goldstein (Ed.), *Forensic psychology: Emerging topics and expanding roles* (pp. 232–259). Hoboken, NJ: Wiley.

Nadolny, E., & O'Dell, R. T. (2010). Measures of central tendency and intercorrelations within and between the SIMS and the M-FAST among medium security prison inmates. *American Journal of Forensic Psychology*, *28*, 51–67.

Otto, R. K. (2006). Competency to stand trial. *Applied Psychology in Criminal Justice*, *2*, 82–113.

Otto, R. K., Kay, S. L., & Hess, A. K. (2013). Testifying in court. In I. B. Weiner & R. K. Otto (Eds.), *The handbook of forensic psychology* (4th ed., pp. 733–756). Hoboken, NJ: Wiley.

People v. Weinstein, 156 Misc.2d 34, 591 N.Y.S.2d 715 (1992).

Piotrowski, C. (2007). Forensic psychological testing as a function of affiliation and organizational setting. *Organization Development Journal*, *25*, 94–98.

Raman, S., & Hodes, D. (2012). Cultural issues in child maltreatment. *Journal of Paediatrics and Child Health*, *48*, 30–37. http://dx.doi.org/10.1111/j.1440-1754.2011.02184.x

Rice, M. E., Harris, G. T., & Lang, C. (2013). Validation of and revision to the VRAG and SORAG: The Violence Risk Appraisal Guide—Revised (VRAG-R). *Psychological Assessment*, *25*, 951–965. http://dx.doi.org/10.1037/a0032878

Rogers, R., & Granacher, R. P. (2011). Conceptualization and assessment of malingering. In E. Y. Drogin, F. M. Dattilio, R. L. Sadoff, & T. G. Gutheil (Eds.), *Handbook of forensic assessment: Psychological and psychiatric perspectives* (pp. 659–678). http://dx.doi.org/10.1002/9781118093399.ch29

Rogers, R., Seman, W., & Clark, C. R. (1986). Assessment of criminal responsibility: Initial validation of the R-CRAS with the M'Naghten and GBMI standards. *International Journal of Law and Psychiatry*, *9*, 67–75. http://dx.doi.org/10.1016/0160-2527(86)90017-8

Rogers, R., Ustad, K. L., Sewell, K. W., & Reinhardt, V. (1996). Dimensions of incompetency: A factor analytic study of the Georgia Court Competency Test. *Behavioral Sciences and the Law*, *14*, 323–330. http://dx.doi.org/10.1002/(SICI)1099-0798(199622)14:3<323::AID-BSL243>3.0.CO;2-Z

Sadoff, R. L., & Dattilio, F. M. (2011). Criminal responsibility. In E. Y. Drogin, F. M. Dattilio, R. L. Sadoff, & T. G. Gutheil (Eds.), *Handbook of forensic assessment: Psychological and psychiatric perspectives* (pp. 121–144). http://dx.doi.org/10.1002/9781118093399.ch6

Samuel, S. E., & Michals, T. J. (2011). Competency restoration. In E. Y. Drogin, F. M. Dattilio, R. L. Sadoff, & T. G. Gutheil (Eds.), *Handbook of forensic assessment: Psychological and psychiatric perspectives* (pp. 79–96). http://dx.doi.org/10.1002/9781118093399.ch4

Schrank, F. A., Mather, N., & McGrew, K. S. (2014). *Woodcock–Johnson IV Tests of Cognitive Abilities: Examiner's manual*. Itasca, IL: Riverside.

Searight, H. R., & Goldberg, M. A. (1991). The Community Competence Scale as a measure of functional daily living skills. *Journal of Mental Health Administration*, *18*, 128–134. http://dx.doi.org/10.1007/BF02518606

Simon, R. I. (2002). Retrospective assessment of mental states in criminal and civil litigation: A clinical review. In R. I. Simon & D. W. Shuman (Eds.), *Retrospective assessment of mental states in litigation: Predicting the past* (pp. 1–20). Washington, DC: American Psychiatric Publishing.

Spirrison, C. L., & Sewell, S. M. (1996). The Adult Functional Adaptive Behavior Scale (AFABS) and psychiatric inpatients: Indices of reliability and validity. *Assessment*, *3*, 387–391.

Stafford, K. P., & Sadoff, R. L. (2011). Competence to stand trial. In E. Y. Drogin, F. M. Dattilio, R. L. Sadoff, & T. G. Gutheil (Eds.), *Handbook of forensic assessment: Psychological and psychiatric perspectives* (pp. 3–23). http://dx.doi.org/10.1002/9781118093399.ch1

State v. Driver, 88 W.Va. 479, 107 S.E. 189 (1921).

Stimmel, M., Green, D., Belfi, B., & Klaver, J. (2012). Exploring the accuracy and utility of the Rey Fifteen Item Test (RMT) with recognition trial in a forensic population. *International Journal of Forensic Mental Health*, *11*, 51–58. http://dx.doi.org/10.1080/14999013.2012.676148

Timbeck, R. J., & Spaulding, S. J. (2004). Ability of the Functional Independence Measure (FIM) to predict rehabilitation outcomes after stroke: A review of the literature. *Physical and Occupational Therapy in Geriatrics*, *22*, 63–76. http://dx.doi.org/10.1080/J148v22n01_04

Ustad, K. L., Rogers, R., Sewell, K. W., & Guarnaccia, C. A. (1996). Restoration of competency to stand trial: Assessment with the Georgia Court Competency Test and the Competency Screening Test. *Law and Human Behavior*, *20*, 131–146. http://dx.doi.org/10.1007/BF01499351

Vaccaro, T. P., & Hogan, J. D. (2004, May/June). The origins of forensic psychology in America: Hugo Münsterberg on the witness stand. *NYS Psychologist*, 14–17.

Wall, B. W., Krupp, B. H., & Guilmette, T. (2003). Restoration of competency to stand trial: A training program for persons with mental retardation. *Journal of the American Academy of Psychiatry and the Law*, *31*, 189–201.

Wechsler, D. (2008). *Wechsler Adult Intelligence Scale—Fourth Edition (WAIS–IV)*. San Antonio, TX: NCS Pearson.

Whiteside, D. M., Dunbar-Mayer, P., & Waters, D. P. (2009). Relationship between Tomm performance and PAI validity scales in a mixed clinical sample. *Clinical Neuropsychologist*, *23*, 523–533. http://dx.doi.org/10.1080/13854040802389169

Zapf, P. A., Skeem, J. L., & Golding, S. L. (2005). Factor structure and validity of the MacArthur Competence Assessment Tool—Criminal Adjudication. *Psychological Assessment*, *17*, 433–445. http://dx.doi.org/10.1037/1040-3590.17.4.433

Zapf, P. A., & Viljoen, J. L. (2003). Issues and considerations regarding the use of assessment instruments in the evaluation of competency to stand trial. *Behavioral Sciences and the Law*, *21*, 351–367. http://dx.doi.org/10.1002/bsl.535

CHAPTER 9

# VOCATIONAL AND INTEREST ASSESSMENT

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Work is a critical part of the lives of most adults, and it is an important component of well-being. Furthermore, work-related concerns and mental health problems have reciprocal effects in individuals' lives and are likely to be interwoven with psychotherapy (Juntunen, 2006; Swanson, 2012). Thus, it is important for clinical psychologists to understand the crucial impact of vocational decisions and to be prepared to use vocational and interest assessment tools to address work- and career-related concerns with clients.

## DESCRIPTION AND DEFINITION

Career counseling and psychotherapy developed from different historical traditions and within different professional specialties, and so they are often viewed as independent activities (Haverkamp & Moore, 1993). However, considerable research has suggested that clients with career concerns are similar to those who enter psychotherapy, that they experience similar levels of psychological distress, and that psychological symptoms may have their origin in the workplace (e.g., Gold & Scanlon, 1993; Hackett, 1993).

*Career assessment* (alternatively referred to as *vocational assessment*) may be defined as any test or assessment designed to measure work-related characteristics, such as interests, values, personality, skills, and self-efficacy. The primary goals of career assessment are to increase individuals' self-exploration and to enhance their self-understanding so as to improve outcomes, such as fit of career choice or satisfaction with one's job. Career assessment includes formal standardized tests with well-established psychometric properties but may also include less formal, qualitative methods of gathering career-related information, such as card sorts and other activities designed to reveal individuals' preferences. Card sorts have been developed to assess the typical constructs addressed in career exploration, including interests, skills, and values, and they are used in session with clients in a qualitative manner to help clarify information for clients and therapists. Structured interviews that occur within career counseling may also be considered part of career assessment, again with the goal of enhancing the client's self-exploration and self-understanding of work-related characteristics. For example, another method of qualitative assessment is a career genogram, in which clients construct visual representations of career choices within their families to uncover patterns and influences on their own choices (Gysbers, Heppner, & Johnston, 2009).

With this broad definition in mind, it is important to note that the use of assessment may have a different role in psychological services focused on career- and work-related concerns than in psychological services focused on other concerns. Career assessment is almost always shared directly with the client when it occurs as part of career counseling (Duckworth, 1990), given that the goal is self-understanding. Moreover, career assessment instruments are specifically designed to be directly communicated to the client; in fact, the client is

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expected to be an integral part of the process of interpreting assessment results (Haverkamp, 2013).

Incorporating career assessment into psychological practice has several guiding principles (Whiston, Fouad, & Juntunen, 2013). These principles encourage practitioners to (a) be aware of the impact of work on quality of life; (b) be aware of the influence that work has on health (behavioral, emotional, and physical) as well as of the influence that health has on work; (c) understand the implications of work transitions; (d) understand how sociocultural factors (such as gender, ethnicity, socioeconomic status, sexual orientation, disability status, and urban or rural residence) may influence people's career development and experience of work; (e) understand how individuals negotiate multiple life roles, including that of worker; and (f) understand how economic and social factors (e.g., labor market, access to education, globalization) affect access to employment. Incorporating these principles into psychotherapy begins at intake (Juntunen, 2006); questions asked might include satisfaction with work or career, contemplation of a work transition, current interpersonal conflicts at work, or the most and least rewarding aspects of a current job.

Researchers have documented the phenomenon of vocational overshadowing, or the tendency of psychotherapists to overlook career concerns when there are co-occurring personal concerns (e.g., Rogers & Whiston, 2014; Spengler, 2000). Overshadowing demonstrates that psychologists must be vigilant so as not to ignore vocational concerns in favor of other presenting problems and to ensure that clients' career concerns are receiving the warranted attention. Indeed, psychologists should probably assess work-related factors with all clients, beginning with intake forms and continuing through therapy (Juntunen, 2006; Robitschek & DeBell, 2002).

## PRINCIPLES AND APPLICATIONS

Tests can be used to answer "what" questions (e.g., what are the client's primary interests? What difficulties is the client having in making a career choice? What are the client's possible choices?) and "how" questions (e.g., how do the client's interests compare those of with other women in scientific fields? How do the client's interests fit with his or her values?). Tests are less relevant to answering "why" questions (e.g., why is the client having difficulty making a career decision? Why has the client not changed jobs?). The why questions may be sources of further hypotheses about the client to explore in therapy. Some of these questions may be initially identified as part of intake and further examined through the use of assessment.

Historically, vocational assessment has been an integral part of career counseling, as it has in other applied specialties within psychology. Haverkamp (2013) proposed a useful framework, based on concepts from philosophy of science, for understanding different perspectives on assessment. She defined two dimensions underlying the use of assessment that correspond to epistemological and axiological underpinnings (see Figure 9.1). The first, horizontal dimension describes the purpose of assessment, specifically addressing whose needs are being met by assessment: Clinical or organizational needs represent the expert end of the dimension and client needs represent the collaborative end of the dimension. The second, vertical dimension describes the type of information that is provided by assessment, or the basis on which inferences are made: One end is a traditional, data-driven, nomothetic stance, and the other end is a contextual, intuitive, and idiographic stance.

Combining these two dimensions creates four quadrants, each of which describes different types of assessment or different ways in which assessment is used. Career assessment clearly corresponds to the client needs or collaborative end of the dimension related to the purpose of assessment, and thus there are two quadrants of particular interest to career assessment. The first quadrant (upper right in Figure 9.1) includes traditional forms of assessment, which provide the client with objective and standardized results based on his or her responses to a set of items, using well-developed norms. Examples of this type of assessment include the Strong Interest Inventory (SII) and the Minnesota Importance Questionnaire (MIQ), explained later. The second quadrant (lower right in Figure 9.1) is referred to as collaborative assessment (Haverkamp, 2013)

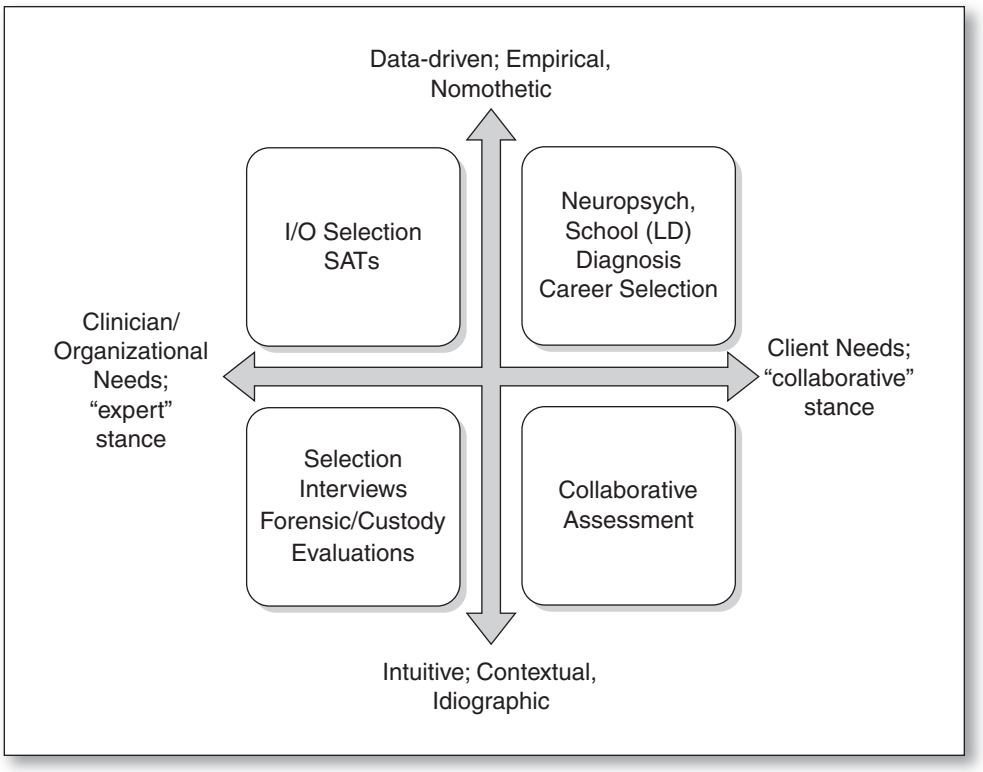


**FIGURE 9.1. Framework for assessment purposes. I/O = industrial–organizational; LD = learning disabilities.**

and includes idiographic methods of assessment. For example, card sorts assess interests, skills, and values and are used in session with the client (compared with objective or standardized assessment, which is likely to be done outside of session). This framework highlights the similarities and differences between assessment typically conducted by psychologists for the purposes of diagnosis and treatment in psychotherapy and assessment conducted for the purposes of addressing client vocational concerns.

Vocational assessment is used in various settings and with an assortment of individuals dealing with a range of concerns. First, interest assessment is incorporated into middle or high school settings as part of ability or achievement testing, such as the ACT, or as part of web-based career exploration platforms, such as the Kuder Career Planning System. In this context, all individuals may be administered the assessment as part of school-wide programs, and individualized results are then distributed to recipients but may not be directly interpreted. Second, career assessment is used in psychological and counseling services designed to address work-related issues, which may occur in colleges and universities, in rehabilitation settings, or in community-based or private practice settings. In this context, clients are likely to participate in decisions about whether and what type of assessment is used, and results will be interpreted with the client.

Vocational interest inventories can be of considerable assistance to psychologists helping clients select potential occupations for further exploration, either clients who are making initial work choices (e.g., an adolescent choosing a college major) or clients deciding on work choices after a work or career transition. Work transitions may be voluntary (choosing a new line of work or seeking a promotion) or involuntary (being laid off or having to return to work as a result of divorce; Fouad & Bynner, 2008). Thus, psychologists may use a vocational interest inventory to help clients clarify and explore various options, essentially using occupational information to predict a satisfying career.

Using a vocational inventory can give both the psychologist and the client initial information to help them begin career exploration or clarification, which should enable the client to make a better-informed occupational choice. This is particularly true for clients who have limited exposure to the world of work. Simply asking these clients to describe their interests may provide incomplete information, and an interest inventory can help clarify those interests and provide a framework to understand the world of work.

Psychologists must be knowledgeable so that they explain assessment results to clients accurately, clearly, and in the proper context. Indeed, the National Career Development Association and the Association of Assessment in Counseling and Education (2010) have highlighted eight competencies in choosing, interpreting, and communicating the results of assessment tools: choosing assessment strategies, identifying appropriate tools, administering and scoring assessment tools, interpreting results, using results in decision making, presenting statistical information about results, engaging in ethical professional behavior, and using results to evaluate career intervention programs.

Vocational assessment may also prove helpful in situations other than initial choice of an occupation or career field. One such situation is vocational rehabilitation, in which clients present with intellectual, physical, or psychological disabilities, such as brain injury, autism, or serious mental illness. In these cases, assessment may help clients select appropriate occupations or choose new directions. The selection of specific career assessment instruments must be made with the clients' needs and limitations in mind and with attention to psychometric and normative information to support the use of tests with diverse populations. Another situation involves individuals who are returning to work, such as older adults reentering the workforce after extended unemployment, changing directions in an attempt to deal with underemployment, or transitioning into or out of retirement status and veterans returning to school or the workforce. Career assessment may be particularly useful in assisting these individuals in exploring themselves and the world of work to enhance their decision making.

## LIMITATIONS

The labor market is complex and rapidly changing. Predicting occupational choices from vocational interest inventories may be difficult. Helping someone to predict an occupational choice in such an environment is like trying to hit a moving target (Fouad, 2007).

Vocational inventories are only one component of career planning and placement, and the psychologist must consider the information gained from these instruments in combination with data gathered from other assessment approaches. Although interests and abilities have some overlap, they are distinct constructs, and interests are considered to add incremental validity over and above abilities in predicting vocational choice outcomes (Hansen, 2013). By the same token, although some theories propose that interests overlap significantly with vocational personality, interests and personality dimensions are separate constructs. A meta-analysis found that relationships between the NEO Personality Inventory—Revised Big Five and Holland's RIASEC (Realistic, Investigative, Artistic, Social, Enterprising, and Conventional) dimensions ranged from .48 (Openness with Artistic) to .28 (Openness with Investigative; Larson, Rottinghaus, & Borgen, 2002). Interests have also been found to be distinct from values (Dobson et al., 2014). Thus, although many individuals seek to take the test that tells them what to be, interest assessment should occur in conjunction with assessment of other components of career planning.

Some central assumptions underlying vocational assessments may not fit all individuals. For example, not all individuals have the luxury to choose an occupation, and it is therefore important to consider not only the individual's work life but also how work interacts with other roles (Richardson, 2012). For others, particularly members of underrepresented minority groups, work choices may be limited by discrimination and perceptions of opportunities (Fouad & Kantamneni, 2013). Although interest inventories are intended to help individuals

expand the range of occupations under consideration, some individuals, particularly members of racial/ethnic or sexual minority groups, may gravitate toward "acceptable" occupations (Evans, 2013). In these cases, use of an interest inventory may inappropriately restrict the range of occupations they will consider. A considerable amount of research has also documented the differences between men's and women's interests. Various interest inventories have addressed this by norming the scales differently (e.g., the SII), choosing only those items on which men and women are similar (e.g., the Unisex Edition of the ACT Interest Inventory), or providing items that reflect the gendered socialization of interests (e.g., Self-Directed Search).

Another limitation of career assessment is the use of interest inventories early in a child's development. Interests stabilize in early adulthood (Hansen, 2013), thus use of an interest inventory in childhood or early adolescence may restrict the range of occupations an individual will consider, unless the assessor actively encourages children to consider occupations nontraditional for their race or gender. Conversely, even though research has found that interests are quite stable by age 20, and even more stable by age 25, an individual's interests can change and develop over time, particularly in response to new opportunities and challenges (Hansen, 2013). Thus, an interest assessment should also explore what might termed *leading-edge interests.*

A final limitation is that career assessment tools predict relatively little variance in outcomes such as job satisfaction (Hansen, 2013) or job success (Larson, Bonitz, & Pesch, 2013). Interest–occupational congruence explains roughly 10% of the variance in job satisfaction, although a fundamental premise of some interest inventories and vocational theories is that if you are similar to people with whom you work, you will be more satisfied. The predictive validity of career assessment tools is somewhat limited.

## MAJOR TESTS AND METHODS

In this section, we highlight major measures for three key areas: work values, occupational self-efficacy, and interests. Several additional methods are used to assess constructs related to predictors of vocational processes, such as decision-making difficulties (e.g., the Career Decision Difficulties Questionnaire; Gati, Krausz, & Osipow, 1996), but space limitations preclude including them in this chapter.

### Work Values

The assessment of work values is used to predict job satisfaction as well as vocational choice. Helping individuals to clarify their values may help them to understand the role they want work to play in their lives and the reasons why they work. The assessment of work values may be used to clarify a client's reasons or motivations for working or what he or she expects to gain from a specific job or occupation (Rounds & Jin, 2013). Research on values assessment has been limited, in part because commercially available instruments are difficult to attain, and the historic programs of major researchers (such as Donald Super, René Dawis, and Lloyd Lofquist) have not been continued.

Values and needs are central to the theory of work adjustment (Swanson, 2012), which postulates that job satisfaction is highest when an individual's needs are matched by reinforcers within his or her organization. In theory of work adjustment terms, if an individual's needs correspond to the reinforcers provided by the environment, he or she will be satisfied. When they do not match, such as, for example, when a person is dissatisfied with level of pay, the individual engages in adjustment. The individual will either actively seek changes in the environment (e.g., ask for more pay) or reactively make changes in his or her level of need (reduce expenses).

Psychologists may assess work values with the MIQ (Rounds et al., 1981) or the Work Importance Profiler (WIP; McCloy et al., 1999). The MIQ measures 21 work-related needs, which are grouped into six value categories, and is available for purchase from Vocational Psychology Research at the University of Minnesota. Two forms are available: The paired-comparison format compares each need statement with every other need statement (total of 420 pairs), and the rank format presents need statements in groups of five, asking individuals to rank order the need statements within each group.

The latter takes less time to complete (15 minutes compared with 30–40 minutes). The MIQ also provides the match between an individual's needs and those of 90 occupations to predict in which occupation he or she would be satisfied. The MIQ has been extensively researched, providing evidence for its construct and structural validity (Rounds & Jin, 2013).

The WIP (McCloy et al., 1999) is part of the O*Net career exploration tools, available for free at the O*Net website (http://www.onetonline.org). Psychologists may either download the software or direct clients to another site that has made it available to the public, such as Careerzone.org. The WIP was designed to be similar to the MIQ, and MIQ developers were senior consultants to the U.S. Department of Labor during the development of the WIP. Individuals are presented with five need statements and asked to rank order them. At the end of the survey, individuals indicate whether each statement is important to them in an ideal job. The WIP profile summarizes the relative importance of six values: achievement, independence, recognition, relationships, support, and working conditions. Results are linked to the extensive occupational database in the O*Net, providing clients with occupations that may be a good fit with their work values.

## Occupational Self-Efficacy

Clients' ability to do particular tasks will shape the work that they are capable of doing, but so too will their confidence (or self-efficacy) in doing those tasks. Self-efficacy is a central construct in the social cognitive career theory (Lent, Brown, & Hackett, 1994) and is a motivating force behind the development of interests and eventual occupational goals. Individuals may have the ability to choose an occupational area, but without confidence in their abilities to accomplish related tasks, they will not take action steps toward that occupational goal.

Self-efficacy is considered to be domain specific, meaning that confidence in ability to do a task in one domain does not necessarily connote confidence in another domain. Thus, with a few exceptions, self-efficacy instruments have been developed for research purposes. For example, low science and math self-efficacy has been used to explain women's lack of entry into science, technology, engineering, or math careers (Lent, 2013). More broadly, the assessment of self-efficacy may be used to assess vocational aspirations, vocational choice, job satisfaction, and life satisfaction. Although we discuss a tool designed to assess self-efficacy in general occupational choice, a great deal of work has also been done in assessing self-efficacy for the process of decision making (Larson et al., 2013).

The most commonly used instrument to assess self-efficacy for career decision making is the Career Decision Self-Efficacy Scale (Taylor & Betz, 1983), available in a 50-item form and a shorter 25-item form (Betz, Klein, & Taylor, 1996) from Mindgarden. It was primarily normed on undergraduate students, although a middle school form is also available (Fouad, Smith, & Enochs, 1997). Five subscales assess an individual's confidence in his or her capability to accurately self-assess ability to make decisions, gather information about occupations, select goals, make plans for the future, and solve problems. The CDSE is available in English and Hebrew, and research has demonstrated high internal consistency for the individual subscales and total score. The scale has been used in a number of studies documenting the validity of the five subscales and their convergent validity with career indecision and career exploration (Watson, 2013).

The Skills Confidence Inventory is a 60-item measure of confidence to complete tasks in interest areas (Betz, Borgen, & Harmon, 1996) and is available from Consulting Psychologists Press. It was designed to accompany the SII, discussed more fully below. Thus, clients are provided information about the combination of interests and self-efficacy in six areas and are encouraged to explore areas in which both are high, as well as areas in which they have high interests but low self-efficacy, and vice versa. The Skills Confidence Inventory has strong predictive validity for occupational choice (Larson et al., 2013).

## Interests

Interest inventories are the most commonly used assessment tools in assisting clients with

work-related decisions (Hansen, 2005, 2013). When clients ask for the test that will tell them what to do, they are most likely asking for an interest inventory.

The interest instruments reviewed here are designed to measure, at least in part, Holland's themes. Holland's (1997) theory postulated that career choice is an expression of vocational personality and that individuals in an occupation have similar personalities. He categorized vocational personalities into six vocational types: realistic, investigative, artistic, social, enterprising, and conventional (RIASEC). Individuals may be one type or, more typically, a combination of several types. He also categorized environments into the same six RIASEC types and hypothesized that if a person's type or types matches those of the environment (or are congruent), the individual will be satisfied in that occupation. Thus, this theory predicts that person–environment fit leads to positive vocational outcomes such as job satisfaction and life satisfaction.

Groups differ in their endorsement of various themes. Men tend to score higher than women on Realistic and Investigative themes, and women score higher than men on the Social and Artistic themes (Su, Rounds, & Armstrong, 2009). However, meta-analytic research (Bubany & Hansen, 2011) has found that some of these differences have decreased across birth cohorts. Younger women are expressing more interest in the Enterprising theme than their older counterparts, and younger men are expressing less interest in the Realistic theme, indicating that the gender differences may continue to diminish. Mean differences have also been found across racial/ethnic groups, although the effect sizes have been small (Fouad & Kantamneni, 2009).

Although researchers have found mean differences among groups, these differences are meaningless unless the underlying structure is the same across the group (Tracey & Sodano, 2013). If men and women, or various racial/ethnic groups, differ in their framework of the world of work, then knowing that they differ on various Holland themes makes no practical difference.

The hypothesized structure of the Holland (1997) themes is the six types ordered around a hexagon, such that Realistic is next to Investigative, which is next to Artistic, and so on. The distance between the themes are hypothesized to be equal around the hexagon. Those that are adjacent are presumed to be more related, and those that are directly opposite (A–C, R–S, and I–E) on the hexagon are predicted to be least related. This is known as Holland's calculus assumption, and it presumes a structural map of the world of work that has been empirically examined between men and women and across racial/ethnic groups. Researchers have examined whether the interest points (themes) are found in the predicted circular order and, in a more stringent test, whether they are equidistant from each other as predicted.

In general, most researchers have found the hypothesized circular ordering across gender and racial/ethnic groups, although the exact circumplex model with equal distances between themes most closely fits the data for White men, which could, however, be due to the application of inventories that consist primarily of items assessing individualistic activities, rather than items that assess collectivistic activities (Fouad & Kantamneni, 2013). Holland's (1997) theory has also been assessed internationally, although scant evidence of cross-cultural validity has been found. This is clearly an area for future research, particularly because RIASEC measures are being translated and used in other countries (Tracey & Sodano, 2013).

Interest measures may provide a simple assessment of Holland's (1997) themes, such as the Self-Directed Search (Holland, Powell, & Fritzsche, 1994), the Unisex Edition of the ACT Interest Inventory (American College Testing, 2009), or the Interest Profiler (Rounds et al., 2010). An interest assessment may also provide additional information, such as additional scales on clusters of interests and comparison of an individual's interests with those of professionals in a variety of occupations. The SII (Harmon et al., 2005), the Campbell Interest and Skills Survey (Campbell, 1995), and the Kuder Career Search (Zytowski, 2001) are examples of the latter.

We discuss two interest inventories in depth below to highlight the differences between the types of interest inventories: the SII and the Interest

Profiler. The SII is commercially available from Consulting Psychologists Press, and practitioners must have at least a master's degree and some additional training to use the inventory. The SII must be computer scored (or taken online). The Interest Profiler is free and available to the public at http://www.onetcenter.org/IPSF.html.

**Strong Interest Inventory.** The SII (Harmon et al., 2005) has 291 items that assess an individual's preferences for various activities. Individuals indicate on a 5-point scale (ranging from *very much dislike* to *very much like*) their level of preference for different occupational titles, activities, school subjects, and working with various types of people and whether various characteristics are descriptive of them.

The SII provides information on four types of scales, all normed on the same gender group. The six General Occupational Themes measure Holland's (1997) six vocational personality themes (RIASEC). The 30 Basic Interest Scales provide more information on clusters of preferences for activities. These scales help individuals understand the types of activities that they like, and part of the assessment process is to help them understand which are important for them to use in their work and which they want to use or develop outside of a work setting. The five personal style scales are Work Style, Learning Environment Scale, Leadership Style, Risk Taking, and Team Orientation. The fourth, and oldest set of scales, are the Occupational Scales. Currently, the SII contains 122 fairly standard benchmark occupations. Strong's original inventory, published in 1927, included 13 scales normed on men.

Strong (1943) had two unique contributions to interest measurement. The first was the notion that individuals within an occupation shared a set of interests that was distinguishable from the set of interests in another occupation. In other words, birds of a feather not only flock together, but flocks differ. He also predicted, and empirically demonstrated, that if a person in an occupation in which he or she was similar to others in that occupation, the person would be satisfied (Strong, 1943).

Strong's second contribution is not as well understood but nonetheless still important for psychologists to understand in interpreting scores on the occupational scales. He was concerned that the occupational scales measure the unique interests of the individuals in that occupation, separate from those common across the gender. Thus, he created a general reference sample of men and later of women. Only those items that differentiated men or women within the occupation from the general reference samples were included on the scale; this practice of using criterion groups to develop empirically keyed scales continues to this day.
A score indicating similarity to the men (or women) in an occupation indicates similarity to the pattern of likes and dislikes that differentiate the men (or women) in that occupation from men (or women) in general. Because the scale is constructed empirically (similar to the Minnesota Multiphasic Personality Inventory), it is impossible to know whether those likes and dislikes are idiosyncratic or relevant to the occupational tasks. Research has demonstrated that those who are more similar to members of their occupation have been found to be satisfied as much as 12 years later (Hansen & Dik, 2005).

**Interest Profiler.** Contrary to the breadth and complexity of the SII, the Interest Profiler Short Form (Rounds et al., 2010) is a short (60-item) interest inventory measure of Holland's (1997) themes. The 60-item form was shortened from the 180-item Interest Profiler (Lewis & Rivkin, 1999), which was designed to be an accessible, self-administered, and culture-fair instrument to assess Holland's themes. The developers also wanted to include activities across the work spectrum, from highly complex to less skilled occupations. The Interest Profiler Short Form takes 10 minutes to complete and, as noted earlier, is available at http://www.onetcenter.org/IPSF.html. Individuals indicate their level of interest on a 5-point scale. Total theme scores are based on the number of likes in that theme. Individuals are then directed to occupations in their high-interest areas in the more than 1,000 occupations in the O*Net database. Research has generally documented the reliability and validity of the Interest Profiler.

Both inventories assess Holland's (1997) themes, and the Interest Profiler, as we have pointed out, is much shorter and more readily available than the

SII. However, the SII provides much more information than an individual's pattern of high and low interest in broad interest areas. The SII also provides information on interests in the Basic Interest Scales and Work Styles to help identify additional information that may be important to a client, such as avocational or leading-edge interests, as well as the type of environments the client may prefer. Both instruments provide information to help clients assess how congruent they may be with various occupations. However, the SII has a narrower range of occupations (about 100 benchmark occupations) compared with the thousands in the O*Net database, but the comparison to the SII occupations is based on the much more extensive set of SII items than the 60 items on the Interest Profiler. In general, psychologists who want a quick, easily available measure of Holland's themes would be well served to use the Interest Profiler. Those wanting to help clients explore potential occupations, consider avocational as well as vocational interests, and engage in work–life planning would benefit from the additional information available from the SII.

## KEY ACCOMPLISHMENTS

The history of vocational assessment stems from the 1920s with the publication of the Strong Vocational Interest Blank (Hansen, 2013). Frederic Kuder followed in 1940 with the Kuder Preference Record and in 1956 with the Kuder Occupational Survey (Harrington & Long, 2013). Kuder's surveys included a verification scale to help identify whether the test taker was trying to manipulate the results, and the Kuder Occupational Survey was the first interest inventory to be machine scored. Both the Kuder Occupational Survey and the Strong Vocational Interest Blank compared individuals' preferences for activities with those of individuals in a variety of occupations, with the idea that if an individual was similar to people in an occupation, he or she would be predicted to be satisfied in an occupation. Thus, a key accomplishment is the longevity of interest and vocational assessment in helping individuals make career and work choices. Beginning in the 1970s, this accomplishment was augmented by attempts to help individuals frame the world of work by adding Holland's (1997) theory to assessments. This helped clients make sense of the world of work and fostered career exploration among young adults making initial career choices.

The assessment of vocational and interest constructs has also been characterized by considerable rigorous research. The scholarly care with which instruments, such as the SII and MIQ, were developed and the decades of research on these instruments attest to this rigor (Hansen, 2013; Rounds & Jin, 2013). More than 500 studies on assessment of vocational constructs exist, including 47 meta-analytic studies (Larson et al., 2013). The *Journal of Career Assessment* is devoted to the publication of such studies, as are the *Journal of Vocational Behavior,* the *Journal of Counseling Psychology,* and *The Counseling Psychologist*. "The vocational literature is burgeoning with vitality and renewed focus" (Larson et al., 2013, p. 242). This is in no small part because interest and vocational assessment have also been closely linked to the development of theories to predict career choices and work adjustment.

The importance of vocational assessment in helping clients examine career options led to critical accomplishments in understanding its consequential validity (Messick, 1995). Interest inventories were challenged in the 1970s for perpetuating stereotypic occupations for women and underrepresented minorities, leading to a great deal of research and instrument development. As a result, interest inventories have helped clients identify foreclosed options, consider nonstereotypic options, and explore a greater breadth of occupational choices.

A more recent accomplishment has been the development by the Department of Labor of reliable and valid instruments to assess interests and values, such as the Interest Profiler (Rounds et al., 2010) and the WIP (McCloy et al., 1999). These instruments, as carefully developed as the older instruments, are freely available to the public. They are also closely linked to occupational information in the O*Net, increasing access to career exploration tools.

## FUTURE DIRECTIONS

One future direction in career assessment is the continued development of norms across racial,

socioeconomic status, and gender groups. The field is more comprehensively addressing the psychology of working to those not traditionally served by career assessment, such as those who are not college bound (Blustein, 2013). Another future direction is the development of more measures of vocational processes (e.g., identification of barriers, decision making) in addition to the development of interests and values (Larson et al., 2013). The future will surely bring the development of norms for existing inventories, or perhaps even new inventories, from a more culture-specific perspective (Fouad & Kantamneni, 2013).

There has been an interest in the incremental validity of various measures, and a future direction is to examine how various vocational measures relate to other measures, such as personality or temperament. As noted earlier, all psychologists are encouraged to attend to work-related constructs, and it is likely that this will be aided by the cross-fertilization of vocational assessment with other constructs (Larson et al., 2013). Another direction will be the increased scrutiny of the effectiveness of online tools in career exploration (Whiston, 2011). Are there some individuals for whom online tools are not suitable? Are there some individuals for whom it is critical to use online tools with a psychologist?

Finally, an area expected to see growth is the international collaboration in vocational assessment. There has been significant international collaboration among scholars in vocational psychology, which has already resulted in a number of international collaborations, examining, for example, the cross-cultural validity of social cognitive career variables in Italy (Lent et al., 2011). International collaborations will continue to examine the cross-cultural validity of vocational and interest assessment, and we hope that there will be an etic development of tools to assess vocational constructs because work is culturally determined and evaluated.

## References


American College Testing. (2009). *ACT Interest Inventory*. Iowa City, IA: Author.

Betz, N. E., Borgen, F. H., & Harmon, L. W. (1996). *Skills Confidence Inventory*. Palo Alto, CA: Consulting Psychologists Press.

Betz, N. E., Klein, K. L., & Taylor, K. M. (1996). Evaluation of a short form of the Career Decision Making Self-Efficacy Scale. *Journal of Career Assessment, 4*, 47–57. http://dx.doi.org/10.1177/106907279600400103

Blustein, D. L. (Ed.). (2013). *The Oxford handbook of the psychology of working*. http://dx.doi.org/10.1093/oxfordhb/9780199758791.001.0001

Bubany, S. T., & Hansen, J. C. (2011). Birth cohort change in the vocational interests of female and male college students. *Journal of Vocational Behavior*, *78*, 59–67. http://dx.doi.org/10.1016/j.jvb.2010.08.002

Campbell, D. P. (1995). The Campbell Interest and Skill Survey (CISS): A product of ninety years of psychometric evolution. *Journal of Career Assessment, 3*, 391–410. http://dx.doi.org/10.1177/106907279500300410

Dobson, L. K., Gardner, M. K., Metz, A. J., & Gore, P. A., Jr. (2014). The relationship between interests and values in career decision making: The need for an alternative method of measuring values. *Journal of Career Assessment, 22*, 113–122. http://dx.doi.org/10.1177/1069072713492929

Duckworth, J. (1990). The counseling approach to the use of testing. *Counseling Psychologist, 18*, 198–204. http://dx.doi.org/10.1177/0011000090182002

Evans, K. M. (2013). Multicultural considerations in career assessment. In C. Wood & D. G. Hays (Eds.), *A counselor's guide to career assessment instruments* (6th ed., pp. 49–61). Alexandria, VA: American Counseling Association.

Fouad, N. A. (2007). Work and vocational psychology: Theory, research, and applications. *Annual Review of Psychology*, *58*, 543–564. http://dx.doi.org/10.1146/annurev.psych.58.110405.085713

Fouad, N. A., & Bynner, J. (2008). Work transitions. *American Psychologist*, *63*, 241–251. http://dx.doi.org/10.1037/0003-066X.63.4.241

Fouad, N. A., & Kantamneni, N. (2009). Cultural validity of Holland's theory. In J. Ponterotto, J. M. Casas, L. A. Suzuki, & C. M. Alexander (Eds.), *Handbook of multicultural counseling* (3rd ed., pp. 703–714). Thousand Oaks, CA: Sage.

Fouad, N. A., & Kantamneni, N. (2013). The role of race and ethnicity in career choice, development, and adjustment. In S. D. Brown & R. W. Lent (Eds.), *Career development and counseling: Putting theory and research to work* (2nd ed., pp. 215–244). New York, NY: Wiley.

Fouad, N. A., Smith, P. L., & Enochs, L. (1997). Reliability and validity of the Middle School Self Efficacy Scale. *Measurement and Evaluation in Counseling and Development*, *30*, 17–31.

Gati, I., Krausz, M., & Osipow, S. H. (1996). A taxonomy of difficulties in career decision making. *Journal of Counseling Psychology, 43*, 510–526. http://dx.doi.org/10.1037/0022-0167.43.4.510

Gold, J. M., & Scanlon, C. R. (1993). Psychological distress and counseling duration of career and noncareer clients. *Career Development Quarterly*, *42*, 186–191. http://dx.doi.org/10.1002/j.2161-0045.1993.tb00434.x

Gysbers, N. C., Heppner, M. J., & Johnston, J. A. (2009). *Career counseling: Process, issues, and techniques* (3rd ed.). Alexandria, VA: American Counseling Association.

Hackett, G. (1993). Career counseling and psychotherapy: False dichotomies and recommended remedies. *Journal of Career Assessment*, *1*, 105–117. http://dx.doi.org/10.1177/106907279300100201

Hansen, J.-I. C. (2005). Assessment of interests. In S. D. Brown & R. W. Lent (Eds.), *Career development and counseling: Putting theory and research to work* (pp. 281–304). New York, NY: Wiley.

Hansen, J.-I. C. (2013). Nature, importance, and assessment of interests. In S. D. Brown & R. W. Lent (Eds.), *Career development and counseling: Putting theory and research to work* (2nd ed., pp. 387–416). New York: Wiley.

Hansen, J.-I. C., & Dik, B. J. (2005). Evidence of 12-year predictive and concurrent validity for SII Occupational Scale scores. *Journal of Vocational Behavior*, *67*, 365–378. http://dx.doi.org/10.1016/j.jvb.2004.08.001

Harmon, L. W., Hansen, J. C., Borgen, F. H., & Hammer, A. C. (2005). *Strong Interest Inventory: Applications and technical guide*. Palo Alto, CA: Consulting Psychologists Press.

Harrington, T., & Long, J. (2013). The history of interest inventories and career assessment in career counseling. *Career Development Quarterly, 61*, 83–92. http://dx.doi.org/10.1002/j.2161-0045.2013.00039.x

Haverkamp, B. E. (2013). Education and training in assessment for professional psychology: Engaging the "reluctant student." In K. F. Geisinger (Ed.), *APA handbook of testing and assessment in psychology: Vol. 2. Testing and assessment in clinical and counseling psychology* (pp. 63–82). http://dx.doi.org/10.1037/14048-005

Haverkamp, B. E., & Moore, D. (1993). The career-personal dichotomy: Perceptual reality, practical illusion, and workplace integration. *Career Development Quarterly*, *42*, 154–160. http://dx.doi.org/10.1002/j.2161-0045.1993.tb00429.x

Holland, J. L. (1997). *Making vocational choices: A theory of vocational personalities and work environments* (3rd ed.). Odessa, FL: Psychological Assessment Resources.

Holland, J. L., Powell, A. B., & Fritzsche, B. A. (1994). *The Self-Directed Search professional user's guide*. Odessa, FL: Psychological Assessment Resources.

Juntunen, C. L. (2006). The psychology of working: The clinical context. *Professional Psychology: Research and Practice, 37*, 342–350. http://dx.doi.org/10.1037/0735-7028.37.4.342

Larson, L. M., Bonitz, V. S., & Pesch, K. M. (2013). Assessing key vocational constructs. In W. B. Walsh, M. L. Savickas, & P. J. Hartung (Eds.), *Handbook of vocational psychology: Theory, research, and practice* (4th ed., pp. 219–248). New York, NY: Routledge.

Larson, L. M., Rottinghaus, P. J., & Borgen, F. H. (2002). Meta-analyses of Big Six interests and Big Five personality factors. *Journal of Vocational Behavior*, *61*, 217–239. http://dx.doi.org/10.1006/jvbe.2001.1854

Lent, R. W. (2013). Social cognitive career theory. In S. D. Brown & R. W. Lent (Eds.), *Career development and counseling: Putting theory and research to work* (2nd ed., pp. 115–146). Hoboken, NJ: Wiley.

Lent, R. W., Brown, S. D., & Hackett, G. (1994). Toward a unifying social cognitive theory of career and academic interest, choice, and performance. *Journal of Vocational Behavior*, *45*, 79–122. http://dx.doi.org/10.1006/jvbe.1994.1027

Lent, R. W., Nota, L., Soresi, S., Ginevra, M. C., Duffy, R. D., & Brown, S. D. (2011). Predicting the job and life satisfaction of Italian teachers: Test of a social cognitive model. *Journal of Vocational Behavior*, *79*, 91–97. http://dx.doi.org/10.1016/j.jvb.2010.12.006

Lewis, P., & Rivkin, D. (1999). *Development of the O*Net interest profiler*. Retrieved from http://www.onetcenter.org/dl_files/IP.pdf

McCloy, R., Waugh, G., Medsker, G., Wall, J., Rivkin, D., & Lewis, P. (1999). *Development of the O*Net computerized Work Importance Profiler*. Retrieved from http://www.onetcenter.org/dl_files/DevCWIP.pdf

Messick, S. (1995). Validity of psychological assessment: Validation of inferences from persons' responses and performances as scientific inquiry into score meaning. *American Psychologist*, *50*, 741–749. http://dx.doi.org/10.1037/0003-066X.50.9.741

National Career Development Association & Association for Assessment in Counseling and Education. (2010). *Career counselor assessment and evaluation competencies*. Retrieved from http://www.ncda.org/aws/NCDA/asset_manager/get_file/18143/aace-ncda_assmt_eval_competencies

Richardson, M. S. (2012). Counseling for work and relationship. *Counseling Psychologist*, *40*, 190–242. http://dx.doi.org/10.1177/0011000011406452

Robitschek, C., & DeBell, C. (2002). The reintegration of vocational psychology and counseling psychology: Training issues for a paradigm shift. *Counseling Psychologist*, *30*, 801–814. http://dx.doi.org/10.1177/001100002237755

Rogers, D. R., & Whiston, S. C. (2014). Qualitative analysis of clinical notes: Do counselors ignore work and academic concerns? *Journal of Career Assessment*, *22*, 207–220. http://dx.doi.org/10.1177/1069072713493760

Rounds, J., & Jin, J. (2013). Nature, importance and assessment of needs and values. In S. D. Brown & R. W. Lent (Eds.), *Career development and counseling: Putting theory and research to work* (2nd ed., pp. 417–448). New York, NY: Wiley.

Rounds, J. B., Henley, G. A., Dawis, R. V., Lofquist, L. H., & Weiss, D. J. (1981). *Manual for the Minnesota Importance Questionnaire*. Minneapolis: University of Minnesota.

Rounds, J. B., Su, R., Lewis, P., & Rivkin, D. (2010). *O*Net interest profiler short form psychometric characteristics: Summary*. Retrieved from http://www.onetcenter.org/dl_files/IPSF_Psychometric.pdf

Spengler, P. M. (2000). Does vocational overshadowing even exist? A test of the robustness of the vocational overshadowing bias. *Journal of Counseling Psychology*, *47*, 342–351. http://dx.doi.org/10.1037/0022-0167.47.3.342

Strong, E. K. (1943). *Vocational interests of men and women*. Stanford, CA: Stanford University Press.

Su, R., Rounds, J., & Armstrong, P. I. (2009). Men and things, women and people: A meta-analysis of sex differences in interests. *Psychological Bulletin*, *135*, 859–884. http://dx.doi.org/10.1037/a0017364

Swanson, J. L. (2012). Work and psychological health. In N. A. Fouad (Ed.), *APA handbook of counseling psychology: Vol. 2. Practice, interventions, and applications* (pp. 3–27). http://dx.doi.org/10.1037/13755-001

Taylor, K. M., & Betz, N. E. (1983). Applications of self-efficacy theory to the understanding and treatment of career indecision. *Journal of Vocational Behavior,* *22*, 63–81. http://dx.doi.org/10.1016/0001-8791(83)90006-4

Tracey, J. G. T., & Sodano, S. M. (2013). Structure of interests and competence perceptions. In W. B. Walsh, M. L. Savickas, & P. J. Hartung (Eds.), *Handbook of vocational psychology: Theory, research, and practice* (4th ed., pp. 155–182). New York, NY: Routledge.

Watson, J. C. (2013). Career Decision Self-Efficacy Scale and Career Decision Self-Efficacy Scale–Short form. In C. Wood & D. G. Hays (Eds.), *A counselor's guide to career assessment instruments* (6th ed., pp. 316–318). Alexandria, VA: American Counseling Association.

Whiston, S. C. (2011). Vocational counseling and interventions: An exploration of future "big" questions. *Journal of Career Assessment*, *19*, 287–295. http://dx.doi.org/10.1177/1069072710395535

Zytowski, D. G. (2001). Kuder career search with person match: Career assessment for the 21st century. *Journal of Career Assessment, 9*, 229–241. http://dx.doi.org/10.1177/106907270100900302

CHAPTER 10

# COUPLE AND FAMILY ASSESSMENT

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The impacts of intimate relationships are far reaching. Relationship happiness predicts overall life satisfaction even more strongly than happiness in other domains such as health, work, or children (Fleeson, 2004). Distress in intimate relationships often results in negative effects on partners' emotional and physical well-being. Indeed, relationship problems—including divorce, separation, and other strains—are the most frequently cited causes of acute emotional distress. Moreover, couple distress—particularly negative communication—has direct adverse effects on cardiovascular, endocrine, immune, neurosensory, and other physiological systems that, in turn, contribute to health problems (Robles et al., 2014).

Couple distress is prevalent in both community and clinical samples. Approximately 40% to 50% of marriages in the United States end in divorce (Kreider & Ellis, 2011), and about one third of married people report being in a distressed relationship (Whisman, Beach, & Snyder, 2008). Millions of adults, especially women, suffer physical violence at the hands of their intimate partner every year, with pervasive detrimental impact on individual, couple, and family well-being.

The negative effects of couple relationship distress are not confined to the adult partners. Couple distress has been related to a wide range of deleterious effects on children, including depression, withdrawal, poor social competence, health problems, poor academic performance, and a variety of other concerns (Ellis, 2000). Given both the prevalence and the adverse consequences of intimate relationship distress, psychologists have a responsibility to gain expertise in assessing couples and families as a precursor to effective treatment, whether conducting individual, couple, group, or family interventions.

We begin this chapter by defining couple and family assessment (CFA) and by describing the relationship distress being assessed. Both brief screening measures and clinical methods are presented for diagnosing couple and family distress in clinical as well as research applications. The majority of the chapter is devoted to conceptualizing and assessing intimate relationship distress for the purpose of planning and evaluating treatment. We review empirical findings regarding behavioral, cognitive, and affective components of couple distress and specific techniques derived from clinical interview, behavioral observation, and self-report methods. Also included is a discussion of emerging technologies for assessing intimate relationships in clinical settings as well as limitations to existing assessment methods. We conclude with future directions in CFA in the context of clinical psychology.

## DEFINITION AND DESCRIPTION

Similar to individual assessment, the assessment of couples and families requires that (a) the foci of the assessment methods be empirically linked to target problems and constructs hypothesized to be functionally related; (b) selected instruments and methods demonstrate evidence of reliability, validity, and cost effectiveness; and (c) findings be linked

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within a theoretical or conceptual framework of the presumed causes of difficulties, as well as to clinical intervention or prevention.

CFA differs from individual assessment in several ways. First, CFA focuses specifically on relationship processes and the interactions among individuals, including communication and other interpersonal exchanges. Second and related, CFA is inherently more systemic in orientation and application, in that target complaints can be assessed through direct observation. Third, CFA must be sensitive to potential challenges unique to establishing a collaborative alliance when assessing highly distressed or antagonistic partners or other family members, particularly in a conjoint context.

## Defining Relational Problems

The *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* (*DSM–5*; American Psychiatric Association, 2013) expanded the definitions of a variety of relational problems while explicitly stating that they are not mental disorders. The proposed criteria in the forthcoming 11th edition of the *International Classification of Diseases* (*ICD–11*) go further than the fourth edition of the *DSM* in operationalizing intimate relationship distress (Foran et al., 2013). The recent revisions to the *DSM* and the forthcoming *ICD–11* represent noteworthy steps forward in facilitating communication regarding the assessment, treatment, and research of clinically significant relational problems.

**Relationship distress.** The *DSM–5* has defined relationship distress as (a) the subjective experience of problematic quality in an intimate relationship or (b) when the problematic quality is affecting the course, prognosis, or treatment of a mental or other medical disorder. A separate diagnosis is included for when parental relationship discord affects a child. Criteria for potentially impaired functioning include behavioral (e.g., conflict resolution difficulty, withdrawal), cognitive (e.g., chronic negative attributions, dismissal), or affective (e.g., chronic sadness, apathy or anger) domains.

**Parent–child relational problem.** It is common, especially with adolescents, to have parents present with a child complaining of conflicts and behavioral problems (such as refusing parental directives) that fall short of *DSM–5* codes for child disorders. The *DSM–5* has defined a parent–child relational problem as (a) problematic quality of the parent–child relationship or (b) problems in the parent–child relationship that are affecting the course, prognosis, or treatment of a mental or other medical disorder. The *ICD–11*'s potential criteria for a parent–child relational problem (see Foran et al., 2013) are similar but more explicated. Impaired areas of functioning also include behavioral, cognitive, and affective domains. Although insurance reimbursement requirements still nudge clinicians to diagnose child mental disorders (e.g., oppositional defiant disorder), the parent–child relational problem Z code now captures these families.

## Partner and Child Maltreatment

The *DSM–5* also provides for diagnoses of partner and child maltreatment. These diagnoses are modified versions of criteria developed and field tested by Heyman et al. (2013) and Slep et al. (2013). Because the *DSM–5* omits important elements of operational criteria established by Heyman et al. (e.g., significant harm is not operationalized in *DSM–5*'s partner psychological abuse criteria; exposure to physical hazards is not a listed form of *DSM–5*'s child neglect criteria), diagnosis relying exclusively on the *DSM–5* may be less reliable.

In brief, the diagnostic criteria for clinically significant relational problems require that relational problems be assessed in both quality and kind. Functioning in behavioral, cognitive, and affective domains as well as the problematic impact of relationship functioning on broader individual functioning and treatment must be considered.

# PRINCIPLES AND APPLICATIONS OF COUPLE AND FAMILY ASSESSMENT

CFA should include multiple levels (e.g., individual, dyadic, nuclear, and extended family; sociocultural) and multiple perspectives (e.g., interview, observational, self-report, other report; Jordan, 2003; Karpel, 1994). Methods should vary as a function of the goals of the assessment (e.g., screening, case formulation, treatment monitoring). Moreover, the

selection of assessment methods should be guided by theory and be empirically based—clinical judgment alone is insufficient as a means of assessing couples and families. Measures should demonstrate psychometric quality and clinical utility and be empirically related to healthy couple and family functioning. Assessment should be an ongoing and recursive process that is continuously woven throughout treatment. It is important that clinicians also use assessments as a way of evaluating the appropriateness of treatment strategies. Finally, assessments must be culturally valid and sensitive. Most empirically based CFA measures and norms, however, have been developed using European American middle-class families.

A multitrait, multilevel assessment should be used to guide assessment domains (namely cognitive, affective, and behavioral) operating at various levels (individual, dyad, nuclear family, extended family, and community or cultural systems). Although such a framework can guide the initial areas of inquiry from a nomothetic perspective, the relation of any specific component of relationship distress for the individual or couple needs to be determined from a functional–analytic approach and applied idiographically (Haynes, Leisen, & Blaine, 1997). The primary aim is to integrate nomothetic and idiographic approaches to identify important causal relationships both within and between levels and domains of functioning. A given problem (e.g., avoidance in conflict) can have unique causes (e.g., history of physical abuse) that can affect subsequent treatments. Similarly, some common targets for intervention (e.g., forgiveness) might be harmful in specific couple contexts (e.g., partners who exhibit high or enduring levels of physical aggression).

## Assessment for Diagnosis and Screening

The diagnosis of couple and family distress has both subjective and objective components. Subjective and objective evaluations often converge, but there are instances in which partners may report being satisfied with a relationship that would be objectively evaluated as dysfunctional because of observable deficits in areas such as conflict resolution, emotional expressiveness, relationship task management, and nuclear or extended family interactions. Conversely, partners may report dissatisfaction with a relationship that may be objectively characterized by adaptive interaction patterns in these same domains. Such discrepancies between the partners' subjective reports and outside observers' evaluations may result, in part, from differences in raters' personal values, gender, ethnicity, or cultural perspective (Tanaka-Matsumi, 2004) or from a lack of opportunity to observe relatively infrequent behaviors (e.g., incidents of physical or emotional abuse).

To complicate matters, partners may diverge in their appraisals of their relationship—either because of actual differences in subjective experiences or because of differences in ability or willingness to convey these experiences. For screening purposes, a brief structured diagnostic interview (e.g., Heyman et al., 2001) may be used to assess overall relationship distress and partner violence. There are also numerous highly correlated self-report measures assessing constructs such as relationship quality, satisfaction, adjustment, happiness, cohesion, consensus, intimacy, and the like. Selection of such measures should be guided by careful examination of item content and psychometric considerations.

Couple distress can be detected using brief measures designed to distinguish clinic from community couples. An example is a 10-item screening scale (the Marital Satisfaction Inventory—Brief form; Whisman, Snyder, & Beach, 2009) derived from the Marital Satisfaction Inventory—Revised (Snyder, 1997). An alternative screening measure is the Kansas Marital Satisfaction Scale (Schumm et al., 1986), which consists of three Likert-type items assessing satisfaction with marriage as an institution, the marital relationship, and the character of one's spouse. A third option is a set of three Couple Satisfaction Index scales constructed using item response theory and consisting of 32, 16, and four items each (Funk & Rogge, 2007). In general, abbreviated scales of global relationship satisfaction are adequate as initial screening measures in primary care or mental health settings but, because of their brevity, they do not distinguish reliably among finer gradations of relationship distress in couple therapy.

In a therapeutic setting, clinicians have the opportunity to observe reciprocal problem behaviors. Structured observations are valuable for the

purposes of initial screening and diagnosis of relationship problems, expression of positive and negative feelings, and efforts to resolve conflicts. Two such structured observation methods are the Rapid Marital Interaction Coding System (Heyman, 2004) and the Rapid Couples Interaction Scoring System (Krokoff, Gottman, & Hass, 1989). Even if a coding system is not used, clinicians' familiarity with the behavioral indicators of maladaptive communication patterns and other behaviors that covary with couple distress should inform screening for couple distress.

When a couple presents for therapy with a primary complaint of dissatisfaction, screening for couple distress is unnecessary. However, there are numerous other situations in which the practitioner may need to screen for relationship distress contributing to or exacerbating the patients' presenting complaints—including psychologists and physicians evaluating the interpersonal context and its contribution to somatic complaints such as fatigue, chronic headaches, or sleep disturbance.

We advocate a sequential strategy for progressively more detailed assessment, favoring sensitivity over specificity in initial assessment measures. With a sequential strategy, an initial clinical inquiry is used to determine whether relationship problems contribute to individual difficulties. If indicated, either a brief structured interview or a self-report screening measure is used to screen for relationship distress. For those individuals reporting moderate to high levels of distress, follow-up with more detailed assessment methods to differentiate among levels and sources or domains of distress is warranted.

## Assessment for Case Conceptualization and Treatment Planning

For purposes of treatment planning, couple and family case conceptualizations must extend beyond global sentiment to assess specific sources and levels of relationship difficulties. We continue here with a brief discussion of construct domains that are particularly relevant to couple distress—including relationship behaviors, cognitions, and affect—as well as individual, familial, and broader cultural factors.

**Relationship behaviors.** Empirical research examining the behavioral components of couple distress has emphasized the rates and reciprocity of partners' positive and negative behaviors and communication deficits. Distressed couples are distinguished from nondistressed couples by higher rates of negative verbal and nonverbal exchanges (e.g., disagreements, criticism, hostility), higher levels of reciprocity in negative behavior, and lower rates of positive verbal and nonverbal behaviors (e.g., approval, empathy, smiling, and positive touch).

Given that disagreements are inevitable in long-term relationships, numerous studies have focused on specific communication behaviors that exacerbate or impede the resolution of couple conflicts. Most notable among these behaviors are difficulties in expressing thoughts and feelings related to specific relationship concerns and deficits in decision-making strategies for containing, reducing, and eliminating conflict. Gottman (1994) observed that the expression of criticism and contempt, along with defensiveness and withdrawal, predicted long-term distress and risk for relationship dissolution. Distressed couples are more likely than nondistressed couples to demonstrate a demand–withdraw pattern in their communication, wherein one partner attempts to engage in a relationship exchange while the other partner withdraws from communication (Eldridge et al., 2007). Listed below are specific questions related to relationship behaviors to consider. In subsequent sections, we describe these related methods in greater detail.

1. How frequent and intense are the couple's conflicts? How rapidly do initial disagreements escalate into major arguments? For how long do conflicts persist without resolution?
2. What are the common areas of conflict or distress, for example, interactions regarding finances, children, sexual intimacy, use of leisure time, or household tasks; involvement with others, including extended family, friends, or coworkers; and differences in preferences or core values?
3. What resources and deficits do partners demonstrate in problem identification and conflict resolution strategies? Do partners balance their expression of feelings with decision-making strategies? Do partners offer each other support

when confronting stressors from within or outside their relationship?

**Relationship cognitions.** Cognitive processes also play a role in moderating the impact of specific behaviors on relationship functioning. Research in this domain has focused on such factors as selective attention; attributions for positive and negative relationship events; and relationship assumptions, standards, and expectancies. For example, findings have indicated that distressed couples often exhibit a bias toward selectively attending to negative partner behaviors and relationship events while ignoring or minimizing positive events (Sillars et al., 2000). Compared with nondistressed couples, distressed partners also tend to blame each other for problems and to attribute each other's negative behaviors to broad and stable traits. Distressed couples are also more likely to have unrealistic standards and assumptions about how relationships should work and lower expectancies regarding their partner's willingness or ability to change their behavior in some desired manner. On the basis of these findings, assessment of relationship cognitions should emphasize the following questions:

1. Do partners demonstrate an ability to accurately observe and report both positive and negative relationship events?
2. What interpretation or meaning do partners impart to relationship events? Clinical interviews are particularly useful for eliciting partners' subjective interpretations of their own and each other's behaviors. To what extent are partners' negative relationship behaviors attributed to stable, negative aspects of the partner rather than to external or transient events?
3. What beliefs and expectancies do partners hold regarding both their own and the other person's ability and willingness to change in a manner anticipated to be helpful to their relationship? What standards do they hold for relationships generally?

**Relationship affect.** Similar to findings regarding behavior exchange, research has demonstrated that distressed couples are distinguished from nondistressed couples by a higher overall rate, duration, and reciprocity of negative relationship affect and, to a lesser extent, by a lower rate of positive relationship affect. From a longitudinal perspective, couples who divorce are distinguished from those who remain married by partners' premarital levels of negative affect and by the persistence of negative reciprocity over time (Cook et al., 1995). Gottman (1999) determined that the single best predictor of couples' eventual divorce was the amount of contempt partners expressed in videotaped interactions. With these empirical findings in mind, assessment of couple distress should evaluate the following:

1. To what extent do partners express and reciprocate negative and positive feelings about their relationship and each other? Positive emotions such as smiling and laughter; expressions of appreciation or respect, comfort, or soothing; and similar expressions are equally important to assess by means of structured or unstructured observation or clinical inquiry.
2. What ability does each partner have to express his or her feelings in a modulated manner? Problems with emotion self-regulation may be observed in either overcontrol of emotions (e.g., an inability to access, label, or express either positive or negative feelings) or in undercontrol of emotions (e.g., the rapid escalation of anger into intense negativity approaching rage).
3. To what extent does partners' negative affect generalize across occasions? Generalization of negative affect can be observed in partners' inability to shift from negative to either neutral or positive affect during an interview or in interactional tasks.

## Comorbid Individual Distress

Evidence that relationship difficulties covary with, contribute to, and result from individual mental disorders is mounting (Snyder & Whisman, 2003). Both clinician reports and treatment outcome studies have suggested that individual difficulties render couple therapy more difficult or less effective. Hence, when evaluating couple distress, clinicians should attend to individual functioning to

address the extent to which either partner exhibits difficulties potentially contributing to, exacerbating, or resulting in part from couple distress. Initial couple interviews should include, but not be limited to, questions regarding depressive symptoms, suicidality, anxiety, violent behavior, and substance use as well as inquiry regarding previous treatment of mental disorders.

When the initial clinical interview suggests potential interaction of relationship and individual dysfunction, the practitioner may consider any number of brief, focused measures of individual psychopathology. When such screening indicates significant psychopathology, more extensive assessment of psychopathology may be warranted. However, partners entering couple therapy are often reluctant to accept individual psychopathology as a potential contributing factor; hence, formal assessment of individual dysfunction may generate defensiveness or disrupt initial efforts to establish a collaborative alliance.

Finally, a functional analysis establishing the direction and strength of causal relations among individual and relationship disorders, as well as their linkage to situational stressors or buffers, is crucial in determining both the content and the sequencing of clinical interventions. This includes the linkage of adult relationship conflict to child behavior problems. In many cases, such functional relations are reciprocal, supporting interventions at either end of the causal chain.

### Cultural Considerations

It is also important to attend to cultural differences in the subjective experience and overt expression of couple or family distress as well as factors bearing on its development and treatment. By this, we refer not only to cross-national differences in couples' relationships but also to cross-cultural differences within nationality and consideration of nontraditional relationships, including gay and lesbian couples and diversity of family composition. There are important differences among couples as a function of their race/ethnicity, culture, religious orientation, economic level, and age. These dimensions can affect the importance of intimate relationships to individuals' quality of life, expectancies regarding couple or family roles, typical patterns of verbal and nonverbal communication, behaviors that are considered distressing, sources of relationship conflict, type of external stressors faced by a family, and ways in which partners respond to couple distress and divorce.

If one assumes that the methods and focus of couple assessment are guided by assumptions about the factors influencing relationship satisfaction, it is likely that the optimal validity of an instrument would vary as a function of these dimensions. For example, Haynes et al. (1992) found that parenting, extended family, and sex were less strongly related to relationship satisfaction in couples older than age 55 years, whereas health of the partner and other forms of affection were more important factors. When partners are from different cultures, such cultural differences and conflicts can be an important source of relationship stress. Finally, partners may differ in their views regarding religion and spirituality.

## PRINCIPAL TESTS AND METHODS

Assessment strategies for evaluating relationships vary across the clinical interview, observational methods, and self-report measures. In the sections that follow, we discuss empirically supported techniques within each of these assessment methods.

### Interview Methods

The clinical interview serves as the initial step for assessing either couples or families. This initial interview is most often conducted with both partners together and has multiple goals (Abbott & Snyder, 2010). First, the clinical interview is an important method for identifying a couple's concerns, areas of distress and satisfaction, behavior problems, and strengths. Next, it is an important source of information about the couple's commitment, motivation for treatment, and treatment goals. The assessment interview can also serve to strengthen the therapeutic alliance. It helps the clinician identify potential barriers to subsequent assessment and treatment and the strategies that might be useful for managing or overcoming those barriers. Finally, the clinical interview is the main

source of historical data on the couple's or family's relationships.

The initial interview helps the clinician select additional assessment strategies. Data from the interview lead to initial hypotheses about ways in which various behaviors, emotions, cognitions, and external stressors contribute to distress and guide a functional analysis. These hypotheses contribute to the eventual case formulation that, in turn, affects decisions about an optimal treatment strategy (see Haynes & Williams, 2003; Haynes et al., 2009). Assessment interviews continue throughout treatment and help to identify new barriers and challenges to treatment, clarify treatment goals, and evaluate treatment outcomes and process.

The clinical interview is perhaps the most versatile couple assessment method because it can provide information across a large variety of domains and response modes. For example, it can provide information on specific behavioral interactions such as positive and negative behavioral exchanges, problem-solving skills, sources of disagreement, expectations, automatic negative thoughts, beliefs and attitudes about the partner or family members, and related emotions. The assessment interview can also provide information on broader family system or cultural factors that might affect current functioning, treatment goals, and response to interventions. The initial assessment interview can also provide information on potentially important causal variables for couple or family distress at an individual level, such as substance use, mood disorder, or problematic behavior traits.

Various formats for conducting assessment interviews with couples have been proposed, but most include common core elements. For example, Abbott and Snyder (2010) outlined several broad targets for a couple interview: (a) the structure and organization of the marriage, (b) current relationship difficulties and their development, (c) previous efforts to address relationship difficulties, (d) each partner's personality and characteristics, (e) decision whether to proceed with couple therapy, and (f) expectations about the therapy process. Other foci frequently included in couple interviews include (a) cultural or ethnic contexts of the relationship (expected roles for each partner, role of the extended family), (b) external stressors faced by the couple (e.g., economic stressors or health-related concerns), (c) the couple's communication and problem-solving skills, (d) each partner's level of distress and commitment to continuing the relationship, (e) areas of disagreement and agreement, (f) positive aspects and strengths of the relationship, (g) social support available to each partner and the couple (e.g., involvement in a religious organization), (h) each partner's behavioral traits that may contribute to couple distress, (i) each partner's goals and expectations regarding the relationship, (j) the couple's sexual relationship and prior sexual experiences, and (k) violence in the relationship.

Despite the many strengths of the assessment interview, a major drawback is that few of the comprehensive formats have undergone rigorous psychometric evaluation. All have face validity but little empirical evidence regarding their temporal reliability, internal consistency, interrater agreement, content validity, convergent validity, and generalizability across sources of individual differences such as ethnicity and age. One recent exception is the Relationship Quality Interview (Lawrence et al., 2011), a semistructured interview designed to obtain objective ratings in various domains of couple functioning, including (a) quality of emotional intimacy, (b) quality of the couple's sexual relationship, (c) quality of support transactions, (d) the couple's ability to share power, and (e) conflict and problem-solving interactions. The Relationship Quality Interview has excellent reliability, convergent and divergent validity, and incremental utility in married and dating couples.

There has been debate in the literature regarding the optimal format for a couple intake interview (i.e., partners interviewed together, separately, or a combination of both). Indeed, some studies (Haynes et al., 1981; Whisman & Snyder, 2007) have found that the convergent validity of self-reports on sensitive issues such as sex, infidelity, and violence is higher from individual interview or alternative individual-response formats than conjoint interviews. Also, a client may not disclose violence in an initial couple assessment interview because of embarrassment, minimization, or fear of retribution

(Rathus & Feindler, 2004). For this reason, it is important to use the interview as a vantage point from which to conduct further assessments using different methods.

## Observational Methods

As noted earlier, couple assessment offers the unique opportunity to observe partners' communication and other interpersonal exchanges directly. Analog behavioral observation involves a communication task specifically designed, manipulated, or constrained by a clinician to elicit both verbal and nonverbal behaviors of interest such as motor actions, verbalized attributions, and observable facial reactions (e.g., Heyman, 2001; Kerig & Baucom, 2004). In general, it is aimed at six major classes of targeted behaviors, listed below with examples of assessment:

1. Affect (e.g., humor, affection, anger, criticism, contempt, sadness, anxiety); examples include the Behavioral Affective Rating System (Johnson, 2002) and the Specific Affect Coding System (Shapiro & Gottman, 2004)
2. Behavioral engagement (e.g., demands, pressures for change, withdrawal, avoidance); an example is the Conflict Rating System (Heavey, Christensen, & Malamuth, 1995)
3. General communication skills (e.g., involvement, verbal and nonverbal negativity and positivity, information and problem description); examples include the Clinician Rating of Adult Communication (Basco et al., 1991) and the Interactional Dimensions Coding System (Kline et al., 2004)
4. Problem solving (e.g., self-disclosure, validation, facilitation, interruption); examples include the Communication Skills Test (Floyd, 2004), the Living in Family Environments coding system (Hops, Davis, & Longoria, 1995), and the Conflict and Problem-Solving Scales (Kerig, 1996)
5. Power (e.g., verbal aggression, coercion, attempts to control); an example is the System for Coding Interactions in Dyads (Malik & Lindahl, 2004).
6. Support and intimacy (e.g., emotional and tangible support, attentiveness); an example is the Social Support Interaction Coding System (Pasch, Harris, Sullivan, & Bradbury, 2004).

Systematic observation also provides data on the moment-by-moment functional and bidirectional interactions among family members. Information about discrete and time-sensitive parent–child interactions is not available through other assessment methods. Many parents are unaware of how their behavior affects their children's behavior and emotions and, conversely, how they are affected by their children's behavior. Consequently, aspects of parent–child interactions that are important in understanding child behavior problems, parent–child conflict, and child welfare are difficult to measure through traditional self- or other-report assessment methods. Data from parent reports can provide useful information but can also be significantly influenced by their mood at the time of assessment; their recent interactions with their children or others; and memory, attentional focus, attributional biases, and other cognitive deficits (Haynes, O'Brien, & Kaholokula, 2011).

The observation strategies used by Dishion and Granic (2004) and others illustrate several principles of an evidence-based approach to family assessment: (a) use of empirically supported behavior codes, (b) the use of well-trained coders; (c) data acquired from videorecorded parent–child interactions; (d) examination of interrater agreement; (e) observation environments that can differ in their degree of naturalness but are selected to maximize their ecological validity; (f) a focus on time-dependent functional relations, that is, patterns of behavioral interactions between parents and children, usually identified by examining time-lagged sequences of behaviors; (g) a focus on lower level, clinically useful, and sensitive-to-change behaviors; and (h) observations conducted in the context of a multimethod family-oriented assessment strategy.

As with all assessment methods, behavioral observation is associated with several sources of potential limitations, which include that (a) the behavior of participants can be affected by the presence of observers (reactive effects of observation); (b) the behavior codes might not be the most

appropriate for identifying important functional relations for a particular family; (c) the settings, situations, contexts, and stimuli in the observation assessment might not be the most useful for eliciting clinically important family interactions; (d) data and inferences may not be generalizable across observation contexts; and (e) the recording, coding, and analysis of observations are typically more costly than assessment through self-report.

## Self-Report Methods

Using self-report methods in couple assessment has many benefits. Self-report methods (a) are convenient and relatively easy to administer; (b) generate a wealth of information across a broad range of domains and levels of functioning; (c) lend themselves to collection of data from large normative samples, which can serve as a reference for interpreting data from individual respondents; (d) allow disclosure about events and subjective experiences that respondents may be reluctant to discuss with an interviewer or in the presence of their partner; and (e) can provide important data concerning internal phenomena opaque to observational approaches, including thoughts and feelings, values and attitudes, expectations and attributions, and satisfaction and commitment.

However, the limitations of traditional self-report measures also bear noting. Specifically, data from self-report instruments (a) can reflect bias (or "sentiment override") in self- and other presentation in either a favorable or an unfavorable direction, (b) can be affected by differences in errors in recollection of objective events, (c) can inadvertently influence respondents' nontest behavior in unintended ways (e.g., by sensitizing respondents and increasing their reactivity to specific issues), and (d) typically provide few fine-grained details concerning moment-to-moment interactions compared with analog behavioral observations. Relatively few self-report measures of couple or family functioning have achieved widespread adoption. The majority of measures in this domain have demonstrated little evidence regarding the most rudimentary psychometric features of reliability or validity, let alone clear evidence supporting their clinical utility (Snyder & Rice, 1996).

An important consideration in conducting CFA is obtaining a holistic view of the family within its larger social context that includes the extended family network and key social relationships in the present and over time. Genograms are a valuable descriptive tool to help visualize and bring coherence to the complexities of family relationships that may also help to identify current sources of support and stress in kin and social networks (McGoldrick, Gersen, & Petry, 2008). Multigenerational genograms provide insight into patterns of strength, resilience, and coping across generations, as well as patterns of risk and vulnerability. Although genograms have been largely used in clinical practice to inform treatment planning, McGoldrick et al. (2008) proposed that the current generation of computerized genogram programs may also be useful in multigenerational family research.

In addition, well-established self-report measures garner perceptions of family functioning from the perspective of each family member. The McMaster Family Assessment Device (Epstein, Baldwin, & Bishop, 1983) is a multidimensional, 60-item measure of family functioning that assesses six domains, including aspects of communication, affective, and behavioral indicators. The Family Environment Scale (Moos, 1990) is a 90-item self-report measure corresponding to 10 subscales organized into three dimensions. Three forms of the Family Environment Scale examine members' perceptions of the family as it is (real), as it would in a perfect situation (ideal), and as it will likely be in new situations (expected).

Although we have noted the shortcomings of many couple assessments, a variety of self-report measures assess couples' behavioral exchanges, including communication, verbal and physical aggression, and physical intimacy, and have demonstrated psychometric soundness. For example, the adapted version of the Frequency and Acceptability of Partner Behavior Inventory (Doss & Christensen, 2006) assesses 20 positive and negative behaviors as well as acceptance in four domains (affection, closeness, demands, and relationship violations) and possesses excellent psychometric characteristics.

Among self-report measures specifically targeting partners' communication, one that demonstrates good reliability and validity is the Communication

Patterns Questionnaire (Christensen, 1987), which was designed to measure the temporal sequence of couples' interactions by soliciting partners' perceptions of their communication patterns before, during, and after conflict. Scores on the Communication Patterns Questionnaire can be used to assess characteristics of the demand–withdraw pattern frequently observed among distressed couples. Assessing relationship aggression by self-report measures assumes particular importance because of some individuals' reluctance to disclose the nature or extent of such aggression during an initial conjoint interview. By far the most widely used measure of couples' aggression is the revised Conflict Tactics Scale (Straus et al., 1996). A measure of psychological aggression demonstrating strong psychometric properties and gaining increasing support is the Multidimensional Measure of Emotional Abuse (Murphy & Hoover, 1999).

For purposes of case conceptualization and treatment planning, well-constructed multidimensional measures of couple functioning are useful for discriminating among various sources of relationship strength, conflict, satisfaction, and goals. Widely used in both clinical and research settings is the Marital Satisfaction Inventory—Revised (Snyder, 1997), a 150-item inventory designed to identify both the nature and the intensity of relationship distress in distinct areas of interaction. It includes two validity scales, one global scale, and 10 specific scales assessing relationship satisfaction in such areas as affective and problem-solving communication, aggression, leisure time together, finances, the sexual relationship, role orientation, family of origin, and interactions regarding children. More than 20 years of research have supported the reliability and construct validity of the Marital Satisfaction Inventory—Revised scales, and recent studies have offered support for its cross-cultural application with both clinic and community couples (Snyder et al., 2004). The instrument boasts a large representative national sample, good internal consistency and test–retest reliability, and excellent sensitivity to treatment change.

Additional multidimensional measures obtaining fairly widespread use include the PREPARE and ENRICH inventories (Fowers & Olson, 1989; Olson & Olson, 1999), developed for use with premarital and married couples, respectively. Both of these measures include 165 items in 20 domains reflecting personality (e.g., assertiveness, self-confidence), intrapersonal issues (e.g., marriage expectations, spiritual beliefs), interpersonal issues (e.g., communication, closeness), and external issues (e.g., family and friends). The ENRICH inventory has a good normative sample and has ample evidence supporting both its reliability and its validity.

## LIMITATIONS OF COUPLE AND FAMILY ASSESSMENT

There are several noteworthy challenges to CFA beyond those already noted. Clinicians and researchers routinely neglect the sociocultural context of the couple or family system, but it may provide critical information regarding the etiology or maintenance of couple or family distress. Furthermore, a greater understanding of sociocultural factors may provide guidance in treatment planning or treatment evaluation. Some commonly overlooked sociocultural contextual factors include multigenerational family assessment; level of acculturation; family composition and blended families; and economic, geographic, and educational constraints.

CFA may also be limited in its generalizability, in that the aforementioned assessments largely occur outside of a naturalistic setting in the clinic or the laboratory. For example, observed and self-reported maladaptive behavioral patterns such as conflict communication or intimate partner violence may be attenuated outside of a naturalistic setting.

In practice, the demands of brief therapy often leave psychologists with little time for extensive CFAs. Instead, a quick interview and clinical history are conducted. Although not a limitation of CFA in and of itself, inadequate assessment seems to be the norm. We encourage a more systemic, multilevel, multimethod assessment.

## MAJOR ACCOMPLISHMENTS

Developments in couple and family assessment have enhanced both understanding of and clinical

interventions targeting adult intimate relationships. Specific advances include identification of predictors of relationship dissolution, use of item response theory to construct brief valid measures, extension of assessment methods to include emerging technologies, and application to special populations and settings.

## Identification of Predictors of Relationship Dissolution

A major accomplishment of decades of CFA research has been the actuarial ability to predict relationship dissatisfaction and dissolution. For example, Gottman and Gottman (2015) described findings across multiple longitudinal studies demonstrating an ability to predict eventual relationship satisfaction among newlyweds. Results supported the ability to predict the fate of marriages in three measurement domains: interactive behavior, perception (self-report on questionnaires, interviews, and video playback ratings), and physiology. Other researchers (e.g., Kiecolt-Glaser et al., 2003) have also demonstrated some ability to predict which couples become unhappily married or divorced, based on partners' hormones and neurotransmitters sampled from their blood as the couple discussed an area of conflict in a hospital setting.

## Applications of Item Response Theory

A recent movement toward test adaptation has enhanced the efficiency of couple assessment. Item response theory examines item characteristics such that items can be selected to maximize information around one particular threshold of relationship distress or for a specific screening purpose within a population. In addition, a better understanding of item-level characteristics can help disentangle each item's linkage to the underlying construct of relationship discord. For example, one might hypothesize that items related to conflict communication would be related to a higher level of relationship discord than items assessing quality of leisure time spent together. The relation of each item to the underlying construct is also likely dependent on the population being assessed (e.g., older adults, unmarried cohabiting partners, different racial or ethnic groups). Item response theory has been used to create (Funk & Rogge, 2007) and to adapt (Sabourin, Valois, & Lussier, 2005) existing screening measures of relationship distress to minimize the number of items necessary to measure clinically relevant thresholds of relationship distress.

## Emerging Assessment Technologies

With evolving technological advances, the number of digital dyadic diary studies is growing and diary methods are increasingly being used in clinical practice as a means of assessment and treatment monitoring. Using diary methods or electronic assessments, individuals are able to provide frequent reports on their daily experiences capturing detailed temporal associations that are not possible using traditional assessment methods, thus increasing the ecological validity of the information. Among other potential strengths, electronic methods allow for the assessment of change processes during significant events and transitions, interpersonal processes, and variability in core constructs over time.

Technological devices such as laptops, smartphones, smart watches, and tablets can make recording events and mood states less disruptive. Technology also allows participants or clients to be prompted by an electronic device to create an entry on the basis of physiological condition, time-based entries, or their surroundings on the basis of GPS location. As technology advances, researchers and clinicians alike are less bound to the confines of the laboratory or the clinic and are better able to capture psychological and interpersonal processes as opposed to the historical focus on stable psychological traits (Bolger, Davis, & Rafaeli, 2003).

## Extensions of Couple and Family Assessment to Diverse Settings

Increased recognition of the mental and physical health impact of couple and family distress has translated into CFA's being extended to a variety of settings. We present an overview of a few settings in which the assessment of couple and family functioning is expanding.

**Military and veteran health care settings.** Military couples face unique adversity, not only related to prolonged separation and challenges directly associated with deployment and combat exposure but also

linked to additional risk factors such as lower socioeconomic status and marrying and having children at a younger age than their civilian counterparts. Female service members, in particular, show disproportionately elevated risk for relationship dissolution and divorce (Karney & Crown, 2007).

There are some important domains to consider when working with military or veteran couples and families. Mounting evidence has suggested that communication is particularly salient before and during deployment (Cigrang et al., 2014). Military couples preparing for separation or deployment should be assessed not only for their adaptive or maladaptive communication patterns, as described above, but also for their explicit plans or preparations for continuing communication during their geographic separation. For those military couples who have recently separated from the military or returned from deployment, broad reintegration measures (e.g., Post-Deployment Readjustment Inventory; Katz et al., 2010) are useful for determining potential challenges after deployment. Domains measured by the Post-Deployment Readjustment Inventory include career challenges, social difficulties, intimate relationship problems, health problems, concerns about deployment, and posttraumatic stress disorder symptoms. Within the process of reintegration, intimate partners often serve as a primary source of social support; however, they can also function as sources of stress for veterans.

**Forensic settings.** CFA is increasingly being used in forensic settings. Family assessment in a forensic context can have two goals: (a) to guide judicial decisions regarding the safety and welfare of a child's current or potential placement and (b) to indicate where clinical interventions might strengthen the abilities of prospective guardians to provide a safe and supportive environment. Judicial placement decisions are mandated when physical or sexual abuse of a child is suspected or established, when a state agency is considering where to place a child who has been withdrawn from his or her home, and when the court must decide on custody of a child during divorce proceedings. Although other considerations affect these decisions, as illustrated by controversies surrounding the placement of Native American children in non–Native American homes (e.g., Indian Child Welfare Act of 1978) and research on parent–child attachment (e.g., Brumariu & Kerns, 2010), the goal of family assessment in forensic contexts is to estimate the degree to which a particular family environment is likely to support the health and welfare of a child.

In such contexts, the assessment must also consider whether the potential guardian exhibits behavioral problems, such as those associated with schizophrenia, substance dependence, severe personality disorders, or dementia, that would interfere with his or her ability to provide a safe and supportive environment for the child. Consequently, individualized psychological assessment is often a component of family assessment in forensic contexts but, as noted below, is most useful when specifically focused on parenting abilities. Data from these individualized adult psychological assessments are most useful when integrated with individualized child assessments. Recommendations for best practice of forensic family assessment include (a) an emphasis on functional assessment (i.e., does a prospective guardian have the knowledge, beliefs, and emotional, cognitive, and behavioral abilities to provide a safe and supportive environment for the child?); (b) the direct observation of guardian–child interactions, preferably in their natural environment; (c) an evaluation of the attachment between the child and prospective guardian; and (d) an emphasis on the use of empirically supported parenting-specific measures—and a deemphasis on the use of traditional psychological assessment methods (i.e., intelligence, personality tests, and projective tests) and diagnoses—to guide judgments about parenting capacity (Budd, Clark, & Connell, 2011).

**Behavioral health settings.** Health is a family phenomenon. The family is the context within which health promotion and health risk behaviors are learned and maintained. The unit of care is increasingly being broadened from the medical model's traditional focus on the individual patient to the family or caregiver system (McDaniel, Doherty, & Hepworth, 2013). Expanding the treatment focus beyond the individual to the family caregiving system suggests that an expanded assessment focus to

the couple or family unit is appropriate in medical settings.

A family systems health model proposes that successful coping with family member illness is predicted by the goodness of fit between the psychosocial demands of the disorder and the couple or family resources and style of functioning (Rolland, 2012). Areas of functioning to assess during an interview include the following: (a) multigenerational legacies of illness, loss, and crisis; (b) the developmental context of the illness, that is, the individual and family developmental life cycles; (c) the family's beliefs and appraisals about illness, health, and healing; (d) the family's sense of mastery in facing illness, disability, or death; (e) family beliefs about the cause of illness or disability; (f) belief system flexibility or adaptability; (g) ethnic, spiritual, and cultural beliefs; and (h) fit among clinicians, health systems, and families. The use of an illness-oriented genogram that includes who in the family was ill, what diseases run in the family, and how caregiving was provided has also been recommended as a technique for gathering family assessment data (McDaniel et al., 2013).

## FUTURE DIRECTIONS

Future directions in couple and family assessment will likely emphasize both clinical and research domains. Substantial evidence argues for assessment of intimate relationship functioning with individuals presenting with a broad spectrum of emotional or behavioral concerns. CFA research will continue to build on emerging technologies with expansion to new populations and contexts.

### Best Practices in Couple and Family Assessment

In the future, we anticipate the field will gradually converge around a series of best practices for CFA. Assessment strategies and specific methods for assessing couple and family distress will necessarily be tailored to family members' unique constellations, but the following recommendations will generally apply:

1. Given empirical findings linking intimate relationship distress to individual disorders and their respective impact in moderating treatment outcome, assessment of couple or family functioning should be standard practice when treating individuals. Screening may involve a brief interview or self-report measure exhibiting evidence of validity. Similarly, when treating couples or families, individual members should be screened for mental disorders potentially contributing to, exacerbating, or resulting in part from intimate relationship distress.
2. Assessment foci should progress from broad to narrow—first identifying relationship concerns at the broader construct level and then examining more specific facets of relationship difficulties and their correlates using a finer grained analysis. Consistent with this guideline, assessment should begin with nomothetic approaches but then progress to idiographic methods facilitating functional analysis of target concerns.
3. Certain domains (communication, aggression, substance use, affective disorders, emotional or physical involvement with an outside person) should always be assessed either because of their robust linkage to relationship difficulties (e.g., communication processes involving emotional expressiveness and decision making) or because the specific behaviors, if present, have a particularly adverse impact on relationship functioning (e.g., physical aggression or substance abuse).
4. Assessment of intimate relationships should integrate findings across multiple assessment methods. Self- and other-report measures may complement findings from interview or behavioral observation; however, special caution should be exercised when adopting self- or other-report measures in assessing relationship distress. Despite their proliferation, most measures of intimate relationship functioning described in the literature have not undergone careful scrutiny of their psychometric features.
5. Psychometric characteristics of any assessment method are conditional on the specific population and purpose for which that assessment method was developed. Given that most measures of couple and family functioning were developed and tested on White, middle-class, married couples, their relevance to and utility

for assessing ethnic couples, gay and lesbian couples, and low-income couples is unknown. Hence, any assessment measure demonstrating evidence of validity with some individuals may not be valid, in part or in whole, for any given individual, thus further underscoring the importance of drawing on multiple indicators across multiple methods when assessing any specific construct.

6. Assessment related to treatment should be ongoing, not only to evaluate change but also to incorporate emerging data regarding hypothesized linkages between target concerns and potential antecedents and consequences.

Although assessment of couples and families has shown dramatic gains in both its conceptual and empirical underpinnings over the past 30 years, much more remains to be discovered. CFA will continue to evolve in methods of development (e.g., item response theory) and interpretation (e.g., computer-based interpretation), and future applications of CFA must continue to expand to new contexts. As we move further into the 21st century, the percentage of the population age 65 years and older is projected to increase by 70% (Centers for Disease Control and Prevention, 2005); thus, systematic CFA across the life span with a focus on older adults and decision making for family members with aging parents will be imperative. In addition, the multicultural utility of CFAs must be expanded. Assessment measures have been largely developed and evaluated using European American, middle-class families, highlighting the need to expand their application to diverse cultures and contexts.

As we gain a greater understanding of the mediators and moderators of couple and family therapy (e.g., age, depressive symptomatology, ethnicity, gender roles, pretreatment level of distress, commitment, spousal affection and intimacy, therapeutic alliance and other relationship characteristics), our approach to CFA will only become more refined in the pursuit of best clinical practices. The current trend in health care is to provide compensation for evidence-based interventions—guided by evidence-based assessment—and, as a whole, health care coverage for couple and family therapy has been inconsistent. Future directions of CFA must emphasize rigorous evidence-based practices and continue to demonstrate the primary clinical significance of relational problems.

## References


Abbott, B. V., & Snyder, D. K. (2010). Couple distress. In M. M. Antony & D. H. Barlow (Eds.), *Handbook of assessment and treatment planning for psychological disorders* (2nd ed., pp. 439–476). New York, NY: Guilford Press.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorder* (5th ed.). Washington, DC: Author.

Basco, M. R., Birchler, G. R., Kalal, B., Talbott, R., & Slater, M. A. (1991). The Clinician Rating of Adult Communication (CRAC): A clinician's guide to the assessment of interpersonal communication skill. *Journal of Clinical Psychology*, *47*, 368–380. http://dx.doi.org/10.1002/1097-4679(199105)47:3<368::AID-JCLP2270470308>3.0.CO;2-Y

Bolger, N., Davis, A., & Rafaeli, E. (2003). Diary methods: Capturing life as it is lived. *Annual Review of Psychology*, *54*, 579–616. http://dx.doi.org/10.1146/annurev.psych.54.101601.145030

Brumariu, L. E., & Kerns, K. A. (2010). Parent-child attachment and internalizing symptoms in childhood and adolescence: A review of empirical findings and future directions. *Development and Psychopathology*, *22*, 177–203. http://dx.doi.org/10.1017/S0954579409990344

Budd, K. S., Clark, J., & Connell, M. A. (2011). *Evaluation of parenting capacity in child protection*. New York, NY: Oxford University Press.

Centers for Disease Control and Prevention. (2005). *Health, United States, 2005: With chartbook on trends in the health of Americans*. Hyattsville, MD: Author.

Christensen, A. (1987). Detection of conflict patterns in couples. In K. Hahlweg & M. J. Goldstein (Eds.), *Understanding major mental disorder: The contribution of family interaction research* (pp. 250–265). New York, NY: Family Process Press.

Cigrang, J. A., Wayne Talcott, G., Tatum, J., Baker, M., Cassidy, D., Sonnek, S., . . . Slep, A. M. S. (2014). Intimate partner communication from the war zone: A prospective study of relationship functioning, communication frequency, and combat effectiveness. *Journal of Marital and Family Therapy*, *40*, 332–343. http://dx.doi.org/10.1111/jmft.12043

Cook, J., Tyson, R., White, J., Rushe, R., Gottman, J. M., & Murray, J. (1995). The mathematics of marital conflict: Qualitative dynamic mathematical modeling of marital interaction. *Journal of Family Psychology*,

*9*, 110–130. http://dx.doi.org/10.1037/0893-3200.9.2.110

Dishion, T. J., & Granic, I. (2004). Naturalistic observation of relationship process. In S. N. Haynes & E. H. Heiby (Eds.), *Behavioral assessment* (pp. 143–161). Hoboken, NJ: Wiley.

Doss, B. D., & Christensen, A. (2006). Acceptance in romantic relationships: The frequency and acceptability of partner behavior inventory. *Psychological Assessment*, *18*, 289–302. http://dx.doi.org/10.1037/1040-3590.18.3.289

Eldridge, K. A., Sevier, M., Jones, J., Atkins, D. C., & Christensen, A. (2007). Demand-withdraw communication in severely distressed, moderately distressed, and nondistressed couples: Rigidity and polarity during relationship and personal problem discussions. *Journal of Family Psychology*, *21*, 218–226. http://dx.doi.org/10.1037/0893-3200.21.2.218

Ellis, E. M. (2000). *Divorce wars: Interventions with families in conflict*. http://dx.doi.org/10.1037/10359-000

Epstein, N., Baldwin, L., & Bishop, D. (1983). The McMaster Family Assessment Device. *Journal of Marital and Family Therapy*, *9*, 171–180. http://dx.doi.org/10.1111/j.1752-0606.1983.tb01497.x

Fleeson, W. (2004). The quality of American life at the end of the century. In O. G. Brim, C. D. Ryff, & R. C. Kessler (Eds.), *How healthy are we: A national study of well-being at midlife* (pp. 252–272). Chicago, IL: University of Chicago Press.

Floyd, F. J. (2004). Communication Skills Test (CST): Observational system for couples' problem-solving skills. In P. K. Kerig & D. H. Baucom (Eds.), *Couple observational coding systems* (pp. 143–158). Mahwah, NJ: Erlbaum.

Foran, H. M., Beach, S. R. H., Slep, A. M. S., Heyman, R. E., Wamboldt, M. Z., Kaslow, N., & Reiss, D. (Eds.). (2013). *Family violence and family problems: Reliable assessment and the ICD–11*. New York, NY: Springer.

Fowers, B. J., & Olson, D. H. (1989). ENRICH marital inventory: A discriminant validity and cross-validation assessment. *Journal of Marital and Family Therapy*, *15*, 65–79. http://dx.doi.org/10.1111/j.1752-0606.1989.tb00777.x

Funk, J. L., & Rogge, R. D. (2007). Testing the ruler with item response theory: Increasing precision of measurement for relationship satisfaction with the Couples Satisfaction Index. *Journal of Family Psychology*, *21*, 572–583. http://dx.doi.org/10.1037/0893-3200.21.4.572

Gottman, J. M. (1994). *What predicts divorce? The relationship between marital processes and marital outcomes*. Hillsdale, NJ: Erlbaum.

Gottman, J. M. (1999). *The marriage clinic: A scientifically-based marital therapy*. New York, NY: Norton.

Gottman, J. M., & Gottman, J. S. (2015). Gottman couple therapy. In A. S. Gurman, J. L. Lebow, & D. K. Snyder (Eds.), *Clinical handbook of couple therapy* (5th ed., pp. 129–167). New York, NY: Guilford Press.

Haynes, S. N., Floyd, F. J., Lemsky, C., Rogers, E., Winemiller, D., Heilman, N., . . . Cardone, L. (1992). The Marital Satisfaction Questionnaire for older persons. *Psychological Assessment*, *4*, 473–482. http://dx.doi.org/10.1037/1040-3590.4.4.473

Haynes, S. N., Jensen, B. J., Wise, E., & Sherman, D. (1981). The marital intake interview: A multimethod criterion validity assessment. *Journal of Consulting and Clinical Psychology*, *49*, 379–387. http://dx.doi.org/10.1037/0022-006X.49.3.379

Haynes, S. N., Leisen, M. B., & Blaine, D. D. (1997). Design of individualized behavioral treatment programs using functional analytic clinical case models. *Psychological Assessment*, *9*, 334–348. http://dx.doi.org/10.1037/1040-3590.9.4.334

Haynes, S. N., O'Brien, W. H., & Kaholokula, K. (2011). *Behavioral assessment and case formulation*. Hoboken, NJ: Wiley.

Haynes, S. N., & Williams, A. E. (2003). Case formulation and design of behavioral treatment programs: Matching treatment mechanisms to causal variables for behavior problems. *European Journal of Psychological Assessment*, *19*, 164–174. http://dx.doi.org/10.1027//1015-5759.19.3.164

Haynes, S. N., Yoshioka, D. T., Kloezeman, K., & Bello, I. (2009). Clinical applications of behavioral assessment. In J. N. Butcher (Ed.), *Oxford handbook of personality assessment* (pp. 226–249). http://dx.doi.org/10.1093/oxfordhb/9780195366877.013.0013

Heavey, C. L., Christensen, A., & Malamuth, N. M. (1995). The longitudinal impact of demand and withdrawal during marital conflict. *Journal of Consulting and Clinical Psychology*, *63*, 797–801. http://dx.doi.org/10.1037/0022-006X.63.5.797

Heyman, R. E. (2001). Observation of couple conflicts: Clinical assessment applications, stubborn truths, and shaky foundations. *Psychological Assessment*, *13*, 5–35. http://dx.doi.org/10.1037/1040-3590.13.1.5

Heyman, R. E. (2004). Rapid Marital Interaction Coding System (RMICS). In P. K. Kerig & D. H. Baucom (Eds.), *Couple observational coding systems* (pp. 67–94). Mahwah, NJ: Erlbaum.

Heyman, R. E., Feldbau-Kohn, S. R., Ehrensaft, M. K., Langhinrichsen-Rohling, J., & O'Leary, K. D. (2001). Can questionnaire reports correctly classify relationship distress and partner physical abuse?

*Journal of Family Psychology*, *15*, 334–346. http://dx.doi.org/10.1037/0893-3200.15.2.334

Heyman, R. E., Slep, A. M. S., Snarr, J. D., & Foran, H. M. (2013). Practical tools for assessing partner maltreatment in clinical practice and public health settings. In H. F. Foran, S. R. H. Beach, A. M. S. Slep, R. E. Heyman, & M. Z. Wamboldt (Eds.), *Family problems and family violence: Reliable assessment and the ICD–11* (pp. 43–70). New York, NY: Springer.

Hops, H., Davis, B., & Longoria, N. (1995). Methodological issues in direct observation: Illustrations with the Living in Family Environments (LIFE) coding system. *Journal of Clinical Child Psychology*, *24*, 193–203. http://dx.doi.org/10.1207/s15374424jccp2402_7

Indian Child Welfare of 1978, Pub. L. No. 95-608, 92 Stat. 3069 (25 U.S.C. 1901 et seq.).

Johnson, M. D. (2002). The observation of specific affect in marital interactions: Psychometric properties of a coding system and a rating system. *Psychological Assessment*, *14*, 423–438.

Jordan, K. (2003). *Handbook of couple and family assessment*. New York, NY: Nova Science.

Karney, B. R., & Crown, J. S. (2007). *Families under stress: An assessment of data, theory, and research on marriage and divorce in the military*. Santa Monica, CA: RAND Corporation.

Karpel, M. A. (1994). *Evaluating couples: A handbook for practitioners*. New York, NY: Norton.

Katz, L. S., Cojucar, G., Davenport, C. T., Pedram, C., & Lindl, C. (2010). Post-Deployment Adjustment Inventory: Reliability, validity, and gender differences. *Military Psychology*, *22*, 41–56. http://dx.doi.org/10.1080/08995600903249222

Kerig, P. K. (1996). Assessing the links between interparental conflict and child adjustment: The Conflicts and Problem-Solving Scales. *Journal of Family Psychology*, *10*, 454–473. http://dx.doi.org/10.1037/0893-3200.10.4.454

Kerig, P. K., & Baucom, D. H. (Eds.). (2004). *Couple observational coding systems*. Mahwah, NJ: Erlbaum.

Kiecolt-Glaser, J. K., Bane, C., Glaser, R., & Malarkey, W. B. (2003). Love, marriage, and divorce: Newlyweds' stress hormones foreshadow relationship changes. *Journal of Consulting and Clinical Psychology*, *71*, 176–188. http://dx.doi.org/10.1037/0022-006X.71.1.176

Kline, G. H., Julien, D., Baucom, B., Hartman, S., Gilbert, K., Gonzalez, T., & Markman, H. J. (2004). The Interactional Dimensions Coding System (IDCS): A global system for couple interactions. In P. K. Kerig & D. H. Baucom (Eds.), *Couple observational coding systems* (pp. 113–126). Mahwah, NJ: Erlbaum.

Kreider, R. M., & Ellis, R. (2011). *Number, timing, and duration of marriages and divorces: 2009* (Current Population Reports P70-125). Washington, DC: U.S. Census Bureau.

Krokoff, L. J., Gottman, J. M., & Hass, S. D. (1989). Validation of a global Rapid Couples Interaction Scoring System. *Behavioral Assessment*, *11*, 65–79.

Lawrence, E., Barry, R. A., Brock, R. L., Bunde, M., Langer, A., Ro, E., . . . Dzankovic, S. (2011). The Relationship Quality Interview: Evidence of reliability, convergent and divergent validity, and incremental utility. *Psychological Assessment*, *23*, 44–63. http://dx.doi.org/10.1037/a0021096

Malik, N. M., & Lindahl, K. M. (2004). System for coding interactions in dyads. In P. K. Kerig & D. H. Baucom (Eds.), *Couple observational coding systems* (pp. 173–190). Mahwah, NJ: Erlbaum.

McDaniel, S. H., Doherty, W. J., & Hepworth, J. (2013). *Medical family therapy and integrated care* (2nd ed.). Washington, DC: American Psychological Association.

McGoldrick, M., Gersen, R., & Petry, S. (2008). *Genograms: Assessment and intervention* (3rd ed.). New York, NY: Norton.

Moos, R. H. (1990). Conceptual and empirical approaches to developing family-based assessment procedures: Resolving the case of the Family Environment Scale. *Family Process*, *29*, 199–208. http://dx.doi.org/10.1111/j.1545-5300.1990.00199.x

Murphy, C. M., & Hoover, S. A. (1999). Measuring emotional abuse in dating relationships as a multifactorial construct. *Violence and Victims*, *14*, 39–53.

Olson, D. H., & Olson, A. K. (1999). PREPARE/ENRICH program: Version 2000. In R. Berger & M. T. Hannah (Eds.), *Preventive approaches in couples therapy* (pp. 196–216). Philadelphia, PA: Brunner/Mazel.

Pasch, L. A., Harris, K. W., Sullivan, K. T., & Bradbury, T. N. (2004). The Social Support Interaction Coding System. In P. K. Kerig & D. H. Baucom (Eds.), *Couple observational coding systems* (pp. 319–334). Mahwah, NJ: Erlbaum.

Rathus, J. H., & Feindler, E. L. (2004). *Assessment of partner violence: A handbook for researchers and practitioners*. http://dx.doi.org/10.1037/10685-000

Robles, T. F., Slatcher, R. B., Trombello, J. M., & McGinn, M. M. (2014). Marital quality and health: A meta-analytic review. *Psychological Bulletin*, *140*, 140–187. http://dx.doi.org/10.1037/a0031859

Rolland, J. S. (2012). Mastering family challenges in serious illness and disability. In F. Walsh (Ed.), *Normal family processes: Growing diversity and complexity* (4th ed., pp. 452–482). New York, NY: Guilford Press.

Sabourin, S., Valois, P., & Lussier, Y. (2005). Development and validation of a brief version of the Dyadic Adjustment Scale with a nonparametric item analysis model. *Psychological Assessment*, *17*, 15–27. http://dx.doi.org/10.1037/1040-3590.17.1.15

Schumm, W. R., Paff-Bergen, L. A., Hatch, R. C., Obiorah, F. C., Copeland, J. M., Meens, L. D., & Bugaighis, M. A. (1986). Concurrent and discriminant validity of the Kansas Marital Satisfaction Scale. *Journal of Marriage and the Family*, *48*, 381–387. http://dx.doi.org/10.2307/352405

Shapiro, A. F., & Gottman, J. M. (2004). The Specific Affect Coding System. In P. K. Kerig & D. H. Baucom (Eds.), *Couple observational coding systems* (pp. 191–208). Mahwah, NJ: Erlbaum.

Sillars, A., Roberts, L. J., Leonard, K. E., & Dun, T. (2000). Cognition during marital conflict: The relationship of thought and talk. *Journal of Social and Personal Relationships*, *17*, 479–502. http://dx.doi.org/10.1177/0265407500174002

Slep, A. M. S., Heyman, R. E., Snarr, J. D., & Foran, H. M. (2013). Practical tools for assessing child maltreatment in clinical practice and public health settings. In H. F. Foran, S. R. H. Beach, A. M. S. Slep, R. E. Heyman, & M. Z. Wamboldt (Eds.), *Family problems and family violence: Reliable assessment and the ICD–11* (pp. 159–184). New York, NY: Springer.

Snyder, D. K. (1997). *Manual for the Marital Satisfaction Inventory—Revised*. Los Angeles, CA: Western Psychological Services.

Snyder, D. K., Cepeda-Benito, A., Abbott, B. V., Gleaves, D. H., Negy, C., Hahlweg, K., & Laurenceau, J. P. (2004). Cross-cultural applications of the Marital Satisfaction Inventory—Revised (MSI–R). In M. E. Maruish (Ed.), *Use of psychological testing for treatment planning and outcomes assessment* (3rd ed., pp. 603–623). Mahwah, NJ: Erlbaum.

Snyder, D. K., & Rice, J. L. (1996). Methodological issues and strategies in scale development. In D. H. Sprenkle & S. M. Moon (Eds.), *Research methods in family therapy* (pp. 216–237). New York, NY: Guilford Press.

Snyder, D. K., & Whisman, M. A. (2003). *Treating difficult couples: Helping clients with coexisting mental and relationship disorders*. New York, NY: Guilford Press.

Straus, M. A., Hamby, S. L., Boney-McCoy, S., & Sugarman, D. B. (1996). The revised Conflict Tactics Scales (CTS2): Development and preliminary psychometric data. *Journal of Family Issues*, *17*, 283–316. http://dx.doi.org/10.1177/019251396017003001

Tanaka-Matsumi, J. (2004). Individual differences and behavioral assessment. In S. N. Haynes & E. M. Heiby (Eds.), *Comprehensive handbook of psychological assessment: Vol. 3. Behavioral assessment* (pp. 128–139). Hoboken, NJ: Wiley.

Whisman, M. A., Beach, S. R. H., & Snyder, D. K. (2008). Is marital discord taxonic and can taxonic status be assessed reliably? Results from a national, representative sample of married couples. *Journal of Consulting and Clinical Psychology*, *76*, 745–755. http://dx.doi.org/10.1037/0022-006X.76.5.745

Whisman, M. A., & Snyder, D. K. (2007). Sexual infidelity in a national survey of American women: Differences in prevalence and correlates as a function of method of assessment. *Journal of Family Psychology*, *21*, 147–154. http://dx.doi.org/10.1037/0893-3200.21.2.147

Whisman, M. A., Snyder, D. K., & Beach, S. R. H. (2009). Screening for marital and relationship discord. *Journal of Family Psychology*, *23*, 247–254. http://dx.doi.org/10.1037/a0014476

CHAPTER 12

# CASE FORMULATION AND TREATMENT PLANNING

*Barbara L. Ingram*



The assessment methods described in previous chapters provide psychologists with a wealth of descriptive data about a client, but before proceeding to treatment planning, clinicians need to develop a case formulation: a conceptualization of the client's problems that informs decisions about treatment for the purpose of achieving desired outcome goals.

The growth in popularity of case formulation as a scholarly and clinical topic can be illustrated by searches of the PsycINFO database. Of the 798 articles on the topic at the end of 2013, 61 (8%) were published before 1993, 203 (25%) were published from 1993 to 2003, and 534 (67%) were published from 2004 to 2013. There are a wide variety of books on case formulation from various countries, describing different (often overlapping) clinical approaches.

There is consensus among organizations of mental health professions that case formulation is a required professional competence. A task force of the American Psychological Association includes case formulation in its benchmarks for entry to practice (Fouad et al., 2009), describing it as the ability to "independently and accurately conceptualize the multiple dimensions of the case based on the results of assessment" (p. S18). Similar statements are available from many national and international groups, including the British Psychological Society, American Association for Marriage and Family Therapy, and the Council of Social Work Education, to name a few.

## DESCRIPTIONS AND DEFINITIONS

There is no single agreed-upon definition of a clinical case formulation, but there is consensus on its purpose in clinical practice: to explain the client's problems and provide guidance for treatment planning.

Originally published in 1961, Frank and Frank's (1991) *Persuasion and Healing* identified principles that are inherent in all definitions of case formulations: First, there must be a firm linkage between the conceptualization and the interventions; second, the merit of the treatment plan is evaluated by its effectiveness in resolving the patient's problems. Lazare (1976) defined a clinical case formulation as "a conceptual scheme that organizes, explains, or makes sense of large amounts of data and influences the treatment decisions" (p. 96). Eells (2007) defined case formulation as "a hypothesis about the causes, precipitants, and maintaining influences of a person's psychological, interpersonal, and behavioral problems" (p. 4). Case formulation has been characterized as "an element of an empirical hypothesis-testing approach to clinical work" (Persons & Tompkins, 2007, p. 291) and has as its "whole point . . . the development of interventions that will achieve certain therapeutic goals" (McWilliams, 1999, p. 11).

### Types of Formulations

Interpreting the scholarly literature on case formulations is difficult because different types of formulations are often bundled together. Three distinctions

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should be made: idiographic versus nomothetic, explicit versus implicit, and product versus process.

**Idiographic versus nomothetic.** An idiographic or individualized formulation is created for a specific individual. Nomothetic formulations apply to clients who are members of an identified group. For instance, empirically supported treatments (ESTs) are based on nomothetic formulations and are assumed to fit all people who meet the inclusion criteria, generally a single *Diagnostic and Statistical Manual of Mental Disorders* (*DSM*) diagnosis.

**Explicit versus implicit.** Most psychologists are probably guided by implicit rather than explicit formulations (Pain, Chadwick, & Abba, 2008). The literature on case formulations occasionally asserts that certain schools of therapy, commonly humanistic, eschew formulations; however, all therapists rely on implicit formulations. When case formulation is understood as a conceptual model that explains client problems and leads to treatment decisions, no conscientious therapist would function without one. The alternative to using a formulation is to conduct therapy in ways that the clinician could not explain or justify.

**Product versus process.** *Case formulation* can refer to both a product (e.g., a verbal or written report) and an ongoing process, involving collaboration between therapist and client in defining problems, setting goals, and agreeing on therapy processes that have a rationale that is accepted by the client.

## PRINCIPLES AND APPLICATIONS

Drawing from the literature on case formulations, a fully specified formulation has at least five components: (a) the case information (also called the database or clinical data), which includes collation of information from the clinical interview as well as classification based on assessment methods; (b) the problem definition, or the specification of targets for therapy; (c) outcome goals, the specification of desired client functioning at the termination of therapy; (d) explanatory hypotheses, also called the conceptualization; and (e) treatment plans, the selected interventions for resolving problems and achieving outcome goals.

A source of confusion is that the terms *formulation* and *conceptualization* are often used interchangeably. However, the conceptualization, based on theoretical knowledge, access to the scientific literature, and clinician judgment, is just one component of a formulation. Thus, outcome goals are part of the formulation but are separate from the conceptualization: Clinicians from different theoretical schools should agree on the outcome goals for a clinical case but are likely to differ in their conceptualizations.

### Case Information

The first step of formulating is gathering clinical data, information about the specific client. The previous chapters in this volume addressed methods for gathering and interpreting data at various levels of inference. In the clinical interview, the chief complaint is the client's presenting reason for seeking help, the developmental history is a format for organizing and synthesizing an individual's life story, and the mental status exam is a structured method for describing the client's current psychological functioning. Standardized psychological testing, including personality assessment instruments, can detect underlying dynamics not otherwise evident in the interview or mental status exam, contributing to the quality of the formulation.

An individualized case formulation requires a thorough set of clinical and personal information about the specific client. For nomothetic formulations, which stem from research on efficacy of treatments, the clinical information is largely demographic data and diagnostic information that the researcher defines as inclusion criteria for the study. The developers of the problem-oriented method in both medicine and psychiatry (Fowler & Longabaugh, 1975; Weed, 1971) explain how data fall into two categories: subjective, referring to the client's content (including reports from family members), and objective, referring to data from other (usually professional) sources, including but not limited to the interviewing clinician, psychometric scores, material in the file, medical evaluations, school records, and direct behavioral observations.

Data gathering is guided by, and guides, hypothesis generation (Hallam, 2013; Ingram, 2012);

clinicians intentionally gather data to test a relevant explanatory hypothesis, and their findings will in turn refine their hypotheses. The clinical data should provide information that is relevant to the full range of available clinical hypotheses. It is helpful to have a set of categories or domains that help in achieving as comprehensive and unbiased a database as possible. There are many useful guidelines for doing so, such as outlines for chronological developmental history (Macneil et al., 2012), lists of domains of life functioning (e.g., health, family, sexuality, spirituality, academic, employment, and social relations), and Lazarus's (1981) BASIC ID (behavior, affect, sensation, imagery, cognitive, interpersonal/cultural, and drug/physiological).

Cultural data are necessary for a culturally sensitive formulation—data about the culture that the client is a member of as well as the client's identifications with different cultures, how culture is infused into the client's identity, and the unique contextual factors that influence clinical presentation. The fifth edition of the *DSM* (*DSM–5*; American Psychiatric Association, 2013) provides the following outline of cultural topics along with a structured questionnaire: cultural identity of the individual, cultural conceptions of distress, psychosocial stressors and cultural features of vulnerability and resilience, cultural features of the relationship between the individual and the clinician, and overall cultural assessment. Instead of using the questionnaire, the clinician can guide the interview toward these topics and follow up the client's free storytelling with appropriate probes.

In the data-gathering process, clinicians should pay attention to potential barriers to treatment (e.g., missing sessions, refusal to work in therapy, and noncompliance with homework) rather than wait to implement treatment to discover such barriers. At the same time, clinicians should identify the individual's assets, strengths, and resources, including those that would favor one type of treatment over another, and determine suitability for a particular form of treatment.

## Problem Definition

The task of accurately defining problems—putting into words the targets for treatment—is an essential step in case formulation. This task is broader than assigning a diagnosis and is different from offering a title for a theoretical conceptualization. The title created for the problem will ideally be free of theoretical jargon or explanatory concepts: Clinicians from all theoretical frameworks can agree on the title of the problem and the fact that it is consistent with the client's experience. For instance, "difficulty establishing close, secure, intimate relationships" is a problem title, whereas conceptualization titles could be "insecure attachment style," "consequences of early childhood trauma," or "core schema of unlovability." Cultural competence is important for the problem definition process: Certain behaviors (e.g., communicating with spirits) may not be problematic from the perspective of the client's culture.

Research on the quality of case formulations by psychodynamic and cognitive–behavioral therapists has determined that therapists with the highest quality formulations start with problem lists (Eells, 2010). Creating a useful problem list involves "lumping" (combining multiple problems under one title) and "splitting" (separating elements of an initial problem definition into two separate targets for treatment; Fowler & Longabaugh, 1975). Splitting and providing a separate title is recommended for problems that require urgent interventions, such as suicidal or homicidal risk. An example of how to move from personality disorder labels to a problem list comes from Linehan's (1993) description of problems of people diagnosed with borderline personality disorder: poor emotional regulation, lack of stable positive relationships, self-injurious behaviors (specified), and low distress tolerance. When a client has more than one problem, problems must be prioritized. Defining a problem leads to specification of goals; sometimes goal setting comes first and helps the clinician define a problem.

## Outcome Goals

Outcome goals describe how the client will be functioning when the problems are resolved; they serve in part as the criteria for termination of therapy. Good goals are realistic and attainable, under the client's control, capable of being verified with evidence, and not likely to create new problems in

other systems of the client's life. McWilliams (1999), from a psychodynamic orientation, described goals in terms of internal functioning but specified them in ways that would be verifiable, such as increased sense of agency or identity, effective coping with stress, realistically based self-esteem, improvement in the ability to handle feelings, and an increase in the experience of pleasure and serenity. Research has demonstrated that therapist and client consensus on treatment goals, along with collaboration in their prioritization, improves the effectiveness of psychotherapy (Tryon & Winograd, 2011).

It is important to understand the distinction between outcome goals and process goals. Outcome goals refer to desired client functioning outside of therapy sessions at the end of treatment; process goals refer to client or therapist behavior inside the therapy room during treatment. These two types of goals are often mingled, detracting from clarity of the formulation. This may happen when outcome goals are not treated as a separate component but addressed within the discussion of the conceptualization or the treatment plan (e.g., Berman, 2010; Eells, 2013). In research on case formulations, one would expect that, when given standard case material, representatives of different theoretical orientations should achieve reliability in identifying outcome goals but would propose different process goals for achieving those outcomes.

Outcome goals can fall into various categories such as full remission, reduction of symptoms, improvement of functioning, and prevention of relapse. For people living with chronic conditions, the recovery movement provides a range of appropriate goals: managing one's disease; living in a physically and emotionally healthy way; a stable and safe place to live; meaningful daily activities, such as a job, school, volunteerism, family caretaking, or creative endeavors; the independence, income, and resources to participate in society; and relationships and social networks that provide support, friendship, love, and hope. Goals can also represent improvement beyond the client's prior best level of functioning: new resources and skills, greater maturity, and attainment of higher levels of satisfaction.

## Explanatory Hypotheses

In the literature on case formulations, many writers treat the expression of a conceptualization as the entire formulation. However, unless they link the conceptualization to desired outcome goals and frame it as hypotheses to be tested by implementation of the prescribed interventions, it is impossible to evaluate the effectiveness of the formulation process.

To avoid tunnel vision in conceptualizing client problems, it is advisable to test multiple explanatory hypotheses and use multiple lenses (Eells, 2009; Ingram, 2012). Ideally, the clinician draws from his or her knowledge base, including research evidence on treatments, psychopathology, neurobiology, and nonclinical branches of psychology, such as developmental and social psychology. It is also necessary to exercise clinical judgment and consider client factors that would support the utility of one hypothesis over another. Explanatory factors tend to fall into these categories: predisposing (distal causal conditions), precipitating (proximal causal conditions), perpetuating (maintaining), and protective. These categories provide useful structures for a case formulation, but they must be fleshed out with content from specific explanatory hypotheses. The content of multiple explanatory models is described in the Major Models of Formulation section of this chapter, below. Table 12.1 presents a list of explanatory hypotheses (Ingram, 2012).

## Treatment Plan

The end product of an individualized case formulation is the creation of a treatment plan, designed for a specific individual, with the purpose of attaining the specified outcome goals. A best-practice treatment plan tailors to a specific client, attends to cultural diversity and relationship factors, focuses on achieving outcome goals, follows logically from explanatory hypotheses, and is appropriate to the treatment setting and financial constraints. When there is more than one problem, the treatment plan addresses priorities and integration of treatment ideas. Most important, plans are selected in collaboration with the client. Treatment plans typically contain the following elements.

TABLE 12.1

Thirty Core Clinical Hypotheses

| Name | Description |
|---|---|
| **Crisis, Stressful Situations, Transitions, and Trauma (CS)** | |
| Emergency | The client presents an **Emergency**: Immediate action is necessary. **(CS1)** |
| Situational Stressors | The problem results from identifiable recent **Situational Stressors. (CS2)** |
| Developmental Transition | The client is at a **Developmental Transition**. **(CS3)** |
| Loss and Bereavement | The client has suffered a **Loss and** needs help during **Bereavement**, or with loss-related adjustment. **(CS4)** |
| Trauma | The client has experienced **Trauma**. **(CS5)** |
| **Body and Emotions (BE)** | |
| Biological Cause | The problem has a **Biological Cause**. **(BE1)** |
| Medical Interventions | There are **Medical Interventions** that should be considered. **(BE2)** |
| Mind-Body Connections | An understanding of **Mind-Body Connections** should guide treatment choice. **(BE3)** |
| Emotional Focus | The problem requires an **Emotional Focus** to help the client improve awareness, acceptance, understanding, expression, and regulation of feelings. **(BE4)** |
| **Cognitive Models (C)** | |
| Metacognitive Perspective | The client would benefit from taking a **Metacognitive Perspective. (C1)** |
| Limitations of Cognitive Map | **Limitations of** the client's **Cognitive Map** (e.g., beliefs, schemas, and narratives) are causing the problem or preventing solutions. **(C2)** |
| Deficiencies in Cognitive Processing | The client demonstrates **Deficiencies in Cognitive Processing,** such as errors of logic, poor reality testing, and an inflexible cognitive style. **(C3)** |
| Dysfunctional Self-Talk | The problem is triggered and/or maintained by **Dysfunctional Self-Talk**. **(C4)** |
| **Behavioral and Learning Models (BL)** | |
| Antecedents and Consequences | The treatment plan should be based on an analysis of **Antecedents** (triggers) **and Consequences** (rewards and punishments). **(BL1)** |
| Conditioned Emotional Responses | **Conditioned Emotional Responses** explain the emotional distress or maladaptive avoidant behaviors. **(BL2)** |
| Skill Deficits | The problem stems from **Skill Deficits** or the lack of competence in applying skills, abilities, and knowledge to achieve goals. **(BL3)** |
| **Existential and Spiritual Models (ES)** | |
| Existential Issues | The client is struggling with **Existential Issues,** such as the search for meaning, self-actualization, and connection. **(ES1)** |
| Freedom and Responsibility | The client is facing the challenges of **Freedom and Responsibility,** and may need support in making good choices, commitments, and self-directed action plans. **(ES2)** |
| Spiritual Dimension | The problem's causes and/or solutions are found in the **Spiritual Dimension** of life, which may or may not include religion. **(ES3)** |
| **Psychodynamic Models (P)** | |
| Internal Parts | The problem can be explained in terms of **Internal Parts** that need to be understood, accepted or modified, and coordinated. **(P1)** |
| Recurrent Pattern | A **Recurrent Pattern,** possibly from early childhood, is causing pain and preventing satisfaction of adult needs. **(P2)** |
| Deficits in Self and Relational Capacities | The client demonstrates **Deficits in Self and Relational Capacities** and seems to be functioning at the maturity level of a very young child. **(P3)** |
| Unconscious Dynamics | The problem can be explained in terms of **Unconscious Dynamics**, frequently with reference to defense mechanisms. **(P4)** |
| **Social, Cultural, and Environmental Factors (SC)** | |
| Family System | The problem must be understood in the context of the entire **Family System. (SC1)** |
| Cultural Issues | **Cultural Issues** must be directly addressed for problems related to cultural group membership (e.g., ethnic group, sexual orientation, minority status), acculturation, cultural identity, and intercultural conflicts. **(SC2)** |
| Social Support | The problem is either caused or maintained by deficiencies in **Social Support. (SC3)** |
| Social Roles and Systems | The problem can be understood in terms of the client's **Social Roles and** the impact of **Social Systems. (SC4)** |

(*continues*)

TABLE 12.1 (*Continued*)

**Thirty Core Clinical Hypotheses**

| Name | Description |
|---|---|
| Social Problem Is a Cause | A **Social Problem** (e.g., discrimination, an unfair economic system, or social oppression) **Is a Cause,** and we should avoid blaming the victim. **(SC5)** |
| Social Role of Patient | The problem is related to disadvantages or advantages of the **Social Role of** either a medical or psychiatric **Patient. (SC6)** |
| Environment | Attention should be directed towards the material and natural **Environment:** Solutions can involve modifying it, leaving it, obtaining material resources, or accepting what cannot be changed. **(SC7)** |

*Note*. From *Clinical Case Formulations: Matching the Integrative Treatment Plan to the Client* (2nd ed., pp. 414–415), by B. L. Ingram, 2012, Hoboken, NJ: Wiley. Copyright 2012 by John Wiley & Sons, Inc. Reprinted with permission.



**Strategies.** A strategy can refer to the overall treatment model, such as cognitive–behavioral therapy, short-term psychodynamic therapy, solution-focused therapy, dialectical behavior therapy, or a description of an integrated approach. The selection of a specific format or setting (e.g., inpatient vs. outpatient or family vs. individual therapy) is an element of the strategy.

**Process goals.** These goals entail in-session behaviors of client and psychologist, including cultural adaptations and promotion of common factors (Duncan et al., 2010) such as building a positive alliance with the client and promoting positive client expectations. Process goals attend to the patient's stage of change (precontemplation, contemplation, preparation, action, and maintenance) and may fall into categories of consciousness raising, self-reevaluation, emotional arousal (or dramatic relief), social liberation (forms of empowerment and advocacy), and self-liberation (choosing and committing; Prochaska, Norcross, & DiClemente, 2013). Beutler (1983) described the following categories of process goals: insight enhancement, perceptual (cognitive) change, emotional awareness, emotional escalation, emotion reduction, and behavioral control and skill development. Beutler and Harwood (2000) described process goals in terms of level of intensity, focus on insight versus behavior change, variations in directiveness, and management of affect.

Whereas those frameworks are helpful for describing process goals in abstract terms, in clinical practice, process goals need to describe desired in-session experiences and activities, creating a bridge between the explanatory hypothesis and the treatment plan. For instance, if the explanatory hypothesis is "dysfunctional self-talk," the process goal is "develop alternative self-talk"; for a "skill deficit" explanatory hypothesis, the process goal is "build skills"; and for the psychodynamic hypothesis that the client "disowns an unacceptable part of the self," the process goal would be "facilitate awareness of and integration of the disowned part." Process goals are best worded with verb phrases that refer to the therapist's intentions or to the client's experiences.

**Intermediate objectives.** These objectives are short-term goals that are steps toward achieving outcome goals. Process goals and intermediate objectives can overlap. For instance, if the outcome goal is for the client to be appropriately assertive with his boss and coworkers, an intermediate objective and process goal might be for the client to role-play an assertive encounter in the session.

**Specific therapeutic behaviors.** The treatment plan specifies what the therapist will be doing (and not doing) in therapy; it includes the terms *technique, therapist behavior, relationship condition,* or *procedure*. Meta-analyses and critical reviews of the research on cultural adaptation of health interventions have recommended specific therapist behaviors, such as including cultural content, speaking the client's native language, and engaging cultural consultants (Barrera et al., 2013; Griner & Smith, 2006).

**Plan for monitoring progress.** The implementation of the plan must be accompanied by the process of gathering data on the client's improved functioning outside of therapy, or lack thereof. The psychologist may gather these data in an informal, unstructured way (e.g., listening to client self-report and inviting specific types of anecdotes) or through formal outcome management systems (e.g., Lambert & Shimokawa, 2011; Miller et al., 2005), which use brief questionnaires to solicit information from the client on both outcomes and the relationship. These data provide evidence of the effectiveness of the treatment plan and the formulation it is part of; they contribute to refinement or revision of the conceptualization if positive therapeutic change is not occurring (Eells, 2007).

## MAJOR MODELS OF CASE FORMULATION

Psychologists have a broad array of models to use to explain clients' problems and describe rationales for chosen treatments.

### Biological Formulations

Biological formulations are used when the problems result from a known medical disease (e.g., Alzheimer's); are related to a physical condition (e.g., brain trauma); are caused by abuse of substances; or are known to be treatable by medication, even when biological etiology is not certain. Biological hypotheses are also appropriate when there is evidence of genetic transmission or biological markers (e.g., brain abnormalities) that may predict treatment response (Sperry et al., 1992). The emerging field of behavioral epigenetics (Lester et al., 2011) will increase knowledge of how environmental influences (including perinatal factors and child abuse) affect genetic inheritance, with implications for prevention as well as treatment.

### Stress and Trauma Formulations

The causative role of stress and trauma—ranging from the predictable stress of normative life transitions to the trauma of catastrophic events—is widely recognized in clinical formulations as well as in the explanatory frameworks of laypeople. Selye (1956) popularized the definition of physiological stress as a response to any type of demand made on the adaptive capacity of the body. Understanding of psychological responses to stress is informed by knowledge of animals' strategies for dealing with danger (fight, flight, freeze, appease; Marks, 1987).

The term *diathesis* (tendency to suffer) addresses individual differences in the degree of emotional distress and the presence or absence of symptoms and impairments among individuals exposed to the same intensity of stressor. The explanatory hypothesis is that stress activates a diathesis, transforming a predisposition or vulnerability into the presence of psychopathology (Monroe & Simons, 1991). The hyperarousal of the stress response is a normal part of life, as long as it is temporary; however, people who live in a chronic state of stress never return to the normal physiology of nonthreat states and are therefore at risk for medical illness as well as harmful epigenetic changes. Concepts addressed in this conceptualization include classification of stressors (e.g., chronic vs. acute, desirable vs. undesirable, major vs. minor), specification of predisposing conditions (including risk and protective factors), and evaluation of coping responses (both defensive and adaptive).

Theories of crisis and crisis intervention (see Chapter 20, this volume) explain that the individual is experiencing an understandable response to stressors that exceed the current capacity to cope effectively and that he or she will be protected from developing long-lasting pathology by prompt and directive interventions (Caplan, 1964). Crises fall into two categories—situational and developmental—and factors that either increase or buffer against the severity of the crisis include perceptions of event and self, coping mechanisms, and quality of social support (Aguilera, 1998). Another framework for understanding stress is a *life transition*, an event or nonevent (something desired that does not occur) that results in emotional, cognitive, and behavioral challenges (see Chapter 21, this volume). Loss, particularly the death of a loved one, is a severe stressor, and when it is the precipitating event of a client's distress and dysfunction, using it as an explanatory concept seems self-evident. The conceptualization would address stages of grieving on the basis of the client's individual experience, tasks of grieving, meaning-making, and cultural norms.

In recent years, the effects of trauma have been widely studied, and trauma is now viewed as qualitatively different from, not just more severe

in intensity than, the expected stressors of life (McNally, 2005; Van der Kolk, McFarlane, & Weisaeth, 2006). Necessary data for a trauma conceptualization include identification of the external event that affected the individual (e.g., disasters, war, criminal violence) and assessment of the individual: subjective threat level, personal vulnerabilities, coping strategies, cognitive factors, social support, and prior trauma history. The explanatory role of trauma belongs in the formulation when trauma precipitated the current symptoms, the client meets diagnostic criteria for posttraumatic stress disorder, or vulnerabilities result from earlier trauma.

## Behavioral Formulations

Behavioral assessment is a set of assessment procedures for conducting a functional analysis of problems, informed by knowledge of classical and operant conditioning and social learning theory. The end result of these procedures is a formulation that contains the following: definition of both problem and desired behaviors; identification of antecedents, consequences, and potent reinforcers; clarification of social and cultural supports; specification of the sequences of antecedents, organismic variables (e.g., feelings and cognitions), behavior, and consequences; statements of hypotheses of specific contingencies that maintain behavior; and design of an intervention plan based on scientific principles of behavior change. When the desired behavior is not in the client's repertoire, then a skill deficit formulation is appropriate.

Many ESTs for specific disorders contain an underlying behavioral formulation. For instance, the empirical evidence that exposure is an effective ingredient in the treatment of phobias and panic disorders is strong (Barlow, 2014). Exposure is based on principles of classical conditioning: For extinction to occur, the individual must be kept in contact with the conditioned stimulus and prevented from avoidance or escape. Behavioral activation, a treatment for depression, is based on the hypothesis that increased positive reinforcement from the environment will result in positive affect and a sense of mastery (Lewinsohn et al., 1984).

## Cognitive Formulations

The most widely known cognitive models are cognitive–behavioral therapy and Beck's cognitive therapy. However, cognitive hypotheses appear in many other theoretical frameworks, such as narrative therapy, Adlerian therapy, and attachment theory. Cognitive formulations usually address automatic thoughts, also called self-talk, which are part of the client's conscious internal monologue, and maladaptive schemas, which are implicit assumptions, beliefs, and rules that can be inferred from thoughts, emotions, and behaviors. Maladaptive schemas often stem from early experiences and fall into various categories, including self-appraisal (e.g., "I'm worthless") and expectations for others ("I will inevitably be abandoned or rejected"; Young, 1999). Beck and colleagues (e.g., Beck, Freeman, & Davis, 2003) described the underlying schemas of mental disorders and specific problems. For instance, anxiety is commonly associated with the assumption of impending physical or psychological danger. Many approaches to cognitive formulation include diagrams that are created in collaboration with the client and show the connections among thinking, feeling, and behaving.

Cognitive formulations attend to the processes as well as the content of thought. The term *faulty information processing* refers to the client's errors in thinking, which confirm faulty assumptions, create self-fulfilling prophecies, and prevent accurate reality testing. Clients may lack the ability to take a metacognitive perspective, and they need to realize that their thoughts are not truth and that they can choose whether to believe or even listen to them. Many problems can be explained as stemming from poor cognitive skills in areas such as problem solving, logical reasoning, decision making, and mentalizing (the ability to speculate about the internal processes of other people and recognize that they have different perspectives).

## Psychodynamic Formulations

The term *psychodynamic* embraces all theories that trace their origins to Freud and his colleagues, including object relations, self-psychology, and interpersonal therapy. Traditionally, psychodynamic treatment was very lengthy, but recently there has

been development of empirically supported short-term psychodynamic treatments. Whereas long-term therapy is guided by a narrative formulation that provides "a coherent, comprehensive, plausible, and we hope accurate account" (Messer & Wolitzky, 2007, p. 74) of personality development and current functioning, short-term psychodynamic approaches (Levy & Ablon, 2009) each describe a clear conceptual model to guide the clinician's clinical focus, resulting in significant client change in a time-limited format. Despite the complexity and diversity of psychodynamic theories, the core explanatory hypotheses can be substantially described in four categories.

**Unconscious conflict.** The client's current difficulties stem from unconscious dynamics. Defense mechanisms keep wishes, fears, and painful affects out of conscious awareness. Partial gratification of unacceptable wishes is achieved through compromise formations, which can be both adaptive (career choice and achievement) and maladaptive (symptoms and unsatisfying relationships). Patient problems are thus conceptualized in terms of painful affect, defense, and warded-off experiences.

**Reenactment of relationship patterns.** Templates of future relationships are created in childhood; the repetition of old patterns is often viewed as an attempt to heal old wounds and achieve mastery and control. Clients enact these patterns with the therapist, a process called transference. As an example, time-limited dynamic psychotherapy (e.g., Levenson & Strupp, 2007) conceptualizes clients' problems as cyclical maladaptive patterns or conflictual relationship themes.

**Developmental arrest.** The client's severe problems in emotional regulation, self-management, and interpersonal functioning stem from his or her immature level of self and relational capacities. Clients who function at low levels of development (often labeled *narcissistic* or *borderline*) use others to fulfill self functions (e.g., soothing painful affects and maintaining self-esteem) and lack the capacity for empathy. Decisions about the suitability of this hypothesis is based on developmental diagnosis, using data from both the client's stories and the type of transference the client develops with the therapist.

**Conscious internal parts.** Whereas Freud's model of personality structure (id, ego, superego) included unconscious elements, several theories with psychodynamic roots emphasize conscious internal parts or subpersonalities. For instance, transactional analysis identifies ego states (adult, free child, adapted child, critical parent, and nurturing parent). Conflicts among parts of the personality contribute to distress and dysfunctional behavior.

### Humanistic–Existential Formulations

A variety of psychotherapy approaches fall into this category, including the person-centered therapy of Carl Rogers, the focusing approach of Eugene Gendlin, the existential therapy of Rollo May, and the experiential therapy of Leslie Greenberg. Each of these theoretical models has explanatory hypotheses that justify the therapist's strategy, process goals, and behaviors. For instance, Rogers's (1995) hypothesis is that clients would function more effectively if they could access and experience their true feelings and desires; that hypothesis justifies the use of therapist behaviors that move the client toward "the full and undistorted awareness of his experiencing—of his sensory and visceral reactions" (pp. 81–82). Simms's (2011) person-centered formulation traces the development of the client's difficulties to conditions of worth laid down in childhood, introjected values and beliefs, denial and distortion of experience, and a state of incongruence.

### Spiritual Formulation

Many clinicians recommend using a spiritual lens to formulate client problems, while ensuring that they maintain a boundary between therapy and religion. One such example is the formulation of the depression of former military combatants as a consequence of moral injury, defined as "perpetrating, failing to prevent, bearing witness to, or learning about acts that transgress deeply held moral beliefs and expectations" (Litz et al., 2009, p. 700).

### Social–Cultural Formulations

The previous formulation models maintain a primary focus on the individual while attending to the contributory role of family and social relations.

In this section, we address those models that put the main focus on the social and cultural contexts in which the individual is embedded.

**Family systems formulation.** The family system model puts the focus on the family or couple, coining the term *identified patient* as a reminder that the locus of pathology does not reside within the individual who presents with symptoms; instead, the whole family is the patient. The core of this formulation is that an individual's problems can be understood as a function of family dynamics (e.g., communication patterns, faulty hierarchies, or triangulation of a child into parents' conflict). Prominent explanatory concepts within this formulation include circular causality (problem-maintaining patterns and feedback loops), a transgenerational transmission process, and the family's level of differentiation (toleration for separateness and autonomy). A systemic formulation is highly valued when a child is presented for treatment. An example of an explanatory hypothesis is that the child's difficulty (e.g., depression, learning problems, aggressive behavior) serves the function of protecting the parents' marriage.

**Cultural formulation.** The *DSM–5* has three categories of cultural concepts of distress that can clarify symptoms and etiological attributions: cultural syndromes, cultural idioms of distress, and cultural explanations or perceived causes. Use of a cultural formulation outline has been reported to enhance the quality of clinical case formulation in multidisciplinary case conferences (Dinh et al., 2012). Examples of common cultural hypotheses include internal or external conflicts from membership in multiple cultural groups, acculturative stress, different levels of acculturation or conflicting cultural values within a family, and stressors from cultural norms.

**Social injustice.** An important hypothesis is that faults in the social system, such as economic disparities and discrimination, play a causal role in the client's difficulties. In *Blaming the Victim,* Ryan (1976) warned mental health professionals against formulations that view the victims of social injustice as causing their own problems, such as when one attributes the low achievement of a client from a low-income, high-crime neighborhood to internal factors such as lack of work ethic. Conceptualizations that recognize the etiological role of prejudice and social injustice include internalization of the culture's homophobia (Pachankis & Goldfried, 2004) and the stressful effects of microaggressions, the everyday slights, insults, indignities, and denigrating messages sent by people who are unaware of the hidden messages being communicated (Sue et al., 2007).

**Other social explanations.** Clinicians can draw from nonclinical branches of psychology (e.g., social, organizational, ecological, and environmental) and other social sciences (e.g., sociology, anthropology, and political science) to understand how explanations for behavior can be found in the client's social and environmental context. The construct of social support is already widely recognized as a part of case formulations; the presence of social support is a protective factor, and the lack of social support is a risk factor for a wide range of symptoms and problems. Social systems and institutions (e.g., employment; schools; the legal and judicial systems; and health, safety, and social services) can have causal roles in problems or provide barriers to effective treatment. Explanations for problems can include the construct of social role and incorporate terms such as role confusion, role strain, role conflict, and role overload. Clients can also inhabit stigmatized social roles, such as mental patient, person diagnosed with HIV, or ex-convict. Both environmental and ecological psychology provide explanations for distress and dysfunction that locate causes and solutions in the natural and material environment—hence the explanatory hypothesis that the client is living in an unsuitable environmental niche.

## Integrative Formulations

An integrative approach to formulation involves the combination of explanatory ideas from the different theories; research has indicated that such an integrative formulation is the modal orientation of English-speaking psychotherapists (Norcross, 2005). As an example, Wachtel's cyclical psychodynamics (Wachtel, Kruk, & McKinney, 2005) addresses the origins of problematic patterns with

psychodynamic theory and then applies behavioral and family systems models to explain how problematic behaviors are triggered and maintained in current social and cultural contexts. For instance, a client's test anxiety was conceptualized in terms of defensive reactions to his family's status pressures, requiring insight-oriented work, and then the technique of desensitization was implemented, based on the behavioral concept of conditioned anxiety.

In another approach to integrative formulation, Ingram (2012) developed a list of 30 core clinical hypotheses (see Table 12.1) to facilitate the integration of ideas from biological, stress and trauma, cognitive, behavioral, psychodynamic, humanistic–existential, spiritual, family systems, and sociocultural perspectives. The list was developed through stages over several decades: unpacking theories of psychotherapy and ESTs to identify core explanatory ideas, testing the sufficiency of the list by examining new developments in psychotherapy (e.g., mindfulness-based treatments), and refining the list through feedback from experts in the field. Through a selective combination of hypotheses, the clinician creates a formulation that serves as a minitheory (Lambert, Garfield, & Bergin, 2004) for a specific problem.

## MAJOR ACCOMPLISHMENTS

A major accomplishment is that clinical case formulation skills are now widely recognized as a core competency by the professional organizations of psychologists and other mental health professionals. Another accomplishment is an emerging consensus on criteria for evaluating the quality of case formulations: comprehensiveness and breadth, high degree of elaboration of formulation and treatment plan, precision of language, complexity, coherence, goodness of fit between the treatment plan and the rest of the case formulation, and use of a systematic process (Eells, 2010; Vertue & Haig, 2008).

Furthermore, good formulations organize and integrate clinical data, are explanatory, provide guidance for therapy, and address therapist–client aspects of a case (Sim, Gwee, & Bateman, 2005). Eells (2013) found that the best formulating involves inductive reasoning, moving from data to inference to treatment ideas, rather than backward reasoning—starting from hypothesis or solution and then searching for supporting data.

Previous sections of this chapter have suggested standards of quality: The clinical data should be thorough and unbiased; standardized assessment instruments should contribute data, when possible; problem definitions need to be accurate and culturally sensitive; outcome goals must be relevant, achievable, verifiable, and endorsed by the client; choice of explanatory hypotheses should be informed by scientific principles, research evidence, and clinical judgment; and treatment plans must be linked to hypotheses and tailored to the specific client. There is growing appreciation of the importance of developing formulations in collaboration with clients, with attention to the client's perspective and experience. Guidelines for the evaluation of the quality of case formulations are available in rubrics and checklists (British Psychological Society, 2011; Eells et al., 2005; Ingram, 2012).

Another accomplishment is the growing and instructive research on case formulations (e.g., Eells, 2013; Kuyken, Padesky, & Dudley, 2009). Not surprisingly, researchers have found that expert clinicians (classified by experience and reputation) produce formulations that are superior to those of trainees or therapists with a lower level of expertise (Eells et al., 2005; Mumma & Mooney, 2007). The literature has shown that formulations improve in quality when clinicians receive training in a specific formulation model (Abbas et al., 2012; Kendjelic & Eells, 2007; Levenson & Strupp, 2007).

Many studies have compared formulation-guided and manual-guided therapy, with mixed results. Individualized or clinically flexible versions of a manualized treatment produce superior results for children with behavior disorders of children (Schneider & Bryne, 1987), marital distress (Jacobson et al., 1989), and bulimia nervosa (Ghaderi, 2006). For treatment of obsessive–compulsive disorder, no difference was found between standardized treatment and treatment based on individualized functional analysis (Emmelkamp, Bouman, & Blaauw, 1994). Manualized therapy was found to be better for treating phobias than therapy individualized by clinicians

(Schulte & Eifert, 2002). In that study, clinicians in the comparison group did not use exposure treatment, which has strong empirical support for treating phobias. The implication of these results is that an individualized formulation needs to be informed by the scientific research literature to attain a level of quality equal to or surpassing a nomothetic formulation. The conclusion from a review of the inconsistent findings is that individualized case formulations are likely to be most beneficial for patients with complex problems and multiple comorbidities and that for simple cases, the EST may be sufficient (Kendjelic & Eells, 2007).

Another accomplishment in case formulation is research on the reliability of formulations. Clinicians trained in the same theoretical model have been found to agree on some but not all elements of a formulation, with reliability being higher for descriptive components of the formulation than for more inferential processes (Bieling & Kuyken, 2003). This finding is consistent with the view that certain elements of a formulation (e.g., clinical data, problem definition, and outcome goals) are relatively free of theory and can therefore be described with interrater reliability, whereas the content of the conceptualization, based on both theoretical orientation and level of clinical experience, is expected to vary. Whereas many reliability studies use clinical vignettes, some researchers are using clinical material from intake evaluations and patient charts (Kendjelic & Eells, 2007) or from review of videotaped sessions with patients (Berthoud et al., 2013). These methods bring case formulation research into actual clinical practice.

A greater emphasis on teaching case formulation skills in graduate courses and clinical supervision is another important accomplishment. There is evidence of innovative methods being used in the training of case formulation skills. For instance, Caspar, Berger, and Hautle (2004) described a computer-assisted procedure for training students to recognize clinically important information in intake interviews; the computer program provides instant feedback and gives students the opportunity to immediately improve performance. Simulated patients and actors in clinical training can teach students to write both single-orientation and integrative formulations (Osborn, Dean, & Petruzzi, 2004).

## LIMITATIONS OF CASE FORMULATIONS

The lack of agreement on the components of a case formulation is an obstacle to advances in practice, research, and training. The literature on case formulations has shown tremendous diversity in the definitions, processes, and standards being used in both research and practice. To demonstrate their effectiveness and utility, clinical formulations need to contain empirically testable hypotheses and prescriptions for treatment (Schacht, 1991), with outcome goals specified in language that permits verification of successful outcomes. Unfortunately, few approaches to case formulation meet these standards.

Other limitations stem from confusion and controversy over the relationship of assessment and formulation. The use of standardized assessment instruments contributes valuable data, informing the psychologist's choice of conceptualization and treatment plan. For example, Beutler and Harwood (2000) described how treatment dimensions such as directiveness, intensity, and management of affect can be prescribed on the basis of the results of assessment instruments. Critics of current developments in case formulation point to the reluctance of clinicians to use the results of standardized tests in creating formulations and lament that clinical data are collated without regard to its quality, with information derived from measures with high reliability and validity receiving the same weight as other types of data.

Another limitation is that the use of case formulations is unsupported in the policies and procedures of the mental health establishment. In clinical records, psychiatric diagnosis is mandatory, but the explanatory and prescriptive elements of case formulations are typically omitted. Currently, intake forms and charting procedures in mental health centers require statements of problems, goals, and treatment plans but provide little or no space for explanatory hypotheses that give the rationale for treatment choice. Although graduate students are learning to formulate in courses and supervision, the

products of their formulating are not being entered into the official records. Until there is consensus among professional organizations regarding the necessary components of a case formulation, there will be no changes in mandatory clinical record keeping. Also, until formulation elements are included in electronic patient records, there will be limitations on systematic research on the effectiveness of a comprehensive case formulation.

## FUTURE DIRECTIONS

Significant progress in the use of case formulations will result when we build bridges between manualized and individualized formulations, increase the use of standardized test results to inform case formulation, improve clinical training in case formulation skills, and build a professional pool of knowledge from clinical work based on individualized formulations.

### Bridge Manualized and Individualized Formulations

As a profession, psychology is making substantial progress in overcoming the chasm between researchers and practitioners. We need to move further in overcoming the false dichotomy between manualized therapy and therapy guided by individualized formulation. To produce the best individualized formulations, clinicians need to access the scholarly literature on treatment effectiveness, which is built on the use of manualized protocols. Furthermore, it is now well established that manuals have to be individualized in clinical practice: Rigid adherence to protocols frequently results in a lack of individual and cultural sensitivity and neglect of the therapist–client relationship.

In the future, developers of manualized ESTs will offer specific guidelines for considering individual, familial, and cultural differences in clients. G. M. Rogers, Reinecke, and Curry (2005) did just that, in the cognitive–behavioral therapy manual developed for the Treatment for Adolescents With Depression Study, by including instructions on how to tailor the treatment to the needs of the patient, facilitate rapport building, and respond with sensitivity to obstacles encountered in treatment. They accomplished this by using modules (required or optional and individual or family), giving clinicians control over selection and sequencing of modules, and ensuring that testing and revising of formulations can occur throughout treatment. When clinicians recognize that their judgment and expertise are respected by the developers of ESTs, they will be more likely to integrate the use of manuals into their practice.

### Increase Use of Standardized Test Results

Another manifestation of the gap between research and practice is the neglect of psychometric instruments by many practitioners. In the graduate curriculum and practicum placements, assessment is taught separately from psychotherapy, yet the use of standardized tests can produce useful data for the case formulations that guide therapy. By using standardized assessment instruments with high levels of reliability and validity, clinicians can reduce their biases and tunnel vision. Moreover, standardized tests can provide tools for categorizing clients that may be more useful than psychiatric diagnoses. Instruments that classify the client's attachment style or maladaptive schemas can lead more rapidly and effectively to explanatory hypotheses than many hours of clinical interviewing. Beutler and Harwood (2000), in developing their prescriptive psychotherapy, provided a model of how to use results from standardized tests for systematic selection of therapeutic approaches.

### Improve Clinical Training

There is broad agreement that case formulation is a required professional competence and that training programs should be integrating this skill into their academic curriculum and supervised clinical training. In the future, case formulation skills will be more frequently taught and learned. The large increase in the number of texts and journal articles on this subject gives us hope that this deficiency is being remedied. We will benefit from increased understanding of trainees' stages of development. As students progress through training, their conceptualizing (applying theory to client) progresses from applying externally defined concepts to a flexible

and innovative process that is informed by clinical experience (Betan & Binder, 2010). Using a developmental model, exposure to formulation skills should occur early in training, through diverse case examples and study of verbatim dialogue from sessions. Then, in advanced courses and supervision, students will gain experience developing cognitively complex formulations that meet high standards of quality.

## Build a Professional Pool of Knowledge

Psychologists using and teaching individualized formulations need a way to build and access a professional pool of knowledge. To begin to meet this need, an online journal, *Pragmatic Case Studies in Psychotherapy,* publishes case studies followed by critical commentaries by experts. The author of the case is given rigorous methodological guidelines, with required sections on assessment, case formulation, and treatment plan (Fishman, 2005). To facilitate the generalization of results from therapy guided by individualized formulations, the use of standard outcome measures and incorporation of diagnosis into the formulation process is recommended.

It would also be useful if case study reports specified the markers in the clinical data that influence choice of explanatory hypotheses. For instance, if a patient presents with anxiety, how would a psychologist decide whether to use a cognitive formulation, with interventions to reduce emotional distress, or a psychodynamic formulation, with interventions that would temporarily increase emotional distress as the client experiences the painful affect that has been warded off with defense mechanisms? At this time, psychologists are largely guided by their training in a preferred orientation. In the future, it would be desirable to have evidence-supported decision trees to guide choices.

The American Psychological Association Presidential Task Force on Evidence-Based Practice (2006) proposed that "the clinically expert psychologist is able to formulate clear and theoretically coherent case conceptualizations" (p. 276). By developing a systematic corpus of knowledge based on clinicians' case formulations, we will be moving toward best-practice guidelines that use both scientific evidence and clinical expertise. In the future, we predict (and hope) that psychologists will recognize that case formulations require science and art, actuarial and clinical judgment, and quantitative and qualitative methods.

## References


Abbas, M., Walton, R., Johnston, A., & Chikoore, M. (2012). Evaluation of teaching an integrated case formulation approach on the quality of case formulations: Randomised controlled trial. *Psychiatrist*, *36*, 140–145. http://dx.doi.org/10.1192/pb.bp.110.033746

Aguilera, D. (1998). *Crisis intervention: Theory and methodology* (8th ed.). Saint Louis, MO: Mosby.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: Author.

American Psychological Association Presidential Task Force on Evidence-Based Practice. (2006). Evidence-based practice in psychology. *American Psychologist*, *61*, 271–285. http://dx.doi.org/10.1037/0003-066X.61.4.271

Barlow, D. H. (Ed.). (2014). *Clinical handbook of psychological disorders: A step-by-step treatment manual* (5th ed.). http://dx.doi.org/10.1093/oxfordhb/9780199328710.001.0001

Barrera, M., Jr., Castro, F. G., Strycker, L. A., & Toobert, D. J. (2013). Cultural adaptations of behavioral health interventions: A progress report. *Journal of Consulting and Clinical Psychology, 81*, 196–205. http://dx.doi.org/10.1037/a0027085

Beck, A. T., Freeman, A., & Davis, D. D. (2003). *Cognitive therapy of personality disorders* (2nd ed.). http://dx.doi.org/10.1037/e317472004-001

Berman, P. S. (2010). *Case conceptualization and treatment planning* (2nd ed.). Thousand Oaks, CA: Sage.

Berthoud, L., Kramer, U., de Roten, Y., Despland, J. N., & Caspar, F. (2013). Using plan analysis in psychotherapeutic case formulation of borderline personality disorder. *Clinical Psychology and Psychotherapy*, *20*, 1–9. http://dx.doi.org/10.1002/cpp.784

Betan, E. J., & Binder, J. L. (2010). Clinical expertise in psychotherapy: How expert therapists use theory in generating case conceptualization and interventions. *Journal of Contemporary Psychotherapy*, *40*, 141–152. http://dx.doi.org/10.1007/s10879-010-9138-0

Beutler, L. (1983). *Eclectic psychotherapy: A systematic approach*. New York, NY: Allyn & Bacon.

Beutler, L. E., & Harwood, T. M. (2000). *Prescriptive psychotherapy: A practical guide to systematic treatment selection*. New York, NY: Oxford University Press.

Bieling, P. J., & Kuyken, W. (2003). Is cognitive therapy case formulation science or science fiction? *Clinical Psychology: Science and Practice*, *10*, 52–69. http://dx.doi.org/10.1093/clipsy.10.1.52

British Psychological Society. (2011). *Good practice guidelines on the use of psychological formulation*. Retrieved from http://www.canterbury.ac.uk/social-applied-sciences/ASPD/documents/DCPGuidelinesforformulation2011.pdf

Caplan, G. (1964). *Principles of preventive psychiatry*. New York, NY: Basic Books.

Caspar, F., Berger, T., & Hautle, I. (2004). The right view of your patient: A computer-assisted, individualized module for psychotherapy training. *Psychotherapy: Theory, Research, Practice, Training*, *41*, 125–135. http://dx.doi.org/10.1037/0033-3204.41.2.125

Dinh, N. M. H., Groleau, D., Kirmayer, L. J., Rodriguez, C., & Bibeau, G. (2012). Influence of the *DSM–IV* Outline for Cultural Formulation on multidisciplinary case conferences in mental health. *Anthropology and Medicine*, *19*, 261–276. http://dx.doi.org/10.1080/13648470.2011.646944

Duncan, B. L., Miller, S. D., Wampold, B. E., & Hubble, M. A. (Eds.). (2010). *The heart and soul of change: Delivering what works in therapy* (2nd ed.). http://dx.doi.org/10.1037/12075-000

Eells, T. D. (Ed.). (2007). *Handbook of psychotherapy case formulation* (2nd ed.). New York, NY: Guilford Press.

Eells, T. D. (2009). Contemporary themes in case formulation. In P. Sturmey (Ed.), *Clinical case formulation: Varieties of approaches* (pp. 291–315). http://dx.doi.org/10.1002/9780470747513.ch22

Eells, T. D. (2010). The unfolding case formulation: The interplay of description and inference. *Pragmatic Case Studies in Psychotherapy*, *6*, 225–254. http://dx.doi.org/10.14713/pcsp.v6i4.1046

Eells, T. D. (2013). The case formulation approach to psychotherapy research revisited. *Pragmatic Case Studies in Psychotherapy*, *9*, 426–447. http://dx.doi.org/10.14713/pcsp.v9i4.1834

Eells, T. D., Lombart, K. G., Kendjelic, E. M., Turner, L. C., & Lucas, C. P. (2005). The quality of psychotherapy case formulations: A comparison of expert, experienced, and novice cognitive–behavioral and psychodynamic therapists. *Journal of Consulting and Clinical Psychology*, *73*, 579–589. http://dx.doi.org/10.1037/0022-006X.73.4.579

Emmelkamp, P., Bouman, T. K., & Blaauw, E. (1994). Individualized versus standardized therapy: A comparative evaluation with obsessive-compulsive patients. *Clinical Psychology and Psychotherapy*, *1*, 95–100. http://dx.doi.org/10.1002/cpp.5640010206

Fishman, D. B. (2005). From single case to database: A new method for enhancing psychotherapy practice. *Pragmatic Case Studies in Psychotherapy*, *1*, 1–42.

Fouad, N. A., Grus, C. L., Hatcher, R. L., Kaslow, N. J., Hutchings, P. S., Madson, M., . . . Crossman, R. E. (2009). Competency benchmarks: A model for understanding and measuring competence in professional psychology across training levels. *Training and Education in Professional Psychology*, *3*(4, Suppl.), S5–S26. http://dx.doi.org/10.1037/a0015832

Fowler, D. R., & Longabaugh, R. (1975). The problem-oriented record: Problem definition. *Archives of General Psychiatry*, *32*, 831–834. http://dx.doi.org/10.1001/archpsyc.1975.01760250023001

Frank, J. D., & Frank, J. B. (1991). *Persuasion and healing: A comparative study of psychotherapy* (3rd ed.). Baltimore, MD: John Hopkins University Press.

Ghaderi, A. (2006). Does individualization matter? A randomized trial of standardized (focused) versus individualized (broad) cognitive behavior therapy for bulimia nervosa. *Behaviour Research and Therapy*, *44*, 273–288. http://dx.doi.org/10.1016/j.brat.2005.02.004

Griner, D., & Smith, T. B. (2006). Culturally adapted mental health intervention: A meta-analytic review. *Psychotherapy: Theory, Research, Practice, Training*, *43*, 531–548. http://dx.doi.org/10.1037/0033-3204.43.4.531

Hallam, R. S. (2013). *Individual case formulation*. Waltham, MA: Academic Press.

Ingram, B. L. (2012). *Clinical case formulations: Matching the integrative treatment plan to the client* (2nd ed.). Hoboken, NJ: Wiley.

Jacobson, N. S., Schmaling, K. B., Holtzworth-Munroe, A., Katt, J. L., Wood, L. F., & Follette, V. M. (1989). Research-structured vs clinically flexible versions of social learning-based marital therapy. *Behaviour Research and Therapy*, *27*, 173–180. http://dx.doi.org/10.1016/0005-7967(89)90076-4

Kendjelic, E. M., & Eells, T. D. (2007). Generic psychotherapy case formulation training improves formulation quality. *Psychotherapy: Theory, Research, Practice, Training*, *44*, 66–77. http://dx.doi.org/10.1037/0033-3204.44.1.66

Kuyken, W., Padesky, C. A., & Dudley, R. (2009). *Collaborative case conceptualization: Working effectively with clients in cognitive–behavioral therapy*. New York, NY: Guilford Press.

Lambert, M. J., Garfield, S. L., & Bergin, A. E. (2004). Overview, trends and future issues. In M. J. Lambert (Ed.), *Bergin and Garfield's handbook of psychotherapy and behavior change* (5th ed., pp. 805–821). Hoboken, NJ: Wiley.

Lambert, M. J., & Shimokawa, K. (2011). Collecting client feedback. *Psychotherapy*, *48*, 72–79. http://dx.doi.org/10.1037/a0022238

Lazare, A. (1976). The psychiatric examination in the walk-in clinic: Hypothesis generation and hypothesis testing. *Archives of General Psychiatry*, *33*, 96–102. http://dx.doi.org/10.1001/archpsyc.1976.01770010060012

Lazarus, A. A. (1981). *The practice of multimodal psychotherapy*. New York, NY: McGraw-Hill.

Lester, B. M., Tronick, E., Nestler, E., Abel, T., Kosofsky, B., Kuzawa, C. W., . . . Wood, M. A. (2011). Behavioral epigenetics. *Annals of the New York Academy of Sciences*, *1226*, 14–33. http://dx.doi.org/10.1111/j.1749-6632.2011.06037.x

Levenson, H., & Strupp, H. H. (2007). Cyclical maladaptive patterns: Case formulation in time-limited dynamic psychotherapy. In T. D. Eells (Ed.), *Handbook of psychotherapy case formulation* (2nd ed., pp. 164–197). New York, NY: Guilford Press.

Levy, R. A., & Ablon, J. S. (Eds.). (2009). *Handbook of evidence-based psychodynamic psychotherapy: Bridging the gap between science and practice*. http://dx.doi.org/10.1007/978-1-59745-444-5

Lewinsohn, P. M., Antonuccio, D. O., Steinmetz, J. L., & Teri, L. (1984). *The coping with depression course: A psychoeducational course for unipolar depression*. Eugene, OR: Castalia.

Linehan, M. M. (1993). *Cognitive–behavioral treatment of borderline personality disorder*. New York, NY: Guilford Press.

Litz, B. T., Stein, N., Delaney, E., Lebowitz, L., Nash, W. P., Silva, C., & Maguen, S. (2009). Moral injury and moral repair in war veterans: A preliminary model and intervention strategy. *Clinical Psychology Review*, *29*, 695–706. http://dx.doi.org/10.1016/j.cpr.2009.07.003

Macneil, C. A., Hasty, M. K., Conus, P., & Berk, M. (2012). Is diagnosis enough to guide interventions in mental health? Using case formulation in clinical practice. *BMC Medicine*, *10*, 111. http://dx.doi.org/10.1186/1741-7015-10-111

Marks, I. (1987). *Fears, phobias and rituals: Panic, anxiety and their disorders*. New York, NY: Oxford University Press.

McNally, R. J. (2005). *Remembering trauma*. Cambridge, MA: Belknap Press of Harvard University.

McWilliams, N. (1999). *Psychoanalytic case formulation*. New York, NY: Guilford Press.

Messer, S. B., & Wolitzky, D. L. (2007). The psychoanalytic approach to case formulation. In T. D. Eells (Ed.), *Handbook of psychotherapy case formulation* (2nd ed., pp. 67–104). New York, NY: Guilford Press.

Miller, S. D., Duncan, B. L., Sorrell, R., & Brown, G. S. (2005). The partners for change outcome management system. *Journal of Clinical Psychology*, *61*, 199–208. http://dx.doi.org/10.1002/jclp.20111

Monroe, S. M., & Simons, A. D. (1991). Diathesis-stress theories in the context of life stress research: Implications for the depressive disorders. *Psychological Bulletin*, *110*, 406–425. http://dx.doi.org/10.1037/0033-2909.110.3.406

Mumma, G. H., & Mooney, S. R. (2007). Comparing the validity of alternate cognitive case formulations: A latent variable, multivariate time series approach. *Cognitive Therapy and Research*, *31*, 451–481. http://dx.doi.org/10.1007/s10608-006-9062-5

Norcross, J. C. (2005). A primer on psychotherapy integration. In J. C. Norcross & M. R. Goldfried (Eds.), *Handbook of psychotherapy integration* (2nd ed., pp. 3–23). http://dx.doi.org/10.1093/med/9780195165791.001.0001

Osborn, C. J., Dean, E. P., & Petruzzi, M. L. (2004). Use of simulated multidisciplinary treatment teams and client actors to teach case conceptualization and treatment planning skills. *Counselor Education and Supervision*, *44*, 121–134. http://dx.doi.org/10.1002/j.1556-6978.2004.tb01865.x

Pachankis, J. E., & Goldfried, M. R. (2004). Clinical issues in working with lesbian, gay, and bisexual clients. *Psychotherapy: Theory, Research, Practice, Training*, *41*, 227–246. http://dx.doi.org/10.1037/0033-3204.41.3.227

Pain, C. M., Chadwick, P., & Abba, N. (2008). Clients' experience of case formulation in cognitive behaviour therapy for psychosis. *British Journal of Clinical Psychology*, *47*, 127–138. http://dx.doi.org/10.1348/014466507X235962

Persons, J. B., & Tompkins, M. A. (2007). Cognitive–behavioral case formulation. In T. D. Eells (Ed.), *Handbook of psychotherapy case formulation* (2nd ed., pp. 290–316). New York, NY: Guilford Press.

Prochaska, J. O., Norcross, J. C., & DiClemente, C. C. (2013). Applying the stages of change. *Psychotherapy in Australia*, *19*(2), 10–15.

Rogers, C. R. (1995). Person-centered therapy: The case of Mrs. Oak. In D. Wedding & R. J. Corsini (Eds.), *Case studies in psychotherapy* (2nd ed., pp. 61–84). Itasca, IL: Peacock.

Rogers, G. M., Reinecke, M. A., & Curry, J. F. (2005). Case formulation in TADS CBT. *Cognitive and Behavioral Practice*, *12*, 198–208. http://dx.doi.org/10.1016/S1077-7229(05)80025-2

Ryan, W. (1976). *Blaming the victim* (Rev. ed.). New York, NY: Vintage Books.

Schacht, T. E. (1991). Formulation-based psychotherapy research: Some further considerations. *American Psychologist*, *46*, 1346–1347. http://dx.doi.org/10.1037/0003-066X.46.12.1346

Schneider, B. H., & Bryne, B. M. (1987). Individualizing social skills training for behavior-disordered children. *Journal of Consulting and Clinical Psychology*, *55*, 444–445. http://dx.doi.org/10.1037/0022-006X.55.3.444

Schulte, D., & Eifert, G. H. (2002). What to do when manuals fail? The dual model of psychotherapy. *Clinical Psychology: Science and Practice*, *9*, 312–328. http://dx.doi.org/10.1093/clipsy.9.3.312

Selye, H. (1956). *The stress of life*. New York, NY: McGraw-Hill.

Sim, K., Gwee, K. P., & Bateman, A. (2005). Case formulation in psychotherapy: Revitalizing its usefulness as a clinical tool. *Academic Psychiatry*, *29*, 289–292. http://dx.doi.org/10.1176/appi.ap.29.3.289

Simms, J. (2011). Case formulation within a person-centred framework: An uncomfortable fit? *Counselling Psychology Review*, *26*(2), 24–36.

Sperry, L., Gudeman, J. E., Blackwell, B., & Faulkner, L. R. (1992). *Psychiatric case formulations*. Washington, DC: American Psychiatric Association.

Sue, D. W., Capodilupo, C. M., Torino, G. C., Bucceri, J. M., Holder, A. M. B., Nadal, K. L., & Esquilin, M. (2007). Racial microaggressions in everyday life: Implications for clinical practice. *American Psychologist*, *62*, 271–286. http://dx.doi.org/10.1037/0003-066X.62.4.271

Tryon, G. S., & Winograd, G. (2011). Goal consensus and collaboration. *Psychotherapy*, *48*, 50–57. http://dx.doi.org/10.1037/a0022061

Van der Kolk, B. A., McFarlane, A. C., & Weisaeth, L. (2006). *Traumatic stress: The effects of overwhelming experience on mind, body, and society*. New York, NY: Guilford Press.

Vertue, F. M., & Haig, B. D. (2008). An abductive perspective on clinical reasoning and case formulation. *Journal of Clinical Psychology*, *64*, 1046–1068. http://dx.doi.org/10.1002/jclp.20504

Wachtel, P. L., Kruk, J. C., & McKinney, M. K. (2005). Cyclical psychodynamics and integrative relational psychotherapy. In J. C. Norcross & M. R. Goldfried (Eds.), *Handbook of psychotherapy integration* (2nd ed., pp. 172–195). New York, NY: Oxford University Press.

Weed, L. L. (1971). The problem oriented record as a basic tool in medical education, patient care and clinical research. *Annals of Clinical Research*, *3*, 131–134.

Young, J. (1999). *Cognitive therapy for personality disorders: A schema-focused approach* (3rd ed.). Sarasota, FL: Professional Resource Press.

CHAPTER 12

# CASE FORMULATION AND TREATMENT PLANNING

*Barbara L. Ingram*



The assessment methods described in previous chapters provide psychologists with a wealth of descriptive data about a client, but before proceeding to treatment planning, clinicians need to develop a case formulation: a conceptualization of the client's problems that informs decisions about treatment for the purpose of achieving desired outcome goals.

The growth in popularity of case formulation as a scholarly and clinical topic can be illustrated by searches of the PsycINFO database. Of the 798 articles on the topic at the end of 2013, 61 (8%) were published before 1993, 203 (25%) were published from 1993 to 2003, and 534 (67%) were published from 2004 to 2013. There are a wide variety of books on case formulation from various countries, describing different (often overlapping) clinical approaches.

There is consensus among organizations of mental health professions that case formulation is a required professional competence. A task force of the American Psychological Association includes case formulation in its benchmarks for entry to practice (Fouad et al., 2009), describing it as the ability to "independently and accurately conceptualize the multiple dimensions of the case based on the results of assessment" (p. S18). Similar statements are available from many national and international groups, including the British Psychological Society, American Association for Marriage and Family Therapy, and the Council of Social Work Education, to name a few.

## DESCRIPTIONS AND DEFINITIONS

There is no single agreed-upon definition of a clinical case formulation, but there is consensus on its purpose in clinical practice: to explain the client's problems and provide guidance for treatment planning.

Originally published in 1961, Frank and Frank's (1991) *Persuasion and Healing* identified principles that are inherent in all definitions of case formulations: First, there must be a firm linkage between the conceptualization and the interventions; second, the merit of the treatment plan is evaluated by its effectiveness in resolving the patient's problems. Lazare (1976) defined a clinical case formulation as "a conceptual scheme that organizes, explains, or makes sense of large amounts of data and influences the treatment decisions" (p. 96). Eells (2007) defined case formulation as "a hypothesis about the causes, precipitants, and maintaining influences of a person's psychological, interpersonal, and behavioral problems" (p. 4). Case formulation has been characterized as "an element of an empirical hypothesis-testing approach to clinical work" (Persons & Tompkins, 2007, p. 291) and has as its "whole point . . . the development of interventions that will achieve certain therapeutic goals" (McWilliams, 1999, p. 11).

### Types of Formulations

Interpreting the scholarly literature on case formulations is difficult because different types of formulations are often bundled together. Three distinctions

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should be made: idiographic versus nomothetic, explicit versus implicit, and product versus process.

**Idiographic versus nomothetic.** An idiographic or individualized formulation is created for a specific individual. Nomothetic formulations apply to clients who are members of an identified group. For instance, empirically supported treatments (ESTs) are based on nomothetic formulations and are assumed to fit all people who meet the inclusion criteria, generally a single *Diagnostic and Statistical Manual of Mental Disorders* (*DSM*) diagnosis.

**Explicit versus implicit.** Most psychologists are probably guided by implicit rather than explicit formulations (Pain, Chadwick, & Abba, 2008). The literature on case formulations occasionally asserts that certain schools of therapy, commonly humanistic, eschew formulations; however, all therapists rely on implicit formulations. When case formulation is understood as a conceptual model that explains client problems and leads to treatment decisions, no conscientious therapist would function without one. The alternative to using a formulation is to conduct therapy in ways that the clinician could not explain or justify.

**Product versus process.** *Case formulation* can refer to both a product (e.g., a verbal or written report) and an ongoing process, involving collaboration between therapist and client in defining problems, setting goals, and agreeing on therapy processes that have a rationale that is accepted by the client.

## PRINCIPLES AND APPLICATIONS

Drawing from the literature on case formulations, a fully specified formulation has at least five components: (a) the case information (also called the database or clinical data), which includes collation of information from the clinical interview as well as classification based on assessment methods; (b) the problem definition, or the specification of targets for therapy; (c) outcome goals, the specification of desired client functioning at the termination of therapy; (d) explanatory hypotheses, also called the conceptualization; and (e) treatment plans, the selected interventions for resolving problems and achieving outcome goals.

A source of confusion is that the terms *formulation* and *conceptualization* are often used interchangeably. However, the conceptualization, based on theoretical knowledge, access to the scientific literature, and clinician judgment, is just one component of a formulation. Thus, outcome goals are part of the formulation but are separate from the conceptualization: Clinicians from different theoretical schools should agree on the outcome goals for a clinical case but are likely to differ in their conceptualizations.

### Case Information

The first step of formulating is gathering clinical data, information about the specific client. The previous chapters in this volume addressed methods for gathering and interpreting data at various levels of inference. In the clinical interview, the chief complaint is the client's presenting reason for seeking help, the developmental history is a format for organizing and synthesizing an individual's life story, and the mental status exam is a structured method for describing the client's current psychological functioning. Standardized psychological testing, including personality assessment instruments, can detect underlying dynamics not otherwise evident in the interview or mental status exam, contributing to the quality of the formulation.

An individualized case formulation requires a thorough set of clinical and personal information about the specific client. For nomothetic formulations, which stem from research on efficacy of treatments, the clinical information is largely demographic data and diagnostic information that the researcher defines as inclusion criteria for the study. The developers of the problem-oriented method in both medicine and psychiatry (Fowler & Longabaugh, 1975; Weed, 1971) explain how data fall into two categories: subjective, referring to the client's content (including reports from family members), and objective, referring to data from other (usually professional) sources, including but not limited to the interviewing clinician, psychometric scores, material in the file, medical evaluations, school records, and direct behavioral observations.

Data gathering is guided by, and guides, hypothesis generation (Hallam, 2013; Ingram, 2012);

clinicians intentionally gather data to test a relevant explanatory hypothesis, and their findings will in turn refine their hypotheses. The clinical data should provide information that is relevant to the full range of available clinical hypotheses. It is helpful to have a set of categories or domains that help in achieving as comprehensive and unbiased a database as possible. There are many useful guidelines for doing so, such as outlines for chronological developmental history (Macneil et al., 2012), lists of domains of life functioning (e.g., health, family, sexuality, spirituality, academic, employment, and social relations), and Lazarus's (1981) BASIC ID (behavior, affect, sensation, imagery, cognitive, interpersonal/cultural, and drug/physiological).

Cultural data are necessary for a culturally sensitive formulation—data about the culture that the client is a member of as well as the client's identifications with different cultures, how culture is infused into the client's identity, and the unique contextual factors that influence clinical presentation. The fifth edition of the *DSM* (*DSM–5*; American Psychiatric Association, 2013) provides the following outline of cultural topics along with a structured questionnaire: cultural identity of the individual, cultural conceptions of distress, psychosocial stressors and cultural features of vulnerability and resilience, cultural features of the relationship between the individual and the clinician, and overall cultural assessment. Instead of using the questionnaire, the clinician can guide the interview toward these topics and follow up the client's free storytelling with appropriate probes.

In the data-gathering process, clinicians should pay attention to potential barriers to treatment (e.g., missing sessions, refusal to work in therapy, and noncompliance with homework) rather than wait to implement treatment to discover such barriers. At the same time, clinicians should identify the individual's assets, strengths, and resources, including those that would favor one type of treatment over another, and determine suitability for a particular form of treatment.

## Problem Definition

The task of accurately defining problems—putting into words the targets for treatment—is an essential step in case formulation. This task is broader than assigning a diagnosis and is different from offering a title for a theoretical conceptualization. The title created for the problem will ideally be free of theoretical jargon or explanatory concepts: Clinicians from all theoretical frameworks can agree on the title of the problem and the fact that it is consistent with the client's experience. For instance, "difficulty establishing close, secure, intimate relationships" is a problem title, whereas conceptualization titles could be "insecure attachment style," "consequences of early childhood trauma," or "core schema of unlovability." Cultural competence is important for the problem definition process: Certain behaviors (e.g., communicating with spirits) may not be problematic from the perspective of the client's culture.

Research on the quality of case formulations by psychodynamic and cognitive–behavioral therapists has determined that therapists with the highest quality formulations start with problem lists (Eells, 2010). Creating a useful problem list involves "lumping" (combining multiple problems under one title) and "splitting" (separating elements of an initial problem definition into two separate targets for treatment; Fowler & Longabaugh, 1975). Splitting and providing a separate title is recommended for problems that require urgent interventions, such as suicidal or homicidal risk. An example of how to move from personality disorder labels to a problem list comes from Linehan's (1993) description of problems of people diagnosed with borderline personality disorder: poor emotional regulation, lack of stable positive relationships, self-injurious behaviors (specified), and low distress tolerance. When a client has more than one problem, problems must be prioritized. Defining a problem leads to specification of goals; sometimes goal setting comes first and helps the clinician define a problem.

## Outcome Goals

Outcome goals describe how the client will be functioning when the problems are resolved; they serve in part as the criteria for termination of therapy. Good goals are realistic and attainable, under the client's control, capable of being verified with evidence, and not likely to create new problems in

other systems of the client's life. McWilliams (1999), from a psychodynamic orientation, described goals in terms of internal functioning but specified them in ways that would be verifiable, such as increased sense of agency or identity, effective coping with stress, realistically based self-esteem, improvement in the ability to handle feelings, and an increase in the experience of pleasure and serenity. Research has demonstrated that therapist and client consensus on treatment goals, along with collaboration in their prioritization, improves the effectiveness of psychotherapy (Tryon & Winograd, 2011).

It is important to understand the distinction between outcome goals and process goals. Outcome goals refer to desired client functioning outside of therapy sessions at the end of treatment; process goals refer to client or therapist behavior inside the therapy room during treatment. These two types of goals are often mingled, detracting from clarity of the formulation. This may happen when outcome goals are not treated as a separate component but addressed within the discussion of the conceptualization or the treatment plan (e.g., Berman, 2010; Eells, 2013). In research on case formulations, one would expect that, when given standard case material, representatives of different theoretical orientations should achieve reliability in identifying outcome goals but would propose different process goals for achieving those outcomes.

Outcome goals can fall into various categories such as full remission, reduction of symptoms, improvement of functioning, and prevention of relapse. For people living with chronic conditions, the recovery movement provides a range of appropriate goals: managing one's disease; living in a physically and emotionally healthy way; a stable and safe place to live; meaningful daily activities, such as a job, school, volunteerism, family caretaking, or creative endeavors; the independence, income, and resources to participate in society; and relationships and social networks that provide support, friendship, love, and hope. Goals can also represent improvement beyond the client's prior best level of functioning: new resources and skills, greater maturity, and attainment of higher levels of satisfaction.

## Explanatory Hypotheses

In the literature on case formulations, many writers treat the expression of a conceptualization as the entire formulation. However, unless they link the conceptualization to desired outcome goals and frame it as hypotheses to be tested by implementation of the prescribed interventions, it is impossible to evaluate the effectiveness of the formulation process.

To avoid tunnel vision in conceptualizing client problems, it is advisable to test multiple explanatory hypotheses and use multiple lenses (Eells, 2009; Ingram, 2012). Ideally, the clinician draws from his or her knowledge base, including research evidence on treatments, psychopathology, neurobiology, and nonclinical branches of psychology, such as developmental and social psychology. It is also necessary to exercise clinical judgment and consider client factors that would support the utility of one hypothesis over another. Explanatory factors tend to fall into these categories: predisposing (distal causal conditions), precipitating (proximal causal conditions), perpetuating (maintaining), and protective. These categories provide useful structures for a case formulation, but they must be fleshed out with content from specific explanatory hypotheses. The content of multiple explanatory models is described in the Major Models of Formulation section of this chapter, below. Table 12.1 presents a list of explanatory hypotheses (Ingram, 2012).

## Treatment Plan

The end product of an individualized case formulation is the creation of a treatment plan, designed for a specific individual, with the purpose of attaining the specified outcome goals. A best-practice treatment plan tailors to a specific client, attends to cultural diversity and relationship factors, focuses on achieving outcome goals, follows logically from explanatory hypotheses, and is appropriate to the treatment setting and financial constraints. When there is more than one problem, the treatment plan addresses priorities and integration of treatment ideas. Most important, plans are selected in collaboration with the client. Treatment plans typically contain the following elements.

TABLE 12.1

Thirty Core Clinical Hypotheses

| Name | Description |
|---|---|
| **Crisis, Stressful Situations, Transitions, and Trauma (CS)** | |
| Emergency | The client presents an **Emergency**: Immediate action is necessary. **(CS1)** |
| Situational Stressors | The problem results from identifiable recent **Situational Stressors. (CS2)** |
| Developmental Transition | The client is at a **Developmental Transition**. **(CS3)** |
| Loss and Bereavement | The client has suffered a **Loss and** needs help during **Bereavement**, or with loss-related adjustment. **(CS4)** |
| Trauma | The client has experienced **Trauma**. **(CS5)** |
| **Body and Emotions (BE)** | |
| Biological Cause | The problem has a **Biological Cause**. **(BE1)** |
| Medical Interventions | There are **Medical Interventions** that should be considered. **(BE2)** |
| Mind-Body Connections | An understanding of **Mind-Body Connections** should guide treatment choice. **(BE3)** |
| Emotional Focus | The problem requires an **Emotional Focus** to help the client improve awareness, acceptance, understanding, expression, and regulation of feelings. **(BE4)** |
| **Cognitive Models (C)** | |
| Metacognitive Perspective | The client would benefit from taking a **Metacognitive Perspective. (C1)** |
| Limitations of Cognitive Map | **Limitations of** the client's **Cognitive Map** (e.g., beliefs, schemas, and narratives) are causing the problem or preventing solutions. **(C2)** |
| Deficiencies in Cognitive Processing | The client demonstrates **Deficiencies in Cognitive Processing,** such as errors of logic, poor reality testing, and an inflexible cognitive style. **(C3)** |
| Dysfunctional Self-Talk | The problem is triggered and/or maintained by **Dysfunctional Self-Talk**. **(C4)** |
| **Behavioral and Learning Models (BL)** | |
| Antecedents and Consequences | The treatment plan should be based on an analysis of **Antecedents** (triggers) **and Consequences** (rewards and punishments). **(BL1)** |
| Conditioned Emotional Responses | **Conditioned Emotional Responses** explain the emotional distress or maladaptive avoidant behaviors. **(BL2)** |
| Skill Deficits | The problem stems from **Skill Deficits** or the lack of competence in applying skills, abilities, and knowledge to achieve goals. **(BL3)** |
| **Existential and Spiritual Models (ES)** | |
| Existential Issues | The client is struggling with **Existential Issues,** such as the search for meaning, self-actualization, and connection. **(ES1)** |
| Freedom and Responsibility | The client is facing the challenges of **Freedom and Responsibility,** and may need support in making good choices, commitments, and self-directed action plans. **(ES2)** |
| Spiritual Dimension | The problem's causes and/or solutions are found in the **Spiritual Dimension** of life, which may or may not include religion. **(ES3)** |
| **Psychodynamic Models (P)** | |
| Internal Parts | The problem can be explained in terms of **Internal Parts** that need to be understood, accepted or modified, and coordinated. **(P1)** |
| Recurrent Pattern | A **Recurrent Pattern,** possibly from early childhood, is causing pain and preventing satisfaction of adult needs. **(P2)** |
| Deficits in Self and Relational Capacities | The client demonstrates **Deficits in Self and Relational Capacities** and seems to be functioning at the maturity level of a very young child. **(P3)** |
| Unconscious Dynamics | The problem can be explained in terms of **Unconscious Dynamics**, frequently with reference to defense mechanisms. **(P4)** |
| **Social, Cultural, and Environmental Factors (SC)** | |
| Family System | The problem must be understood in the context of the entire **Family System. (SC1)** |
| Cultural Issues | **Cultural Issues** must be directly addressed for problems related to cultural group membership (e.g., ethnic group, sexual orientation, minority status), acculturation, cultural identity, and intercultural conflicts. **(SC2)** |
| Social Support | The problem is either caused or maintained by deficiencies in **Social Support. (SC3)** |
| Social Roles and Systems | The problem can be understood in terms of the client's **Social Roles and** the impact of **Social Systems. (SC4)** |

(*continues*)

TABLE 12.1 (*Continued*)

**Thirty Core Clinical Hypotheses**

| Name | Description |
|---|---|
| Social Problem Is a Cause | A **Social Problem** (e.g., discrimination, an unfair economic system, or social oppression) **Is a Cause,** and we should avoid blaming the victim. **(SC5)** |
| Social Role of Patient | The problem is related to disadvantages or advantages of the **Social Role of** either a medical or psychiatric **Patient. (SC6)** |
| Environment | Attention should be directed towards the material and natural **Environment:** Solutions can involve modifying it, leaving it, obtaining material resources, or accepting what cannot be changed. **(SC7)** |

*Note*. From *Clinical Case Formulations: Matching the Integrative Treatment Plan to the Client* (2nd ed., pp. 414–415), by B. L. Ingram, 2012, Hoboken, NJ: Wiley. Copyright 2012 by John Wiley & Sons, Inc. Reprinted with permission.



**Strategies.** A strategy can refer to the overall treatment model, such as cognitive–behavioral therapy, short-term psychodynamic therapy, solution-focused therapy, dialectical behavior therapy, or a description of an integrated approach. The selection of a specific format or setting (e.g., inpatient vs. outpatient or family vs. individual therapy) is an element of the strategy.

**Process goals.** These goals entail in-session behaviors of client and psychologist, including cultural adaptations and promotion of common factors (Duncan et al., 2010) such as building a positive alliance with the client and promoting positive client expectations. Process goals attend to the patient's stage of change (precontemplation, contemplation, preparation, action, and maintenance) and may fall into categories of consciousness raising, self-reevaluation, emotional arousal (or dramatic relief), social liberation (forms of empowerment and advocacy), and self-liberation (choosing and committing; Prochaska, Norcross, & DiClemente, 2013). Beutler (1983) described the following categories of process goals: insight enhancement, perceptual (cognitive) change, emotional awareness, emotional escalation, emotion reduction, and behavioral control and skill development. Beutler and Harwood (2000) described process goals in terms of level of intensity, focus on insight versus behavior change, variations in directiveness, and management of affect.

Whereas those frameworks are helpful for describing process goals in abstract terms, in clinical practice, process goals need to describe desired in-session experiences and activities, creating a bridge between the explanatory hypothesis and the treatment plan. For instance, if the explanatory hypothesis is "dysfunctional self-talk," the process goal is "develop alternative self-talk"; for a "skill deficit" explanatory hypothesis, the process goal is "build skills"; and for the psychodynamic hypothesis that the client "disowns an unacceptable part of the self," the process goal would be "facilitate awareness of and integration of the disowned part." Process goals are best worded with verb phrases that refer to the therapist's intentions or to the client's experiences.

**Intermediate objectives.** These objectives are short-term goals that are steps toward achieving outcome goals. Process goals and intermediate objectives can overlap. For instance, if the outcome goal is for the client to be appropriately assertive with his boss and coworkers, an intermediate objective and process goal might be for the client to role-play an assertive encounter in the session.

**Specific therapeutic behaviors.** The treatment plan specifies what the therapist will be doing (and not doing) in therapy; it includes the terms *technique, therapist behavior, relationship condition,* or *procedure*. Meta-analyses and critical reviews of the research on cultural adaptation of health interventions have recommended specific therapist behaviors, such as including cultural content, speaking the client's native language, and engaging cultural consultants (Barrera et al., 2013; Griner & Smith, 2006).

**Plan for monitoring progress.** The implementation of the plan must be accompanied by the process of gathering data on the client's improved functioning outside of therapy, or lack thereof. The psychologist may gather these data in an informal, unstructured way (e.g., listening to client self-report and inviting specific types of anecdotes) or through formal outcome management systems (e.g., Lambert & Shimokawa, 2011; Miller et al., 2005), which use brief questionnaires to solicit information from the client on both outcomes and the relationship. These data provide evidence of the effectiveness of the treatment plan and the formulation it is part of; they contribute to refinement or revision of the conceptualization if positive therapeutic change is not occurring (Eells, 2007).

## MAJOR MODELS OF CASE FORMULATION

Psychologists have a broad array of models to use to explain clients' problems and describe rationales for chosen treatments.

### Biological Formulations

Biological formulations are used when the problems result from a known medical disease (e.g., Alzheimer's); are related to a physical condition (e.g., brain trauma); are caused by abuse of substances; or are known to be treatable by medication, even when biological etiology is not certain. Biological hypotheses are also appropriate when there is evidence of genetic transmission or biological markers (e.g., brain abnormalities) that may predict treatment response (Sperry et al., 1992). The emerging field of behavioral epigenetics (Lester et al., 2011) will increase knowledge of how environmental influences (including perinatal factors and child abuse) affect genetic inheritance, with implications for prevention as well as treatment.

### Stress and Trauma Formulations

The causative role of stress and trauma—ranging from the predictable stress of normative life transitions to the trauma of catastrophic events—is widely recognized in clinical formulations as well as in the explanatory frameworks of laypeople. Selye (1956) popularized the definition of physiological stress as a response to any type of demand made on the adaptive capacity of the body. Understanding of psychological responses to stress is informed by knowledge of animals' strategies for dealing with danger (fight, flight, freeze, appease; Marks, 1987).

The term *diathesis* (tendency to suffer) addresses individual differences in the degree of emotional distress and the presence or absence of symptoms and impairments among individuals exposed to the same intensity of stressor. The explanatory hypothesis is that stress activates a diathesis, transforming a predisposition or vulnerability into the presence of psychopathology (Monroe & Simons, 1991). The hyperarousal of the stress response is a normal part of life, as long as it is temporary; however, people who live in a chronic state of stress never return to the normal physiology of nonthreat states and are therefore at risk for medical illness as well as harmful epigenetic changes. Concepts addressed in this conceptualization include classification of stressors (e.g., chronic vs. acute, desirable vs. undesirable, major vs. minor), specification of predisposing conditions (including risk and protective factors), and evaluation of coping responses (both defensive and adaptive).

Theories of crisis and crisis intervention (see Chapter 20, this volume) explain that the individual is experiencing an understandable response to stressors that exceed the current capacity to cope effectively and that he or she will be protected from developing long-lasting pathology by prompt and directive interventions (Caplan, 1964). Crises fall into two categories—situational and developmental—and factors that either increase or buffer against the severity of the crisis include perceptions of event and self, coping mechanisms, and quality of social support (Aguilera, 1998). Another framework for understanding stress is a *life transition*, an event or nonevent (something desired that does not occur) that results in emotional, cognitive, and behavioral challenges (see Chapter 21, this volume). Loss, particularly the death of a loved one, is a severe stressor, and when it is the precipitating event of a client's distress and dysfunction, using it as an explanatory concept seems self-evident. The conceptualization would address stages of grieving on the basis of the client's individual experience, tasks of grieving, meaning-making, and cultural norms.

In recent years, the effects of trauma have been widely studied, and trauma is now viewed as qualitatively different from, not just more severe

in intensity than, the expected stressors of life (McNally, 2005; Van der Kolk, McFarlane, & Weisaeth, 2006). Necessary data for a trauma conceptualization include identification of the external event that affected the individual (e.g., disasters, war, criminal violence) and assessment of the individual: subjective threat level, personal vulnerabilities, coping strategies, cognitive factors, social support, and prior trauma history. The explanatory role of trauma belongs in the formulation when trauma precipitated the current symptoms, the client meets diagnostic criteria for posttraumatic stress disorder, or vulnerabilities result from earlier trauma.

## Behavioral Formulations

Behavioral assessment is a set of assessment procedures for conducting a functional analysis of problems, informed by knowledge of classical and operant conditioning and social learning theory. The end result of these procedures is a formulation that contains the following: definition of both problem and desired behaviors; identification of antecedents, consequences, and potent reinforcers; clarification of social and cultural supports; specification of the sequences of antecedents, organismic variables (e.g., feelings and cognitions), behavior, and consequences; statements of hypotheses of specific contingencies that maintain behavior; and design of an intervention plan based on scientific principles of behavior change. When the desired behavior is not in the client's repertoire, then a skill deficit formulation is appropriate.

Many ESTs for specific disorders contain an underlying behavioral formulation. For instance, the empirical evidence that exposure is an effective ingredient in the treatment of phobias and panic disorders is strong (Barlow, 2014). Exposure is based on principles of classical conditioning: For extinction to occur, the individual must be kept in contact with the conditioned stimulus and prevented from avoidance or escape. Behavioral activation, a treatment for depression, is based on the hypothesis that increased positive reinforcement from the environment will result in positive affect and a sense of mastery (Lewinsohn et al., 1984).

## Cognitive Formulations

The most widely known cognitive models are cognitive–behavioral therapy and Beck's cognitive therapy. However, cognitive hypotheses appear in many other theoretical frameworks, such as narrative therapy, Adlerian therapy, and attachment theory. Cognitive formulations usually address automatic thoughts, also called self-talk, which are part of the client's conscious internal monologue, and maladaptive schemas, which are implicit assumptions, beliefs, and rules that can be inferred from thoughts, emotions, and behaviors. Maladaptive schemas often stem from early experiences and fall into various categories, including self-appraisal (e.g., "I'm worthless") and expectations for others ("I will inevitably be abandoned or rejected"; Young, 1999). Beck and colleagues (e.g., Beck, Freeman, & Davis, 2003) described the underlying schemas of mental disorders and specific problems. For instance, anxiety is commonly associated with the assumption of impending physical or psychological danger. Many approaches to cognitive formulation include diagrams that are created in collaboration with the client and show the connections among thinking, feeling, and behaving.

Cognitive formulations attend to the processes as well as the content of thought. The term *faulty information processing* refers to the client's errors in thinking, which confirm faulty assumptions, create self-fulfilling prophecies, and prevent accurate reality testing. Clients may lack the ability to take a metacognitive perspective, and they need to realize that their thoughts are not truth and that they can choose whether to believe or even listen to them. Many problems can be explained as stemming from poor cognitive skills in areas such as problem solving, logical reasoning, decision making, and mentalizing (the ability to speculate about the internal processes of other people and recognize that they have different perspectives).

## Psychodynamic Formulations

The term *psychodynamic* embraces all theories that trace their origins to Freud and his colleagues, including object relations, self-psychology, and interpersonal therapy. Traditionally, psychodynamic treatment was very lengthy, but recently there has

been development of empirically supported short-term psychodynamic treatments. Whereas long-term therapy is guided by a narrative formulation that provides "a coherent, comprehensive, plausible, and we hope accurate account" (Messer & Wolitzky, 2007, p. 74) of personality development and current functioning, short-term psychodynamic approaches (Levy & Ablon, 2009) each describe a clear conceptual model to guide the clinician's clinical focus, resulting in significant client change in a time-limited format. Despite the complexity and diversity of psychodynamic theories, the core explanatory hypotheses can be substantially described in four categories.

**Unconscious conflict.** The client's current difficulties stem from unconscious dynamics. Defense mechanisms keep wishes, fears, and painful affects out of conscious awareness. Partial gratification of unacceptable wishes is achieved through compromise formations, which can be both adaptive (career choice and achievement) and maladaptive (symptoms and unsatisfying relationships). Patient problems are thus conceptualized in terms of painful affect, defense, and warded-off experiences.

**Reenactment of relationship patterns.** Templates of future relationships are created in childhood; the repetition of old patterns is often viewed as an attempt to heal old wounds and achieve mastery and control. Clients enact these patterns with the therapist, a process called transference. As an example, time-limited dynamic psychotherapy (e.g., Levenson & Strupp, 2007) conceptualizes clients' problems as cyclical maladaptive patterns or conflictual relationship themes.

**Developmental arrest.** The client's severe problems in emotional regulation, self-management, and interpersonal functioning stem from his or her immature level of self and relational capacities. Clients who function at low levels of development (often labeled *narcissistic* or *borderline*) use others to fulfill self functions (e.g., soothing painful affects and maintaining self-esteem) and lack the capacity for empathy. Decisions about the suitability of this hypothesis is based on developmental diagnosis, using data from both the client's stories and the type of transference the client develops with the therapist.

**Conscious internal parts.** Whereas Freud's model of personality structure (id, ego, superego) included unconscious elements, several theories with psychodynamic roots emphasize conscious internal parts or subpersonalities. For instance, transactional analysis identifies ego states (adult, free child, adapted child, critical parent, and nurturing parent). Conflicts among parts of the personality contribute to distress and dysfunctional behavior.

### Humanistic–Existential Formulations

A variety of psychotherapy approaches fall into this category, including the person-centered therapy of Carl Rogers, the focusing approach of Eugene Gendlin, the existential therapy of Rollo May, and the experiential therapy of Leslie Greenberg. Each of these theoretical models has explanatory hypotheses that justify the therapist's strategy, process goals, and behaviors. For instance, Rogers's (1995) hypothesis is that clients would function more effectively if they could access and experience their true feelings and desires; that hypothesis justifies the use of therapist behaviors that move the client toward "the full and undistorted awareness of his experiencing—of his sensory and visceral reactions" (pp. 81–82). Simms's (2011) person-centered formulation traces the development of the client's difficulties to conditions of worth laid down in childhood, introjected values and beliefs, denial and distortion of experience, and a state of incongruence.

### Spiritual Formulation

Many clinicians recommend using a spiritual lens to formulate client problems, while ensuring that they maintain a boundary between therapy and religion. One such example is the formulation of the depression of former military combatants as a consequence of moral injury, defined as "perpetrating, failing to prevent, bearing witness to, or learning about acts that transgress deeply held moral beliefs and expectations" (Litz et al., 2009, p. 700).

### Social–Cultural Formulations

The previous formulation models maintain a primary focus on the individual while attending to the contributory role of family and social relations.

In this section, we address those models that put the main focus on the social and cultural contexts in which the individual is embedded.

**Family systems formulation.** The family system model puts the focus on the family or couple, coining the term *identified patient* as a reminder that the locus of pathology does not reside within the individual who presents with symptoms; instead, the whole family is the patient. The core of this formulation is that an individual's problems can be understood as a function of family dynamics (e.g., communication patterns, faulty hierarchies, or triangulation of a child into parents' conflict). Prominent explanatory concepts within this formulation include circular causality (problem-maintaining patterns and feedback loops), a transgenerational transmission process, and the family's level of differentiation (toleration for separateness and autonomy). A systemic formulation is highly valued when a child is presented for treatment. An example of an explanatory hypothesis is that the child's difficulty (e.g., depression, learning problems, aggressive behavior) serves the function of protecting the parents' marriage.

**Cultural formulation.** The *DSM–5* has three categories of cultural concepts of distress that can clarify symptoms and etiological attributions: cultural syndromes, cultural idioms of distress, and cultural explanations or perceived causes. Use of a cultural formulation outline has been reported to enhance the quality of clinical case formulation in multidisciplinary case conferences (Dinh et al., 2012). Examples of common cultural hypotheses include internal or external conflicts from membership in multiple cultural groups, acculturative stress, different levels of acculturation or conflicting cultural values within a family, and stressors from cultural norms.

**Social injustice.** An important hypothesis is that faults in the social system, such as economic disparities and discrimination, play a causal role in the client's difficulties. In *Blaming the Victim,* Ryan (1976) warned mental health professionals against formulations that view the victims of social injustice as causing their own problems, such as when one attributes the low achievement of a client from a low-income, high-crime neighborhood to internal factors such as lack of work ethic. Conceptualizations that recognize the etiological role of prejudice and social injustice include internalization of the culture's homophobia (Pachankis & Goldfried, 2004) and the stressful effects of microaggressions, the everyday slights, insults, indignities, and denigrating messages sent by people who are unaware of the hidden messages being communicated (Sue et al., 2007).

**Other social explanations.** Clinicians can draw from nonclinical branches of psychology (e.g., social, organizational, ecological, and environmental) and other social sciences (e.g., sociology, anthropology, and political science) to understand how explanations for behavior can be found in the client's social and environmental context. The construct of social support is already widely recognized as a part of case formulations; the presence of social support is a protective factor, and the lack of social support is a risk factor for a wide range of symptoms and problems. Social systems and institutions (e.g., employment; schools; the legal and judicial systems; and health, safety, and social services) can have causal roles in problems or provide barriers to effective treatment. Explanations for problems can include the construct of social role and incorporate terms such as role confusion, role strain, role conflict, and role overload. Clients can also inhabit stigmatized social roles, such as mental patient, person diagnosed with HIV, or ex-convict. Both environmental and ecological psychology provide explanations for distress and dysfunction that locate causes and solutions in the natural and material environment—hence the explanatory hypothesis that the client is living in an unsuitable environmental niche.

## Integrative Formulations

An integrative approach to formulation involves the combination of explanatory ideas from the different theories; research has indicated that such an integrative formulation is the modal orientation of English-speaking psychotherapists (Norcross, 2005). As an example, Wachtel's cyclical psychodynamics (Wachtel, Kruk, & McKinney, 2005) addresses the origins of problematic patterns with

psychodynamic theory and then applies behavioral and family systems models to explain how problematic behaviors are triggered and maintained in current social and cultural contexts. For instance, a client's test anxiety was conceptualized in terms of defensive reactions to his family's status pressures, requiring insight-oriented work, and then the technique of desensitization was implemented, based on the behavioral concept of conditioned anxiety.

In another approach to integrative formulation, Ingram (2012) developed a list of 30 core clinical hypotheses (see Table 12.1) to facilitate the integration of ideas from biological, stress and trauma, cognitive, behavioral, psychodynamic, humanistic–existential, spiritual, family systems, and sociocultural perspectives. The list was developed through stages over several decades: unpacking theories of psychotherapy and ESTs to identify core explanatory ideas, testing the sufficiency of the list by examining new developments in psychotherapy (e.g., mindfulness-based treatments), and refining the list through feedback from experts in the field. Through a selective combination of hypotheses, the clinician creates a formulation that serves as a minitheory (Lambert, Garfield, & Bergin, 2004) for a specific problem.

## MAJOR ACCOMPLISHMENTS

A major accomplishment is that clinical case formulation skills are now widely recognized as a core competency by the professional organizations of psychologists and other mental health professionals. Another accomplishment is an emerging consensus on criteria for evaluating the quality of case formulations: comprehensiveness and breadth, high degree of elaboration of formulation and treatment plan, precision of language, complexity, coherence, goodness of fit between the treatment plan and the rest of the case formulation, and use of a systematic process (Eells, 2010; Vertue & Haig, 2008).

Furthermore, good formulations organize and integrate clinical data, are explanatory, provide guidance for therapy, and address therapist–client aspects of a case (Sim, Gwee, & Bateman, 2005). Eells (2013) found that the best formulating involves inductive reasoning, moving from data to inference to treatment ideas, rather than backward reasoning—starting from hypothesis or solution and then searching for supporting data.

Previous sections of this chapter have suggested standards of quality: The clinical data should be thorough and unbiased; standardized assessment instruments should contribute data, when possible; problem definitions need to be accurate and culturally sensitive; outcome goals must be relevant, achievable, verifiable, and endorsed by the client; choice of explanatory hypotheses should be informed by scientific principles, research evidence, and clinical judgment; and treatment plans must be linked to hypotheses and tailored to the specific client. There is growing appreciation of the importance of developing formulations in collaboration with clients, with attention to the client's perspective and experience. Guidelines for the evaluation of the quality of case formulations are available in rubrics and checklists (British Psychological Society, 2011; Eells et al., 2005; Ingram, 2012).

Another accomplishment is the growing and instructive research on case formulations (e.g., Eells, 2013; Kuyken, Padesky, & Dudley, 2009). Not surprisingly, researchers have found that expert clinicians (classified by experience and reputation) produce formulations that are superior to those of trainees or therapists with a lower level of expertise (Eells et al., 2005; Mumma & Mooney, 2007). The literature has shown that formulations improve in quality when clinicians receive training in a specific formulation model (Abbas et al., 2012; Kendjelic & Eells, 2007; Levenson & Strupp, 2007).

Many studies have compared formulation-guided and manual-guided therapy, with mixed results. Individualized or clinically flexible versions of a manualized treatment produce superior results for children with behavior disorders of children (Schneider & Bryne, 1987), marital distress (Jacobson et al., 1989), and bulimia nervosa (Ghaderi, 2006). For treatment of obsessive–compulsive disorder, no difference was found between standardized treatment and treatment based on individualized functional analysis (Emmelkamp, Bouman, & Blaauw, 1994). Manualized therapy was found to be better for treating phobias than therapy individualized by clinicians

(Schulte & Eifert, 2002). In that study, clinicians in the comparison group did not use exposure treatment, which has strong empirical support for treating phobias. The implication of these results is that an individualized formulation needs to be informed by the scientific research literature to attain a level of quality equal to or surpassing a nomothetic formulation. The conclusion from a review of the inconsistent findings is that individualized case formulations are likely to be most beneficial for patients with complex problems and multiple comorbidities and that for simple cases, the EST may be sufficient (Kendjelic & Eells, 2007).

Another accomplishment in case formulation is research on the reliability of formulations. Clinicians trained in the same theoretical model have been found to agree on some but not all elements of a formulation, with reliability being higher for descriptive components of the formulation than for more inferential processes (Bieling & Kuyken, 2003). This finding is consistent with the view that certain elements of a formulation (e.g., clinical data, problem definition, and outcome goals) are relatively free of theory and can therefore be described with interrater reliability, whereas the content of the conceptualization, based on both theoretical orientation and level of clinical experience, is expected to vary. Whereas many reliability studies use clinical vignettes, some researchers are using clinical material from intake evaluations and patient charts (Kendjelic & Eells, 2007) or from review of videotaped sessions with patients (Berthoud et al., 2013). These methods bring case formulation research into actual clinical practice.

A greater emphasis on teaching case formulation skills in graduate courses and clinical supervision is another important accomplishment. There is evidence of innovative methods being used in the training of case formulation skills. For instance, Caspar, Berger, and Hautle (2004) described a computer-assisted procedure for training students to recognize clinically important information in intake interviews; the computer program provides instant feedback and gives students the opportunity to immediately improve performance. Simulated patients and actors in clinical training can teach students to write both single-orientation and integrative formulations (Osborn, Dean, & Petruzzi, 2004).

## LIMITATIONS OF CASE FORMULATIONS

The lack of agreement on the components of a case formulation is an obstacle to advances in practice, research, and training. The literature on case formulations has shown tremendous diversity in the definitions, processes, and standards being used in both research and practice. To demonstrate their effectiveness and utility, clinical formulations need to contain empirically testable hypotheses and prescriptions for treatment (Schacht, 1991), with outcome goals specified in language that permits verification of successful outcomes. Unfortunately, few approaches to case formulation meet these standards.

Other limitations stem from confusion and controversy over the relationship of assessment and formulation. The use of standardized assessment instruments contributes valuable data, informing the psychologist's choice of conceptualization and treatment plan. For example, Beutler and Harwood (2000) described how treatment dimensions such as directiveness, intensity, and management of affect can be prescribed on the basis of the results of assessment instruments. Critics of current developments in case formulation point to the reluctance of clinicians to use the results of standardized tests in creating formulations and lament that clinical data are collated without regard to its quality, with information derived from measures with high reliability and validity receiving the same weight as other types of data.

Another limitation is that the use of case formulations is unsupported in the policies and procedures of the mental health establishment. In clinical records, psychiatric diagnosis is mandatory, but the explanatory and prescriptive elements of case formulations are typically omitted. Currently, intake forms and charting procedures in mental health centers require statements of problems, goals, and treatment plans but provide little or no space for explanatory hypotheses that give the rationale for treatment choice. Although graduate students are learning to formulate in courses and supervision, the

products of their formulating are not being entered into the official records. Until there is consensus among professional organizations regarding the necessary components of a case formulation, there will be no changes in mandatory clinical record keeping. Also, until formulation elements are included in electronic patient records, there will be limitations on systematic research on the effectiveness of a comprehensive case formulation.

## FUTURE DIRECTIONS

Significant progress in the use of case formulations will result when we build bridges between manualized and individualized formulations, increase the use of standardized test results to inform case formulation, improve clinical training in case formulation skills, and build a professional pool of knowledge from clinical work based on individualized formulations.

### Bridge Manualized and Individualized Formulations

As a profession, psychology is making substantial progress in overcoming the chasm between researchers and practitioners. We need to move further in overcoming the false dichotomy between manualized therapy and therapy guided by individualized formulation. To produce the best individualized formulations, clinicians need to access the scholarly literature on treatment effectiveness, which is built on the use of manualized protocols. Furthermore, it is now well established that manuals have to be individualized in clinical practice: Rigid adherence to protocols frequently results in a lack of individual and cultural sensitivity and neglect of the therapist–client relationship.

In the future, developers of manualized ESTs will offer specific guidelines for considering individual, familial, and cultural differences in clients. G. M. Rogers, Reinecke, and Curry (2005) did just that, in the cognitive–behavioral therapy manual developed for the Treatment for Adolescents With Depression Study, by including instructions on how to tailor the treatment to the needs of the patient, facilitate rapport building, and respond with sensitivity to obstacles encountered in treatment. They accomplished this by using modules (required or optional and individual or family), giving clinicians control over selection and sequencing of modules, and ensuring that testing and revising of formulations can occur throughout treatment. When clinicians recognize that their judgment and expertise are respected by the developers of ESTs, they will be more likely to integrate the use of manuals into their practice.

### Increase Use of Standardized Test Results

Another manifestation of the gap between research and practice is the neglect of psychometric instruments by many practitioners. In the graduate curriculum and practicum placements, assessment is taught separately from psychotherapy, yet the use of standardized tests can produce useful data for the case formulations that guide therapy. By using standardized assessment instruments with high levels of reliability and validity, clinicians can reduce their biases and tunnel vision. Moreover, standardized tests can provide tools for categorizing clients that may be more useful than psychiatric diagnoses. Instruments that classify the client's attachment style or maladaptive schemas can lead more rapidly and effectively to explanatory hypotheses than many hours of clinical interviewing. Beutler and Harwood (2000), in developing their prescriptive psychotherapy, provided a model of how to use results from standardized tests for systematic selection of therapeutic approaches.

### Improve Clinical Training

There is broad agreement that case formulation is a required professional competence and that training programs should be integrating this skill into their academic curriculum and supervised clinical training. In the future, case formulation skills will be more frequently taught and learned. The large increase in the number of texts and journal articles on this subject gives us hope that this deficiency is being remedied. We will benefit from increased understanding of trainees' stages of development. As students progress through training, their conceptualizing (applying theory to client) progresses from applying externally defined concepts to a flexible

and innovative process that is informed by clinical experience (Betan & Binder, 2010). Using a developmental model, exposure to formulation skills should occur early in training, through diverse case examples and study of verbatim dialogue from sessions. Then, in advanced courses and supervision, students will gain experience developing cognitively complex formulations that meet high standards of quality.

## Build a Professional Pool of Knowledge

Psychologists using and teaching individualized formulations need a way to build and access a professional pool of knowledge. To begin to meet this need, an online journal, *Pragmatic Case Studies in Psychotherapy,* publishes case studies followed by critical commentaries by experts. The author of the case is given rigorous methodological guidelines, with required sections on assessment, case formulation, and treatment plan (Fishman, 2005). To facilitate the generalization of results from therapy guided by individualized formulations, the use of standard outcome measures and incorporation of diagnosis into the formulation process is recommended.

It would also be useful if case study reports specified the markers in the clinical data that influence choice of explanatory hypotheses. For instance, if a patient presents with anxiety, how would a psychologist decide whether to use a cognitive formulation, with interventions to reduce emotional distress, or a psychodynamic formulation, with interventions that would temporarily increase emotional distress as the client experiences the painful affect that has been warded off with defense mechanisms? At this time, psychologists are largely guided by their training in a preferred orientation. In the future, it would be desirable to have evidence-supported decision trees to guide choices.

The American Psychological Association Presidential Task Force on Evidence-Based Practice (2006) proposed that "the clinically expert psychologist is able to formulate clear and theoretically coherent case conceptualizations" (p. 276). By developing a systematic corpus of knowledge based on clinicians' case formulations, we will be moving toward best-practice guidelines that use both scientific evidence and clinical expertise. In the future, we predict (and hope) that psychologists will recognize that case formulations require science and art, actuarial and clinical judgment, and quantitative and qualitative methods.

## References


Abbas, M., Walton, R., Johnston, A., & Chikoore, M. (2012). Evaluation of teaching an integrated case formulation approach on the quality of case formulations: Randomised controlled trial. *Psychiatrist*, *36*, 140–145. http://dx.doi.org/10.1192/pb.bp.110.033746

Aguilera, D. (1998). *Crisis intervention: Theory and methodology* (8th ed.). Saint Louis, MO: Mosby.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: Author.

American Psychological Association Presidential Task Force on Evidence-Based Practice. (2006). Evidence-based practice in psychology. *American Psychologist*, *61*, 271–285. http://dx.doi.org/10.1037/0003-066X.61.4.271

Barlow, D. H. (Ed.). (2014). *Clinical handbook of psychological disorders: A step-by-step treatment manual* (5th ed.). http://dx.doi.org/10.1093/oxfordhb/9780199328710.001.0001

Barrera, M., Jr., Castro, F. G., Strycker, L. A., & Toobert, D. J. (2013). Cultural adaptations of behavioral health interventions: A progress report. *Journal of Consulting and Clinical Psychology, 81*, 196–205. http://dx.doi.org/10.1037/a0027085

Beck, A. T., Freeman, A., & Davis, D. D. (2003). *Cognitive therapy of personality disorders* (2nd ed.). http://dx.doi.org/10.1037/e317472004-001

Berman, P. S. (2010). *Case conceptualization and treatment planning* (2nd ed.). Thousand Oaks, CA: Sage.

Berthoud, L., Kramer, U., de Roten, Y., Despland, J. N., & Caspar, F. (2013). Using plan analysis in psychotherapeutic case formulation of borderline personality disorder. *Clinical Psychology and Psychotherapy*, *20*, 1–9. http://dx.doi.org/10.1002/cpp.784

Betan, E. J., & Binder, J. L. (2010). Clinical expertise in psychotherapy: How expert therapists use theory in generating case conceptualization and interventions. *Journal of Contemporary Psychotherapy*, *40*, 141–152. http://dx.doi.org/10.1007/s10879-010-9138-0

Beutler, L. (1983). *Eclectic psychotherapy: A systematic approach*. New York, NY: Allyn & Bacon.

Beutler, L. E., & Harwood, T. M. (2000). *Prescriptive psychotherapy: A practical guide to systematic treatment selection*. New York, NY: Oxford University Press.

Bieling, P. J., & Kuyken, W. (2003). Is cognitive therapy case formulation science or science fiction? *Clinical Psychology: Science and Practice*, *10*, 52–69. http://dx.doi.org/10.1093/clipsy.10.1.52

British Psychological Society. (2011). *Good practice guidelines on the use of psychological formulation*. Retrieved from http://www.canterbury.ac.uk/social-applied-sciences/ASPD/documents/DCPGuidelinesforformulation2011.pdf

Caplan, G. (1964). *Principles of preventive psychiatry*. New York, NY: Basic Books.

Caspar, F., Berger, T., & Hautle, I. (2004). The right view of your patient: A computer-assisted, individualized module for psychotherapy training. *Psychotherapy: Theory, Research, Practice, Training*, *41*, 125–135. http://dx.doi.org/10.1037/0033-3204.41.2.125

Dinh, N. M. H., Groleau, D., Kirmayer, L. J., Rodriguez, C., & Bibeau, G. (2012). Influence of the *DSM–IV* Outline for Cultural Formulation on multidisciplinary case conferences in mental health. *Anthropology and Medicine*, *19*, 261–276. http://dx.doi.org/10.1080/13648470.2011.646944

Duncan, B. L., Miller, S. D., Wampold, B. E., & Hubble, M. A. (Eds.). (2010). *The heart and soul of change: Delivering what works in therapy* (2nd ed.). http://dx.doi.org/10.1037/12075-000

Eells, T. D. (Ed.). (2007). *Handbook of psychotherapy case formulation* (2nd ed.). New York, NY: Guilford Press.

Eells, T. D. (2009). Contemporary themes in case formulation. In P. Sturmey (Ed.), *Clinical case formulation: Varieties of approaches* (pp. 291–315). http://dx.doi.org/10.1002/9780470747513.ch22

Eells, T. D. (2010). The unfolding case formulation: The interplay of description and inference. *Pragmatic Case Studies in Psychotherapy*, *6*, 225–254. http://dx.doi.org/10.14713/pcsp.v6i4.1046

Eells, T. D. (2013). The case formulation approach to psychotherapy research revisited. *Pragmatic Case Studies in Psychotherapy*, *9*, 426–447. http://dx.doi.org/10.14713/pcsp.v9i4.1834

Eells, T. D., Lombart, K. G., Kendjelic, E. M., Turner, L. C., & Lucas, C. P. (2005). The quality of psychotherapy case formulations: A comparison of expert, experienced, and novice cognitive–behavioral and psychodynamic therapists. *Journal of Consulting and Clinical Psychology*, *73*, 579–589. http://dx.doi.org/10.1037/0022-006X.73.4.579

Emmelkamp, P., Bouman, T. K., & Blaauw, E. (1994). Individualized versus standardized therapy: A comparative evaluation with obsessive-compulsive patients. *Clinical Psychology and Psychotherapy*, *1*, 95–100. http://dx.doi.org/10.1002/cpp.5640010206

Fishman, D. B. (2005). From single case to database: A new method for enhancing psychotherapy practice. *Pragmatic Case Studies in Psychotherapy*, *1*, 1–42.

Fouad, N. A., Grus, C. L., Hatcher, R. L., Kaslow, N. J., Hutchings, P. S., Madson, M., . . . Crossman, R. E. (2009). Competency benchmarks: A model for understanding and measuring competence in professional psychology across training levels. *Training and Education in Professional Psychology*, *3*(4, Suppl.), S5–S26. http://dx.doi.org/10.1037/a0015832

Fowler, D. R., & Longabaugh, R. (1975). The problem-oriented record: Problem definition. *Archives of General Psychiatry*, *32*, 831–834. http://dx.doi.org/10.1001/archpsyc.1975.01760250023001

Frank, J. D., & Frank, J. B. (1991). *Persuasion and healing: A comparative study of psychotherapy* (3rd ed.). Baltimore, MD: John Hopkins University Press.

Ghaderi, A. (2006). Does individualization matter? A randomized trial of standardized (focused) versus individualized (broad) cognitive behavior therapy for bulimia nervosa. *Behaviour Research and Therapy*, *44*, 273–288. http://dx.doi.org/10.1016/j.brat.2005.02.004

Griner, D., & Smith, T. B. (2006). Culturally adapted mental health intervention: A meta-analytic review. *Psychotherapy: Theory, Research, Practice, Training*, *43*, 531–548. http://dx.doi.org/10.1037/0033-3204.43.4.531

Hallam, R. S. (2013). *Individual case formulation*. Waltham, MA: Academic Press.

Ingram, B. L. (2012). *Clinical case formulations: Matching the integrative treatment plan to the client* (2nd ed.). Hoboken, NJ: Wiley.

Jacobson, N. S., Schmaling, K. B., Holtzworth-Munroe, A., Katt, J. L., Wood, L. F., & Follette, V. M. (1989). Research-structured vs clinically flexible versions of social learning-based marital therapy. *Behaviour Research and Therapy*, *27*, 173–180. http://dx.doi.org/10.1016/0005-7967(89)90076-4

Kendjelic, E. M., & Eells, T. D. (2007). Generic psychotherapy case formulation training improves formulation quality. *Psychotherapy: Theory, Research, Practice, Training*, *44*, 66–77. http://dx.doi.org/10.1037/0033-3204.44.1.66

Kuyken, W., Padesky, C. A., & Dudley, R. (2009). *Collaborative case conceptualization: Working effectively with clients in cognitive–behavioral therapy*. New York, NY: Guilford Press.

Lambert, M. J., Garfield, S. L., & Bergin, A. E. (2004). Overview, trends and future issues. In M. J. Lambert (Ed.), *Bergin and Garfield's handbook of psychotherapy and behavior change* (5th ed., pp. 805–821). Hoboken, NJ: Wiley.

Lambert, M. J., & Shimokawa, K. (2011). Collecting client feedback. *Psychotherapy*, *48*, 72–79. http://dx.doi.org/10.1037/a0022238

Lazare, A. (1976). The psychiatric examination in the walk-in clinic: Hypothesis generation and hypothesis testing. *Archives of General Psychiatry*, *33*, 96–102. http://dx.doi.org/10.1001/archpsyc.1976.01770010060012

Lazarus, A. A. (1981). *The practice of multimodal psychotherapy*. New York, NY: McGraw-Hill.

Lester, B. M., Tronick, E., Nestler, E., Abel, T., Kosofsky, B., Kuzawa, C. W., . . . Wood, M. A. (2011). Behavioral epigenetics. *Annals of the New York Academy of Sciences*, *1226*, 14–33. http://dx.doi.org/10.1111/j.1749-6632.2011.06037.x

Levenson, H., & Strupp, H. H. (2007). Cyclical maladaptive patterns: Case formulation in time-limited dynamic psychotherapy. In T. D. Eells (Ed.), *Handbook of psychotherapy case formulation* (2nd ed., pp. 164–197). New York, NY: Guilford Press.

Levy, R. A., & Ablon, J. S. (Eds.). (2009). *Handbook of evidence-based psychodynamic psychotherapy: Bridging the gap between science and practice*. http://dx.doi.org/10.1007/978-1-59745-444-5

Lewinsohn, P. M., Antonuccio, D. O., Steinmetz, J. L., & Teri, L. (1984). *The coping with depression course: A psychoeducational course for unipolar depression*. Eugene, OR: Castalia.

Linehan, M. M. (1993). *Cognitive–behavioral treatment of borderline personality disorder*. New York, NY: Guilford Press.

Litz, B. T., Stein, N., Delaney, E., Lebowitz, L., Nash, W. P., Silva, C., & Maguen, S. (2009). Moral injury and moral repair in war veterans: A preliminary model and intervention strategy. *Clinical Psychology Review*, *29*, 695–706. http://dx.doi.org/10.1016/j.cpr.2009.07.003

Macneil, C. A., Hasty, M. K., Conus, P., & Berk, M. (2012). Is diagnosis enough to guide interventions in mental health? Using case formulation in clinical practice. *BMC Medicine*, *10*, 111. http://dx.doi.org/10.1186/1741-7015-10-111

Marks, I. (1987). *Fears, phobias and rituals: Panic, anxiety and their disorders*. New York, NY: Oxford University Press.

McNally, R. J. (2005). *Remembering trauma*. Cambridge, MA: Belknap Press of Harvard University.

McWilliams, N. (1999). *Psychoanalytic case formulation*. New York, NY: Guilford Press.

Messer, S. B., & Wolitzky, D. L. (2007). The psychoanalytic approach to case formulation. In T. D. Eells (Ed.), *Handbook of psychotherapy case formulation* (2nd ed., pp. 67–104). New York, NY: Guilford Press.

Miller, S. D., Duncan, B. L., Sorrell, R., & Brown, G. S. (2005). The partners for change outcome management system. *Journal of Clinical Psychology*, *61*, 199–208. http://dx.doi.org/10.1002/jclp.20111

Monroe, S. M., & Simons, A. D. (1991). Diathesis-stress theories in the context of life stress research: Implications for the depressive disorders. *Psychological Bulletin*, *110*, 406–425. http://dx.doi.org/10.1037/0033-2909.110.3.406

Mumma, G. H., & Mooney, S. R. (2007). Comparing the validity of alternate cognitive case formulations: A latent variable, multivariate time series approach. *Cognitive Therapy and Research*, *31*, 451–481. http://dx.doi.org/10.1007/s10608-006-9062-5

Norcross, J. C. (2005). A primer on psychotherapy integration. In J. C. Norcross & M. R. Goldfried (Eds.), *Handbook of psychotherapy integration* (2nd ed., pp. 3–23). http://dx.doi.org/10.1093/med/9780195165791.001.0001

Osborn, C. J., Dean, E. P., & Petruzzi, M. L. (2004). Use of simulated multidisciplinary treatment teams and client actors to teach case conceptualization and treatment planning skills. *Counselor Education and Supervision*, *44*, 121–134. http://dx.doi.org/10.1002/j.1556-6978.2004.tb01865.x

Pachankis, J. E., & Goldfried, M. R. (2004). Clinical issues in working with lesbian, gay, and bisexual clients. *Psychotherapy: Theory, Research, Practice, Training*, *41*, 227–246. http://dx.doi.org/10.1037/0033-3204.41.3.227

Pain, C. M., Chadwick, P., & Abba, N. (2008). Clients' experience of case formulation in cognitive behaviour therapy for psychosis. *British Journal of Clinical Psychology*, *47*, 127–138. http://dx.doi.org/10.1348/014466507X235962

Persons, J. B., & Tompkins, M. A. (2007). Cognitive–behavioral case formulation. In T. D. Eells (Ed.), *Handbook of psychotherapy case formulation* (2nd ed., pp. 290–316). New York, NY: Guilford Press.

Prochaska, J. O., Norcross, J. C., & DiClemente, C. C. (2013). Applying the stages of change. *Psychotherapy in Australia*, *19*(2), 10–15.

Rogers, C. R. (1995). Person-centered therapy: The case of Mrs. Oak. In D. Wedding & R. J. Corsini (Eds.), *Case studies in psychotherapy* (2nd ed., pp. 61–84). Itasca, IL: Peacock.

Rogers, G. M., Reinecke, M. A., & Curry, J. F. (2005). Case formulation in TADS CBT. *Cognitive and Behavioral Practice*, *12*, 198–208. http://dx.doi.org/10.1016/S1077-7229(05)80025-2

Ryan, W. (1976). *Blaming the victim* (Rev. ed.). New York, NY: Vintage Books.

Schacht, T. E. (1991). Formulation-based psychotherapy research: Some further considerations. *American Psychologist*, *46*, 1346–1347. http://dx.doi.org/10.1037/0003-066X.46.12.1346

Schneider, B. H., & Bryne, B. M. (1987). Individualizing social skills training for behavior-disordered children. *Journal of Consulting and Clinical Psychology*, *55*, 444–445. http://dx.doi.org/10.1037/0022-006X.55.3.444

Schulte, D., & Eifert, G. H. (2002). What to do when manuals fail? The dual model of psychotherapy. *Clinical Psychology: Science and Practice*, *9*, 312–328. http://dx.doi.org/10.1093/clipsy.9.3.312

Selye, H. (1956). *The stress of life*. New York, NY: McGraw-Hill.

Sim, K., Gwee, K. P., & Bateman, A. (2005). Case formulation in psychotherapy: Revitalizing its usefulness as a clinical tool. *Academic Psychiatry*, *29*, 289–292. http://dx.doi.org/10.1176/appi.ap.29.3.289

Simms, J. (2011). Case formulation within a person-centred framework: An uncomfortable fit? *Counselling Psychology Review*, *26*(2), 24–36.

Sperry, L., Gudeman, J. E., Blackwell, B., & Faulkner, L. R. (1992). *Psychiatric case formulations*. Washington, DC: American Psychiatric Association.

Sue, D. W., Capodilupo, C. M., Torino, G. C., Bucceri, J. M., Holder, A. M. B., Nadal, K. L., & Esquilin, M. (2007). Racial microaggressions in everyday life: Implications for clinical practice. *American Psychologist*, *62*, 271–286. http://dx.doi.org/10.1037/0003-066X.62.4.271

Tryon, G. S., & Winograd, G. (2011). Goal consensus and collaboration. *Psychotherapy*, *48*, 50–57. http://dx.doi.org/10.1037/a0022061

Van der Kolk, B. A., McFarlane, A. C., & Weisaeth, L. (2006). *Traumatic stress: The effects of overwhelming experience on mind, body, and society*. New York, NY: Guilford Press.

Vertue, F. M., & Haig, B. D. (2008). An abductive perspective on clinical reasoning and case formulation. *Journal of Clinical Psychology*, *64*, 1046–1068. http://dx.doi.org/10.1002/jclp.20504

Wachtel, P. L., Kruk, J. C., & McKinney, M. K. (2005). Cyclical psychodynamics and integrative relational psychotherapy. In J. C. Norcross & M. R. Goldfried (Eds.), *Handbook of psychotherapy integration* (2nd ed., pp. 172–195). New York, NY: Oxford University Press.

Weed, L. L. (1971). The problem oriented record as a basic tool in medical education, patient care and clinical research. *Annals of Clinical Research*, *3*, 131–134.

Young, J. (1999). *Cognitive therapy for personality disorders: A schema-focused approach* (3rd ed.). Sarasota, FL: Professional Resource Press.

CHAPTER 13

# ASSESSMENT WITH RACIAL/ ETHNIC MINORITIES AND SPECIAL POPULATIONS

*Lisa A. Suzuki and Leo Wilton*



This chapter provides state-of-the-art information regarding the assessment of individuals from diverse racial and ethnic communities as well as from special populations. Many of the concerns identified in relation to psychological assessment with racial and ethnic minority populations can be applied to other special populations (e.g., gender, sexual orientation, disability status). We begin with descriptions and definitions of key terms related to assessment and highlight potential factors that have an impact on the process of assessment. We then examine some of the most frequently used measures from a cultural perspective, noting the challenges that continue to plague the field. We conclude with future directions for clinical psychologists engaging in the assessment process with members of diverse communities.

## DESCRIPTION AND DEFINITION

"*Multicultural assessment* refers to assessment applications of all standard instruments in concert with interview and other test/method sources providing additional information necessary for multicultural competence" (Dana, 2005, p. 3). The term *multicultural assessment* reflects an ethical imperative to advance beyond cultural sensitivity toward cultural competence (Dana, 2005). The American Psychological Association (APA) has underscored the importance of cultural competence in recent decades through the provision of multidiversity guidelines and policies to address the needs of individuals of racial/ethnic minority backgrounds and special populations. These policies focus on multicultural communities (APA, 2003); lesbian, gay, and bisexual clients (APA, 2012); older adults (APA, 2014); and girls and women (APA, 2007). The diversity guidelines indicate that it is essential for clinical psychologists to demonstrate cultural competence as they engage in assessment practices with diverse communities.

The *Guidelines on Multicultural Education, Training, Research, Practice, and Organizational Change for Psychologists* (APA, 2003) address

> U.S. ethnic and racial minority groups as well as individuals, children, and families from biracial, multiethnic, and multiracial backgrounds. . . . [M]ulticultural in these Guidelines . . . refer[s] to interactions between individuals from minority ethnic and racial groups in the United States and the dominant European-American culture. (p. 378)

These groups include Asian Pacific Islander, Black–African American, Latino–Hispanic, and Native American–American Indian descent as well as immigrants and temporary workers in the United States. The guidelines address the importance of knowing the empirical and conceptual literature pertaining to culture-specific variations of assessment and an awareness of the potential impact of culture on the assessment process (APA, 2003).

All of these guidelines note the importance of psychologists recognizing how attitudes and knowledge about marginalized groups may affect assessment, taking into consideration norms, values,

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beliefs, religion, spirituality, age, sexual orientation, socioeconomic status (SES), disability, urban and rural residence, and SES. In addition, specific factors related to particular groups are emphasized when relevant. For example, the guidelines addressing older adults highlight these sociocultural factors as well as social and psychological dynamics of the aging process, health-related issues, cognitive and functional capacity, and psychopathology. Guidelines pertaining to girls and women emphasize the importance of unbiased assessment practices that consider complex aspects of the experiences of girls and women in the context of institutional and systemic gender.

The literature has presented many definitions of culture. For the purposes of this chapter, we define culture as encompassing meaningful practices, activities, and symbols that are transmitted over time and used to communicate knowledge, attitudes, beliefs, and values (Geertz, 1973; Serpell, 2000). Culture provides a context in which people develop, learn, and live their lives.

Culture has an impact on the measurement of all psychological phenomena. Virtually all psychologists accept this statement, but research-supported, culturally based assessment strategies are notably absent in psychology's published discourse. This situation reflects the challenges created by the complex array of factors that affect assessment practices with diverse communities. The meaning of many measurement constructs are elusive and often operationally defined by the instruments that have been developed to measure them (e.g., intelligence is what intelligence tests measure; Boring, 1923).

Numerous controversies have permeated clinical assessment with respect to testing in diverse cultural communities. Assessments are often used as gatekeepers to clinical and educational services and are applied to diagnose clients and inform treatment plans. Disparities regarding rates of placement and frequency of particular diagnoses between racial and ethnic groups have spurred challenges to several assessment practices. For example, in the late 1960s, the Association of Black Psychologists submitted a petition calling for a moratorium on the use of intelligence tests with African American students "until appropriate and culturally sensitive tests were developed" (Franklin, 2007, p. 11) because of disproportionately high numbers being placed in special education programs. In addition, traditional psychological assessment and a lack of sensitivity to the oppressive contexts experienced by members of diverse ethnocultural groups have yielded higher rates of psychopathology such as schizophrenia, depression, and anxiety for diverse communities (e.g., S. R. López, 1989; Sue & Sue, 2013). Several widely used personality measures have the propensity to "pathologize indigenous worldviews, knowledge, beliefs and behaviors rather than accurately assess psychopathology" (Hill, Pace, & Robbins, 2010, p. 16).

## PRINCIPLES AND APPLICATIONS

A number of models with associated principles have been developed to address multicultural assessment. In this section, we begin by describing three of these models that illuminate intersecting identities, collection of relevant culturally based information, and considerations in assessing bilingual individuals. In addition, we outline the major steps in the assessment process, identifying areas in need of investigation in conducting multicultural evaluations.

### Multicultural Frameworks for Assessment

A number of scholars have created conceptual models to guide the process of multicultural assessment. Multiple facets of identity need to be taken into account during the process of evaluation with all clients, including members of particular racial/ethnic communities and special populations. The ADDRESSING framework (Hays, 2007) is useful in assisting clinicians to understand the multidimensional conceptualization of intersecting identities that can inform the assessment process: *A*ge, *D*evelopmental and acquired *D*isabilities, *R*eligion, *E*thnicity, *S*ocioeconomic status, *S*exual orientation, *I*ndigenous heritage, *N*ational origin, and *G*ender. Psychological assessment practices must take into consideration salient identities and aspects of the multitude of contexts in which individuals reside. Three such models that take into consideration multiple aspects of identity are the multidimensional assessment intervention process (Dana, 2005), the

multicultural assessment procedures (Ridley, Li, & Hill, 1998), and the multicultural assessment model for bilingual individuals (Ortiz & Ochoa, 2005).

The multidimensional assessment intervention process identifies strategic questions regarding the inclusion of culturally relevant information at critical points during an evaluation. The model is organized around a series of seven questions addressing etic (universal) and emic (culture-specific) orientation, cultural orientation, diagnosis (if deemed necessary), instrumentation, cultural stress, and intervention. The model emphasizes the importance of examining the psychometric properties of particular measures and evaluating the credibility of their cross-cultural research histories.

A second model, the multicultural assessment procedures, provides an expansive identification of cultural data by incorporating multiple methods of data collection and emphasizing the need to formulate a working hypothesis regarding functioning and diagnosis based on the cultural data gathered. The model takes an emic approach, using standardized and nonstandardized instruments (e.g., postassessment narratives, idiographic measures), including culture-specific tests. In addition, assessment of psychocultural adjustment, culturally related defenses, and behavioral analysis is included. Understanding of the client's cultural belief system and involvement of the family network are also addressed. Using the multicultural assessment procedures, the clinician formulates working hypotheses and engages in hypothesis testing, incorporating cultural variables in all stages of the assessment process.

The multicultural assessment model for bilingual individuals is designed to provide practitioners with information to assist in the determination of best practices in the evaluation of diverse school-age children, although Ortiz and Ochoa (2005) noted that the general principles underlying the model can be applied to adults. The model includes multiple sources of information, highlighting the cultural and linguistic history of the individual in terms of language proficiency, educational programming, and current grade level. These areas are critical in determining the modality of testing in terms of four approaches: reduced culture–language testing (e.g., nonverbal assessment), testing in the native language, testing in English, or bilingual testing. Note that these approaches are not mutually exclusive and can be used in combination.

## Assessment Concepts

An understanding of the impact of culture on psychological testing requires knowledge of concepts that affect the process of evaluating members of diverse backgrounds. In this section, we briefly highlight issues of equivalence, cultural loading, and test bias.

**Equivalence.** Equivalence in testing refers to whether a measure maintains its integrity when applied to different groups (e.g., members of different racial and ethnic groups; males and females). Several forms of equivalence affect the assessment process. Cultural equivalence, that is, whether "interpretations of psychological measurements, assessments, and observations are similar if not equal across different ethnocultural populations" (Trimble, 2010, p. 316) is one of the most challenging to establish. Other forms of equivalence (e.g., Butcher & Han, 1996; Helms, 1992; Lonner, 1985; van de Vijver, 2001) include (a) functional (whether the construct as operationally defined occurs with equal frequency across groups), (b) conceptual (whether item information is familiar across groups and has a similar meaning in various cultures), (c) scalar (whether the average score differences reflect the same degree, intensity, or magnitude for different cultural groups), (d) linguistic (whether the translations used have similar meaning across groups), and (e) metric (whether the scale measures the same behavioral qualities or characteristics and has similar psychometric properties in different cultures).

Equivalence is established through test development and statistical procedures such as expert panel reviews, differential item functioning between groups, statistical procedures comparing the psychometric features of the test with different population samples, exploratory and confirmatory factor analysis, structural equation modeling, and examination of mean score differences and the spread of scores within and between particular racial and ethnic groups. More specifically, linguistic or translational equivalence is often addressed through a back-translation method; conceptual equivalence

may be examined through multitrait–multimethod approaches to test development; and metric equivalence is established when a particular measure attains similar psychometric properties across different cultural groups (e.g., rate of item endorsement across samples; differences of less than 25% may suggest adequate equivalence; Nicols et al., 2000, as cited in Berman & Song, 2013).

**Cultural loading.** All measures are culturally loaded (Sattler, 2008). That is, the content of the test items reflects what is important and valued within the particular cultural context in which the test was developed. Therefore, tests cannot be considered culture free. Even nonverbal tests of intelligence, which were developed to remove the language requirement in responses from examinees, are considered culturally reduced measures. For example, the Test of Nonverbal Intelligence, Fourth Edition (Brown, 2003; Brown, Sherbenou, & Johnsen, 2010) addresses abstract reasoning, aptitude, intelligence, and problem solving without requiring verbal instructions or responses.

**Cultural test bias.** Bias in testing exists when there is systematic error in the measurement of a psychological construct as a function of membership in a particular cultural or racial subgroup (Reynolds & Lowe, 2009). Sources of bias may include inappropriate test content, unrepresentative standardization samples, differential predictive validity, and examiner–clinician bias (Reynolds & Lowe, 2009). Test bias has been used to challenge the use of measures that yield racial and ethnic group differences and lead to inequitable social consequences in educational settings. Legal cases in the 1960s and 1970s attest to unfair use of intelligence tests for tracking students and placement of bilingual Mexican American and Black children in disproportionately high numbers as educable mentally retarded (i.e., *Hobson v. Hansen, Diana et al. v. State Board of Education in California*, and *Larry P. v. State Board of Education in California*, as cited in Williams et al., 1980). Today, Black students continue to be placed in special education at disproportionately higher rates with respect to learning disabilities and mental retardation (Suzuki, Short, & Lee-Kim, 2011).

## Assessment Process

The assessment process involves examining and integrating salient cultural considerations for racial/ethnic minority clients and for special populations. Much of the research has suggested that the assessment process can be influenced by a multitude of factors, including race, ethnicity, culture, gender, age, sexual orientation, social class, immigration and refugee status, acculturation, language, disability, and religion or spirituality. The incorporation of multicultural assessment frameworks and methods can challenge and reduce cultural biases embedded in the assessment process (Dana, 2005).

Research has indicated that culturally competent assessment practice must consider persistent barriers to mental health care (i.e., underutilization of, access to, and early termination from mental health services; over-, under-, and misdiagnosis of mental health problems) and promote optimal mental health outcomes for clients (Alessi, 2014; Hack, Larrison, & Gone, 2014). In this section, we discuss the essential steps in the assessment process from a multicultural perspective.

**Review of background records.** A review of background records will provide a broader framework for understanding clients' life contexts. For example, records can provide clinicians with relevant information about the client's history; areas of strength and challenges; and cultural norms, identities, and values that may not be well defined or apparent during the assessment process. Some immigrants and refugees, for example, may not have any educational or health records, and the psychologist may not have a mechanism to access these background record documents if the client is coming from a developing country (Bemak & Chung, 2014). In this context, salient background data involving the racial, ethnic, gender, sexual orientation, disability, and religious or spiritual cultural identities of clients can be instrumental in the assessment process.

**Behavioral observations.** Observed behaviors must be understood in cultural context because the meaning of various actions is influenced by values and beliefs about what is appropriate and inappropriate. In addition, behavioral expressions of emotion and nonverbal communication styles are affected by

cultural norms (Sue & Sue, 2008). Some cultures (e.g., Native American) may value not quick performance but rather meticulousness and careful attention to the problem. Hence, they may not perform as well on speeded tests that provide bonus points when tasks are solved within a particular time frame.

**Clinical interview.** The clinical interview provides a fundamental context to the assessment process for clients. During the clinical interview, a key emphasis needs to be placed on the cultural values or worldviews and racial, ethnic, gender, disability, and sexual identity development of clients, which can put observational data (e.g., verbal and nonverbal communication patterns and behavior, affect, mood, speech, language, cognitive processes) in context. Information related to the client's experiences with stigma, cultural mistrust, and language (Alcántara & Gone, 2014) can also be explored. The clinician must also be cognizant of his or her own potential cultural biases during the clinical interview because they may have deleterious effects on the assessment process (Suzuki, Naqvi, & Hill, 2014).

Interview guides have been developed to expand information regarding an individual's cultural background and can be used as part of an interview (e.g., Person-in-Culture Interview [Berg-Cross & Takushi-Chinen, 1995], Cultural Assessment Interview Profile [Grieger, 2008]). The Person-in-Culture Interview was originally developed as a training exercise and is based on the premise that the ways in which fundamental human needs are met are derived in cultural context (Berg-Cross & Takushi-Chinen, 1995). Questions focus on presenting problems, engagement in activities, expressing emotions, family safety, religion, learning, meaning, responsibility, and communication. Some of these areas overlap with the Cultural Assessment Interview Profile, which addresses problem conceptualization and attitudes toward helping, cultural identity, racial identity, acculturation, family structure and expectations, experiences with bias, immigration issues, and existential or spiritual issues.

**Determination of presenting problem in context.** Clients' presenting problems must be examined within the broader sociocultural contexts of their lives, families, and communities as well as cultural values, norms, and worldviews. Research has documented cultural differences pertaining to nonverbal and verbal communication patterns in affect, mood, and psychological distress (Sue & Sue, 2013). These cultural considerations, based on the examination of contexts of the presenting problem, are paramount in the psychological assessment process. Pertinent information about the client's cultural history and experiences can provide a holistic perspective in understanding the presenting problem in context.

Research has demonstrated that stressors related to acculturation processes for immigrants and refugees often have an impact on their mental health (e.g., elevated depression, anxiety, somatization symptoms) and, thus, their assessment results. As such, acculturation processes that are typically not explored during clinical interviews need to be considered.

**Incorporation of a strength-based perspective.** Culturally sensitive psychological assessment will focus on a strength-based perspective, in contrast to a deficit-oriented context that often overpathologizes clients (Suzuki, Kugler, & Aguiar, 2005). Although clinical and educational weaknesses may be identified, a comprehensive assessment can also yield a number of adaptive capacities and current strengths.

**Selection of instruments.** In determining which assessment instruments (e.g., personality, cognitive, mental health) to use, key areas to consider include their cultural appropriateness for clients on the basis of race, ethnicity, gender, sexual orientation, and disability status (e.g., cultural equivalence of instruments). For example, have the instruments been standardized with the specific cultural group? Is the content of the instrument's items culturally appropriate for the specific cultural group? What are the norms for the instruments for the specific cultural group? What multicultural instruments can be used with the specific cultural group? Moreover, race, ethnic, disability status, social class, heteronormative, and gender biases need to be considered in the selection of instruments for each individual client.

Quantitative instruments have been developed to assess acculturation, as well as ethnic, racial, and

cultural identities. Examples of such instruments by area that can be used in clinical practice include for acculturation, the African American Acculturation Scale (Landrine & Klonoff, 1994), Asian American Multidimensional Acculturation Scale (Gim Chung, Kim, & Abreu, 2004), Bicultural Acculturation Scale for Hispanics (Marín & Gamba, 1996); for ethnic identity, the East Asian Ethnic Identity Scale (Barry, 2002), Multigroup Ethnic Identity Measure (Phinney, 1992), and Taiwanese Ethnic Identity Scale (G. Tsai & Curbow, 2001); for racial identity, the Cross Racial Identity Scale (Cross & Vandiver, 2001), Revised Multidimensional Inventory of Black Identity (Sellers et al., 1997), and White Racial Identity Attitude Scale (Helms, 1990); and for cultural identity, the Orthogonal Cultural Identification Scale (Oetting & Beauvais, 1990–1991).

Alternative measures have also been created, based on the most popular psychological instruments incorporating cultural themes. For example, the Tell-Me-A-Story test (Costantino, Malgady, & Rogler, 1988) was designed as the "multicultural offspring of the TAT [Thematic Apperception Test]" (Costantino, Flanagan, & Malgady, 2001, p. 222). It includes majority and ethnic minority versions. The story-telling task is scored for personality, affective, and cognitive functions. The minority version of the test contains full-color cards depicting Latino/Latina and Black individuals.

At the same time, despite the attention to the assessment of cultural constructs, few, if any, of these measures are used regularly in standard practice. Instead, the overwhelming majority of clients receiving psychological assessment services are evaluated with traditional measures that are taught in clinical assessment courses. Training in psychological testing in clinical psychology programs has primarily focused on the same tests for the past 60 years (i.e., Wechsler Intelligence scales, Minnesota Multiphasic Personality Inventory, Rorschach, and TAT; Ready & Veague, 2014), although training in projective testing has decreased. Thus, although newer culturally based measures (e.g., acculturation) have become available to clinicians, training programs have not adopted curricula to incorporate their use. These culturally based measures can assist the clinician in formulating appropriate diagnoses, thereby preventing the overpathologizing of clients that may have contributed to the racial and ethnic disparities in mental health diagnosis.

**Administration of tests.** The administration of standardized psychological measures needs to account for the cultural contexts of clients that may influence their test performance. In this regard, clinicians need to consider the role of cultural influences (e.g., attitudes, beliefs, and perspectives of clients regarding testing) during test administration that may have had an impact on the assessment process. For example, a systematic body of research on testing has demonstrated the deleterious impact of stereotype threat (influence of negative social group stereotypes) on test performance (Steele, 2011). Stereotype threat has been conceptualized as the actual or perceived situation in which individuals internalize negative stereotypes related to their social identity group that affects their academic and test performance.

Interpreters are often used when language is a barrier in the psychological assessment process. These professionals must be trained in assessment and be fluent in both English and the second target language. The translation of tests from one language into another language can pose considerable complexities in the assessment process involving the cultural equivalence of test items, challenges in the translation of technical test instructions, and accurate measurement of testing constructs that may be absent or unobserved during the translation. In addition, the informed consent process in assessment needs to provide attention to language considerations (e.g., translation of consent forms; accessibility of the content contained in the consent forms so that clients understand the assessment process, including their rights in the assessment process, particularly for individuals who have experienced educational barriers and may not view psychological assessment as having a beneficial outcome).

Guidelines and recommendations are available to assist the psychologist and interpreter. For example, E. C. Lopez (2010) has provided information to clinicians working with interpreters in the school context. These recommendations address a range of areas, including establishing rapport, seating

arrangements, and the process of oral translation. Interpreters should review relevant documents, including referrals and test materials, before administration and raise any potential problems regarding the testing process, including cultural factors that may be present in terms of communication or behavior. A debriefing session after the evaluation should also be conducted to discuss any concerns raised during the evaluation and cultural issues that may have affected the assessment.

**Results of testing.** The influence of culture in making sense of test results in context is an integral part of the assessment process (Dadlani, Overtree, & Perry-Jenkins, 2012). Incorporating multiple sources of data (including formalized testing as well as informal observations and interviews) facilitates a broader understanding of the presenting problem for culturally diverse clients. In addition, a collection of test results work together to provide relevant information in reconciling discrepancies among testing results or limited information about the contexts of the client's presenting problem (Suzuki et al., 2014).

The revised *Standards for Educational and Psychological Testing* (American Educational Research Association, APA, & National Council on Measurement and Evaluation, 2014) includes extensive discussion of fairness in testing. The text notes the importance of taking into consideration a number of variables, including race, ethnicity, gender, formal education, acculturation, language, and cultural background of both the examiner and the test taker. In addition, attention to SES is critical because it has been identified as affecting the measurement of all psychological constructs, most notably intelligence. For example, poverty has been linked to numerous environmental factors that are related to lower intelligence, such as substandard housing, poor health care, reduced exposure to language, poor neighborhoods and schools, and presence of emotional trauma (Nisbett, 2009). With respect to personality assessment, culture has an impact on how people understand their view of the self and relationships (Cheung, 2009).

**Interpretation of results.** As we have repeatedly noted, the interpretation of the testing results must be considered within the multiple contexts of the client's cultural background. For example, the interpretation of cognitive testing results for a low-income client with a developmental or learning disability needs to consider the effects of social class and disability status in the assessment process (e.g., access to educational resources). In addition, the interpretation of the testing results exclusively on the basis of testing instruments can be problematic in understanding the client's presenting problem. Thus, it is critical that information regarding the client's background and reason for referral be explored, incorporating questions from clinical interviews such as the Person-in-Culture Interview and Cultural Assessment Interview Profile discussed earlier.

**Communication of results to clients.** Effectively communicating test results is critical for all clients. However, an added challenge for clinicians working with culturally diverse individuals is integrating experiences with societal stigma and marginalization according to race, ethnicity, gender, sexual identity, and disability status. In this context, clinicians need to incorporate culturally relevant information in communicating assessment results and ensure that clients comprehend results and their implications. Reports are designed to address specific referral questions, integrating test findings with background information shared by the client (Groth-Marnat, 2009). For example, in the case of an immigrant client, salient information regarding past history in the client's homeland, years in the United States, and other aspects of acculturation may prove important in deriving meaning from the test results. In a review, Garrido and Velasquez (2006) cited findings indicating a tendency to overpathologize Latinos/Latinas on the basis of Minnesota Multiphasic Personality Inventory—II (MMPI–2) profiles when acculturation and SES are not considered.

**Referrals.** Referrals based on assessment results need to incorporate key cultural considerations for establishing appropriate mental health care for culturally diverse clients. This process includes understanding the client's perspectives, involvement, and engagement in mental health care to promote provision of optimal services. Building on the *Guidelines on Multicultural Education, Training, Research,*

*Practice, and Organizational Change for Psychologists* (APA, 2003), clinicians can (a) emphasize the potential roles of family members, (b) harness community supports, and (c) consider culturally congruent and indigenous healing strategies (e.g., prayer and the use of religious- or spiritually based support systems in their communities) and other social support networks. Research has shown that some clients may be reticent to participate in the clinical assessment process. In addition, people of color have a higher rate of premature termination from treatment. Clinicians need to consider culturally relevant referral processes for intervention and follow-up care.

## CULTURAL APPLICATIONS OF MAJOR COGNITIVE, PERSONALITY, AND CLINICAL TESTS

In this section, we review some of the most frequently used cognitive, personality, and mental health tests used by clinical psychologists (Camara, Nathan, & Puente, 2000) with respect to their cultural applications. These cultural considerations provide the basis for the development and implementation of multiculturally competent assessment.

### Cognitive Instruments

Cognitive assessment provides relevant data focused on the intellectual functioning of clients in clinical assessment (see Chapter 4, this volume). For this multifactorial domain, cognitive tests include the Wechsler Scales, Woodcock–Johnson IV Tests of Cognitive Abilities (Woodcock, McGrew, & Schenk, 2007), and Wide Range Achievement Test (Wilkinson & Robertson, 2006). Research on the assessment of mental or cognitive ability has indicated that race/ethnicity, gender, and disability status can potentially bias the results and interpretation of results (Boykin, 2014; Dana, 2014). Higher scores on intelligence tests have been linked to specific racial/ethnic groups (e.g., Asian, Jewish) and to groups attaining higher SES. For example, empirical findings have shown an approximate 15-point mean score difference between African Americans and Whites on the Wechsler scales (e.g., Suzuki, Onoue, & Hill, 2013). As such, the construct of intelligence in cognitive tests has been rooted in Western and Eurocentric conceptual frameworks of dominant cultures. The application of these frameworks in cognitive tests to those of culturally diverse populations has resulted in potential cultural incongruence in the concept of intelligence (Suzuki et al., 2014). Cultural adaptations for diverse populations may be considered in test administration (e.g., providing alternative instructions as noted in the test manual). Psychologists can consider incorporating nonverbal intelligence tests (e.g., Test of Nonverbal Intelligence) as a component of the standard cognitive battery, which have been shown to be culturally applicable for diverse racial and ethnic populations (Suzuki et al., 2014).

### Personality Instruments

In a standard psychological assessment, a variety of personality tests may be administered to a client. Here, we address cultural applications of five widely used personality tests: (a) MMPI–2 (Butcher et al., 1989); (b) Millon Clinical Multiaxial Inventory, Third Edition (MCMI–III; Millon et al., 2009); (c) Rorschach Inkblot Test (Rorschach, 1942); (d) TAT (Murray, 1943); and (e) Projective Drawings (Oster & Crone, 2004).

The MMPI–2 has been used by clinical psychologists to assess and diagnose psychopathology. The MCMI–III instrument assesses mental health disorders indicative of *Diagnostic and Statistical Manual of Mental Disorders*, *Fourth Edition, Text Revision,* Axis I (clinical) and II (personality) diagnoses. The Rorschach Inkblot Test is a performance-based (projective) instrument used to evaluate personality characteristics and dynamics, level of functioning, and psychopathology. The TAT is a story-telling measure that assesses a constellation of psychological factors involving thought patterns, interpersonal attitudes, affect, and behavior. Projective drawings (e.g., House–Tree–Person, Kinetic Family Drawing) have been used to provide information about personality characteristics, affect, internal attitudes, motivations, and psychological processes.

**MMPI–2 and MCMI–III.** Research has indicated that the MMPI–2 and MCMI–III have limited normative data for people of color, including Asian Americans, African Americans, Latinos/Latinas,

and Native Americans and that people of color have been significantly underrepresented in MMPI–2 and MCMI–III empirical studies (Kwan & Maestas, 2008). As such, sociocultural contexts need to be considered in the interpretation of MMPI–2 and MCMI–III scores because of observed elevated subscale scores and associated pathology for people of color. Contextual factors such as immigration history and acculturation can affect a client's performance on these personality measures. However, these Western-based instruments can still be used to understand personality and psychopathology in different cultural contexts (Butcher et al., 2006).

For example, international adaptations of the MMPI–2 have expanded the applicability of this measure in cross-cultural contexts. The MMPI–2 has been adapted for use in more than 24 languages addressing translation procedures, bilingual equivalence studies, in-country normative efforts, and external validation research efforts. Studies have been conducted to address the linguistic, construct, psychometric, and psychological equivalence of these adapted versions of the MMPI–2. Butcher et al. (2006) recommended that individuals coming from cultures that adhere to industrialized Western traditions may adopt U.S. norms. Furthermore, in their review interpretive accuracy was indicated as meaningful conclusions about clients were derived in other languages and cultures with close interpretive congruence when applied to clients from other cultures. The majority of clinicians sampled also rated computer-generated interpretive reports as generally accurate.

Concerns regarding the usage of these scales should also be considered because some studies have reported scale elevations for African Americans (MMPI–2 Infrequency, Schizophrenia, and Hypomania scales; MCMI–III Antisocial, Narcissistic, Paranoid, and Drug Abuse scales; Groth-Marnat, 2009), Native Americans (MMPI–2 Lie, Infrequency, Correction, Psychopathic Deviate, Schizophrenia, and Hypomania scales; Robin et al., 2003), and less acculturated Asian samples (D. C. Tsai & Pike, 2000). A meta-analytic review of the MMPI/MMPI–2 research found that, although aggregate effect sizes suggest higher scores for ethnic minority group members in comparison to European Americans, these differences are not substantive from a statistical or clinical perspective (Nagayama Hall, Bansal, & Lopez, 1999). More research is needed to examine between and within ethnic and racial group differences on these measures.

For performance-based personality tests (e.g., Rorschach Inkblot Test, TAT, projective drawings) used in clinical assessment, research has demonstrated that cultural norms and values must be considered (e.g., acculturation, racial/cultural identities, religion or spirituality, cultural traditions, linguistic factors) in the interpretation of testing results to avoid overpathologizing clients.

**Rorschach Inkblot Test.** The Rorschach has been used extensively in cross-cultural settings given its low cultural task demands (Esquivel, Oades-Sese, & Olitzky, 2008). Ritzler (2001) noted that the inkblots are "sufficiently ambiguous to eliminate most cultural bias" (p. 238). In addition, studies examining matched samples (i.e., gender, age, education, marital status, and SES) of African Americans and White Americans yielded similarity between the two groups. Other reviewers have disagreed, however, noting that "Blacks, Hispanics, Native Americans, and non-American groups often score differently on important variables comprising the [Comprehensive System] and other Rorschach systems" (Lilienfeld, Wood, & Garb, 2000, p. 33). Thus, usage of the Rorschach may prove problematic with American minorities and non-Americans.

Research continues to be conducted in terms of the cross-cultural usage of the Rorschach. An international reference has been created for users of the Rorschach, highlighting the developmental complexity in understanding the Comprehensive System in a developmental context—that is, adults and children (Meyer, Erdberg, & Shaffer, 2007). The results have indicated that the adult samples were quite similar, thus leading the researchers to support the integration of composite international reference values into the clinical interpretation of Rorschach protocols. However, social and cultural factors may still have an important impact on shaping personality, attitudes, perceptions, and experiences, with higher *T* values noted for the Japanese sample. In addition, education and SES (tied to national and cultural differences) are highly correlated with Comprehensive

System scores. Examination of 31 child and adolescent samples from five countries yielded unstable, extreme values and substantial disparities on many scores of the Comprehensive System. Thus, Rorschach data from children should be interpreted in an idiographic and exploratory manner until normative benchmarks for cognitive and emotional development across cultures are more clearly established.

**Projective drawings.** Despite criticisms regarding the scientific status of scores derived on the basis of human figure and other projective drawings, cultural interpretations have been found to be germane to the clinical assessment process. For example, projective drawings can be used to assess personality and psychopathology with culturally and linguistically diverse clients. In addition, these instruments can be used as complementary measures to assess cognitive and emotional functioning within clients' relevant sociocultural contexts. Some projective instruments such as the Draw-A-Person Test have not yielded significant differences across racial/ethnic groups (Esquivel et al., 2008). Furthermore, the utilization of explanatory narratives with the projective assessment instruments can be used to provide appropriate contexts for cultural interpretations as a component of the clinical assessment process (Esquivel et al., 2008). Findings from particular studies using human figure drawings have indicated cultural influences in the depiction and use of color as well as gender differences (Toku, 2000).

**Thematic Apperception Test.** The TAT is a projective narrative measure in which clients are asked to create a story with a beginning, middle, and end. The theoretical rationale is that clients will project their perceptions, attitudes, emotions, and needs as they assign meaning to the characters and to aspects of the various black-and-white pictures. Although the TAT was originally designed to examine interpersonal concerns, there is some support for its use in examining culturally based interpretations, including attention to ethnic identity, cultural conflict, acculturation, and context (Esquivel et al., 2008). We should note that despite concerns regarding the limited cultural relevance of the pictures and characters depicted, lack of minority representation in norming, and absence of structured criteria for interpreting cultural factors within a sociocultural framework, researchers have found the TAT useful in cross-cultural work with Central American refugees, Mexican Americans, and Mexican immigrants (Suárez-Orozco, Suárez-Orozco, & Todorova, 2008).

## Mental Health Instruments

For the purposes of this chapter, we focus on depression as an illustrative example of mental health assessment within a sociocultural context. Different cultural traditions shape understandings of personal experience, such as personhood, identity, and social worth, thereby promoting or limiting depressive symptom expression (Jack, Ali, & Dias, 2014). Cultures also protect against depression through factors such as family strengths, religious beliefs, attribution styles, and related coping or support systems.

**Beck Depression Inventory.** The Beck Depression Inventory—II (Beck, Steer, & Brown, 1996) is one of the most popular instruments designed to assess the severity of depressive symptoms. It consists of 21 items and has been translated into 14 languages, although the Pearson publication notes only a Spanish version. Studies have indicated that the inventory provides a robust assessment of depression across gender, race, and ethnicity among college students in the United States, as evidenced by its factorial invariance (Whisman et al., 2012). Versions developed internationally also yield promising results regarding the scale's psychometric properties as applied to different populations in different countries (e.g., Japan; Kojima et al., 2002). A study addressing the reliability of the Beck Depression Inventory—II with deaf people has indicated promising results when ethnicity, gender, and age were taken into account. The authors concluded that evidence supports the continued use of the measure in research and clinical assessment with deaf individuals (Leigh & Anthony-Tolbert, 2001).

## Special Populations

As evidenced in this chapter, multicultural assessment has often been considered as synonymous with diverse racial and ethnic groups. Gender is often addressed because standardization samples include equal numbers of male and female participants, allowing for statistical comparison. In our review of

the literature, we found limited examination of sexual orientation and religious affiliation for the major tests commonly used in psychological assessment. In addition, although SES indicators were often included in descriptions of samples, they were often not included in statistical analyses with the exception of intelligence measures. The Wechsler scales, for instance, match samples on the basis of parental occupation as an indicator of SES.

Individuals with acquired or developmental disabilities pose multiple challenges to psychological assessment given their unique circumstances and the limitations of psychological assessment measures. For example, there is dearth of empirically validated measures for deaf and hard-of-hearing individuals (e.g., Turner, Georgatos, & Ji, 2013). American Sign Language does not translate directly into English, and there are differences in grammar and syntax, as well as cultural nuances that limit understanding between the two languages. Given these challenges, Turner et al. (2013) recommended that clinicians use caution in applying measures to deaf and hard-of-hearing clients. They also support the use of interpreters and nonverbal measures such as the Leiter International Performance Scale (Roid et al., 2013), Test of Nonverbal Intelligence (Brown et al., 2010), and the Universal Nonverbal Intelligence Test (Bracken & McCallum, 1998).

**Test translation and adaptation.** The International Test Commission (2010) has provided *Guidelines for Translating and Adapting Tests*. The recommendations are grouped into four categories: (a) context (e.g., examining the effects of cultural differences in relation to the construct being measured); (b) test development and adaptation (e.g., emphasizing that test developers and publishers address potential linguistic and cultural differences in communities in which the test will be used); (c) administration (e.g., in designing materials and instructions, test developers and administrators must anticipate potential areas of concern that may arise in the testing process and attempt to remedy them in advance); and (d) documentation and score interpretations (e.g., including documentation of the changes made and evidence of how equivalence has been addressed in tests that have been adapted).

## LIMITATIONS OF MULTICULTURAL ASSESSMENT

Today, the number of culturally diverse clients are increasing, including people of color; women; lesbian, gay, bisexual, and transgender people; and people with disabilities, representing a complex array of sociocultural, mental health, and psychosocial challenges in the use of mental health care systems. Accordingly, a growing number of psychologists with well-developed multicultural assessment competencies are needed (Beer et al., 2012; Sehgal et al., 2011). Much of the literature on multicultural assessment has indicated that clinicians will continue to experience a multitude of challenges in conducting assessments with culturally diverse clients (Suzuki & Ponterotto, 2008). Psychology as a profession has made major headway in emphasizing the potential impact of culture in assessment. More limited, however, has been widespread training and application in clinical practice.

Racial and ethnic group differences in scores on particular tests are not necessarily indicative of cultural bias. Examination of racial and ethnic group differences must be tempered by the knowledge that within racial and ethnic group differences exceed between-groups differences on all psychological measures. Numerous moderators (e.g., SES, education, acculturation, home and neighborhood environment) discussed in this chapter have been identified as affecting performance on cognitive and personality measures. The *Standards for Educational and Psychological Testing* (American Educational Research Association et al., 2014) do not support the establishment of ethnic and racial norms for psychological tests because there simply is not enough information to support this practice. Although commonly used measures such as the Wechsler Intelligence Scale for Children—Fifth Edition include racial and ethnic oversampling, it does not translate into alternative test norms. Thus, clinical psychologists must interpret test scores in context, taking into consideration moderating factors.

Psychologists must be aware of the potentially complementary relationship between those measures that were developed on the basis of an etic (i.e., universal, culture-general) perspective and

those that are designed on the basis of an emic (i.e., culture-specific) perspective. As noted in this chapter, many instruments that have been applied to diverse groups have yielded mixed results. For some communities, especially those identified as being more Western in nature, application of various measures appears to be robust (e.g., MMPI–2). Other measures such as the Chinese Personality Assessment Inventory (Cheung, 2009), which was initially designed to facilitate personality assessment within the Asian community, has evolved into a measure with factors that have universal features. In general, projective instruments may have the potential for greater cultural flexibility in application and interpretation of multicultural issues.

The number of available psychological tests has exponentially grown over the past 50 years. Although a number of culturally based measures, such as the acculturation measures cited in this chapter, have been developed over the years, few if any have made it into the mainstream of psychological testing. Often these measures are only used in research studies because they lack attention to a sophisticated analysis of psychometric features (e.g., reliability, validity) and issues of equivalence. With the advent of technological advancements (e.g., item response theory, Rasch modeling), these measures will likely be examined with an eye toward greater empirical support.

## KEY ACCOMPLISHMENTS

One of the major accomplishments in assessment is that test developers, researchers, educators, and practitioners universally acknowledge the impact of culture on psychological instruments and practices. Every assessment textbook and published testing manual discusses or provides data to examine the potential impact of diversity and its many forms.

APA has adopted policies to promote cultural competence with respect to racial and ethnic group membership, sexual orientation, age, and gender. Models of multicultural assessment processes and interview guides are available to assist clinicians. Sophisticated methodological and statistical procedures are available to address various forms of equivalence and potential test bias.

There has also been an increased focus on addressing cultural bias in clinical assessment with associated practices (e.g., expert review panels, reliability, validity, and equivalence procedures). Also important is that a growing body of multicultural assessment instruments has been developed in the field for culturally diverse clients in the areas of acculturation, racial/cultural identity development, and personality.

## FUTURE DIRECTIONS

In this section, we address three challenges in the assessment of individuals from diverse racial and ethnic communities as well as special populations. We focus here on the future of training, practice, and research.

### Training

Training programs will need to broaden their focus beyond the traditional and commonly used instruments that have been the mainstay of psychological assessment practices for decades. Attention to culturally based measures and examination of potential moderator variables must be included and emphasized in clinical practice. For example, throughout this chapter we have identified the importance of SES and acculturation. SES has been most commonly measured using proxies of parental educational achievement (especially maternal), financial income, and occupational status. The SES resources of immigrant families must include attention to human capital (e.g., nonmaterial resources such as values placed on achievement); financial capital (e.g., physical resources, including wealth and income), as well as social capital (e.g., resources based on relationships, family, and community connections; Fuligni & Yoshikawa, 2003). Similarly, an acculturation proxy that has commonly been used is number of years in the United States. The process of acculturation, however, has been examined in much greater complexity with attention to language, food, cultural practices, identities, and transmission.

Psychologist bias must be addressed in doctoral training programs because it is critical for psychologists to have personal awareness of potential cultural biases that can affect their clinical assessment skills.

Cultural competence requires an understanding of one's own assumptions and stereotypes based on race, ethnicity, gender, social class, sexual orientation, and disability status.

## Practice

Understanding the sociocultural context of the client is imperative in determining the accuracy of psychological assessment practices. Familiarity with the cultural values, norms, and worldviews of culturally diverse populations is critical because these conceptual frameworks are relevant to the assessment process (e.g., multicultural assessment procedures, multidimensional assessment intervention process, multicultural assessment model for bilingual individuals).

## Research

Test development studies will require more intensive psychometric investigation with respect to their application to diverse cultural communities. These development procedures will need to include a discussion of cultural validity, applying adaptation and statistical analysis to establish cultural equivalence.

## References


Alcántara, C., & Gone, J. P. (2014). Multicultural issues in the clinical interview and diagnostic process. In F. T. L. Leong (Ed.), *APA handbook of multicultural psychology: Vol. 2. Applications and training* (pp. 153–163). http://dx.doi.org/10.1037/14187-009

Alessi, E. J. (2014). A framework for incorporating minority stress theory into treatment with sexual minority clients. *Journal of Gay and Lesbian Mental Health*, *18*, 47–66. http://dx.doi.org/10.1080/19359705.2013.789811

American Educational Research Association, American Psychological Association, & National Council on Measurement in Education. (2014). *Standards for educational and psychological testing*. Washington, DC: American Educational Research Association.

American Psychological Association. (2003). Guidelines on multicultural education, training, research, practice, and organizational change for psychologists. *American Psychologist*, *58*, 377–402.

American Psychological Association. (2007). Guidelines for psychological practice with girls and women. *American Psychologist*, *62*, 949–979. http://dx.doi.org/10.1037/0003-066X.62.9.949

American Psychological Association. (2012). Guidelines for psychological practice with lesbian, gay, and bisexual clients. *American Psychologist*, *67*, 10–42. http://dx.doi.org/10.1037/a0024659

American Psychological Association. (2014). Guidelines for psychological practice with older adults. *American Psychologist*, *69*, 34–65. http://dx.doi.org/10.1037/a0035063

Barry, D. T. (2002). An ethnic identity scale for East Asian immigrants. *Journal of Immigrant Health*, *4*, 87–94. http://dx.doi.org/10.1023/A:1014598509380

Beck, A. T., Steer, R. A., & Brown, G. K. (1996). *Beck Depression Inventory II*. San Antonio, TX: Pearson.

Beer, A. M., Spanierman, L. B., Greene, J. C., & Todd, N. R. (2012). Counseling psychology trainees' perceptions of training and commitments to social justice. *Journal of Counseling Psychology*, *59*, 120–133. http://dx.doi.org/10.1037/a0026325

Bemak, F., & Chung, R. C. (2014). Immigrants and refugees. In F. T. L. Leong (Ed.), *APA handbook of multicultural psychology: Vol. 1. Theory and research* (pp. 503–516). http://dx.doi.org/10.1037/14189-027

Berg-Cross, L., & Takushi-Chinen, R. (1995). Multicultural training models and the Person-in-Culture Interview. In J. G. Ponterotto, J. M. Casas, L. A. Suzuki, & C. M. Alexander (Eds.), *Handbook of multicultural counseling* (pp. 333–356). Thousand Oaks, CA: Sage.

Berman, M. I., & Song, S. L. (2013). Assessment of personality in counseling settings. In K. F. Geisinger (Ed.), *APA handbook of testing and assessment in psychology: Vol. 2. Testing and assessment in clinical and counseling psychology* (pp. 407–426). http://dx.doi.org/10.1037/14048-024

Boring, E. G. (1923, June 6). Intelligence as the tests test it. *New Republic*, pp. 35–37.

Boykin, A. W. (2014). Educational assessment for the 21st century: Multicultural considerations. In F. T. L. Leong (Ed.), *APA handbook of multicultural psychology: Vol. 2. Applications and training* (pp. 197–214). http://dx.doi.org/10.1037/14187-012

Bracken, B. A., & McCallum, R. S. (1998). *Universal Nonverbal Intelligence Test*. Itasca, IL: Riverside.

Brown, L. (2003). Test of nonverbal intelligence: A language-free measure of cognitive ability. In R. S. McCallum (Ed.), *Handbook of nonverbal assessment* (pp. 191–221). http://dx.doi.org/10.1007/978-1-4615-0153-4_10

Brown, L., Sherbenou, R. J., & Johnsen, S. K. (2010). *Test of Nonverbal Intelligence* (4th ed.). Austin, TX: Pro-Ed.

Butcher, J. N., Dahlstrom, W. G., Graham, J. R., Tellegen, A., & Kaemmer, B. (1989). *The Minnesota Multiphasic Personality Inventory—2 (MMPI–2):*

*Manual for administration and scoring*. Minneapolis: University of Minnesota Press.

Butcher, J. N., & Han, K. (1996). Methods of establishing cross-cultural equivalence. In J. N. Butcher (Ed.), *International adaptations of the MMPI–2: Research and clinical applications* (pp. 44–63). Minneapolis: University of Minnesota Press.

Butcher, J. N., Mosch, S. C., Tsai, J., & Nezami, E. (2006). Cross-cultural applications of the MMPI–2. In J. N. Butcher (Ed.), *MMPI–2: A practical guide* (pp. 503–537). http://dx.doi.org/10.1037/11287-018

Camara, W. J., Nathan, J. S., & Puente, A. E. (2000). Psychological test usage: Implications in professional psychology. *Professional Psychology: Research and Practice*, *31*, 141–154. http://dx.doi.org/10.1037/0735-7028.31.2.141

Cheung, F. M. (2009). The cultural perspective in personality assessment. In J. N. Butcher (Ed.), *Oxford handbook of personality assessment* (pp. 44–56). New York, NY: Oxford University Press.

Costantino, G., Flanagan, R., & Malgady, R. G. (2001). Narrative assessment: TAT, CAT, and TEMAS. In L. A. Suzuki, J. G. Ponterotto, & P. J. Meller (Eds.), *Handbook of multicultural assessment: Clinical, psychological, and educational applications* (2nd ed., pp. 217–236). San Francisco, CA: Jossey-Bass.

Costantino, G., Malgady, R., & Rogler, L. H. (1988). *Tell-Me-a-Story (TEMAS)*. Beverly Hills, CA: Western Psychological Services.

Cross, W. E., Jr., & Vandiver, B. J. (2001). Nigrescence theory and measurement: Introducing the Cross Racial Identity Scale (CRIS). In J. G. Ponterotto, J. M. Casas, L. A. Suzuki, & C. M. Alexander (Eds.), *Handbook of multicultural counseling* (2nd ed., pp. 371–393). Thousand Oaks, CA: Sage.

Dadlani, M. B., Overtree, C., & Perry-Jenkins, M. (2012). Culture at the center: A reformulation of diagnostic assessment. *Professional Psychology: Research and Practice*, *43*, 175–182. http://dx.doi.org/10.1037/a0028152

Dana, R. (2005). *Multicultural assessment: Principles, applications, and examples*. Mahwah, NJ: Erlbaum.

Dana, R. H. (2014). Personality tests and psychological science: Instruments, populations, practice. In F. T. L. Leong (Ed.), *APA handbook of multicultural psychology: Vol. 2. Applications and training* (pp. 181–196). http://dx.doi.org/10.1037/14187-011

Esquivel, G. B., Oades-Sese, G. V., & Olitsky, S. L. (2008). Multicultural issues in projective assessment. In L. A. Suzuki & J. G. Ponterotto (Eds.), *Handbook of multicultural assessment: Clinical, psychological, and educational applications* (3rd ed., pp. 346–374). San Francisco, CA: Jossey-Bass.

Franklin, V. P. (2007). The tests are written for the dogs: *Journal of Negro Education*, African American children, and the intelligence testing movement in historical perspective. *Journal of Negro Education*, *76*, 216–231.

Fuligni, A. J., & Yoshikawa, H. (2003). Socioeconomic resources, parenting, and child development among immigrant families. In M. H. Bornstein & R. H. Bradley (Eds.), *Socioeconomic status, parenting, and child development* (pp. 107–124). Mahwah, NJ: Erlbaum.

Garrido, M., & Velasquez, R. (2006). Interpretation of Latino/Latina MMPI–2 profiles: Review and application of empirical findings and cultural linguistic considerations. In J. N. Butcher (Ed.), *MMPI–2: A practical guide* (pp. 477–504). http://dx.doi.org/10.1037/11287-017

Geertz, C. (1973). *The interpretation of cultures: Selected essays by Clifford Geertz*. New York, NY: Basic Books.

Gim Chung, R. H., Kim, B. S. K., & Abreu, J. M. (2004). Asian American multidimensional acculturation scale: Development, factor analysis, reliability, and validity. *Cultural Diversity and Ethnic Minority Psychology*, *10*, 66–80. http://dx.doi.org/10.1037/1099-9809.10.1.66

Grieger, I. (2008). A cultural assessment framework and interview protocol. In L. A. Suzuki & J. G. Ponterotto (Eds.), *Handbook of multicultural assessment: Clinical, psychological, and educational applications* (3rd ed., pp. 132–162). San Francisco, CA: Jossey-Bass.

Groth-Marnat, G. (2009). *Handbook of psychological assessment* (5th ed.). Hoboken, NJ: Wiley.

Hack, S. M., Larrison, C. R., & Gone, J. P. (2014). American Indian identity in mental health services utilization data from a rural Midwestern sample. *Cultural Diversity and Ethnic Minority Psychology*, *20*, 68–74. http://dx.doi.org/10.1037/a0033349

Hays, P. A. (2007). *Addressing cultural complexities in practice: Assessment, diagnosis, and therapy* (2nd ed.). Washington, DC: American Psychological Association.

Helms, J. E. (1990). *Black and White racial identity: Theory, research and practice*. New York, NY: Greenwood Press.

Helms, J. E. (1992). Why is there no study of cultural equivalence in standardized cognitive ability testing? *American Psychologist*, *47*, 1083–1101. http://dx.doi.org/10.1037/0003-066X.47.9.1083

Hill, J. S., Pace, T. M., & Robbins, R. R. (2010). Decolonizing personality assessment and honoring indigenous voices: A critical examination of the MMPI–2. *Cultural Diversity and Ethnic Minority Psychology*, *16*, 16–25. http://dx.doi.org/10.1037/a0016110

International Test Commission. (2010). *Guidelines for translating and adapting tests*. Retrieved from http://www.intestcom.org/upload/sitefiles/40.pdf

Jack, D. C., Ali, A., & Dias, S. (2014). Depression in multicultural populations. In F. T. L. Leong (Ed.), *APA handbook of multicultural psychology: Vol. 2. Applications and training* (pp. 267–287). http://dx.doi.org/10.1037/14187-016

Kojima, M., Furukawa, T. A., Takahashi, H., Kawai, M., Nagaya, T., & Tokudome, S. (2002). Cross-cultural validation of the Beck Depression Inventory-II in Japan. *Psychiatry Research*, *110*, 291–299. http://dx.doi.org/10.1016/S0165-1781(02)00106-3

Kwan, K. K., & Maestas, M. L. (2008). MMPI–2 and MCMI–III performances of non-White people in the United States: What we (don't) know and where we go from here. In L. A. Suzuki & J. G. Ponterotto (Eds.), *Handbook of multicultural assessment: Clinical, psychological, and educational applications* (3rd ed., pp. 425–446). San Francisco, CA: Jossey-Bass.

Landrine, H., & Klonoff, E. A. (1994). The African American Acculturation Scale: Development, reliability, and validity. *Journal of Black Psychology*, *20*, 104–127. http://dx.doi.org/10.1177/00957984940202002

Leigh, I. W., & Anthony-Tolbert, S. (2001). Reliability of the BDI-II with deaf persons. *Rehabilitation Psychology*, *46*, 195–202. http://dx.doi.org/10.1037/0090-5550.46.2.195

Lilienfeld, S. O., Wood, J. M., & Garb, H. N. (2000). The scientific status of projective techniques. *Psychological Science in the Public Interest*, *1*, 27–66.

Lonner, W. J. (1985). Issues in testing and assessment in cross-cultural counseling. *Counseling Psychologist*, *13*, 599–614. http://dx.doi.org/10.1177/0011000085134004

Lopez, E. C. (2010). Interpreters. In C. C. Clauss-Ehlers (Ed.), *Encyclopedia of cross-cultural school psychology* (pp. 547–553). New York, NY: Springer.

López, S. R. (1989). Patient variable biases in clinical judgment: Conceptual overview and methodological considerations. *Psychological Bulletin*, *106*, 184–203. http://dx.doi.org/10.1037/0033-2909.106.2.184

Marín, G., & Gamba, R. J. (1996). A new measurement of acculturation for Hispanics: The Bidimensional Acculturation Scale for Hispanics (BAS). *Hispanic Journal of Behavioral Sciences*, *18*, 297–316. http://dx.doi.org/10.1177/07399863960183002

Meyer, G. J., Erdberg, P., & Shaffer, T. W. (2007). Toward international normative reference data for the comprehensive system. *Journal of Personality Assessment*, *89*(Suppl. 1), S201–S216. http://dx.doi.org/10.1080/00223890701629342

Millon, T., Millon, C., Davis, R., & Grossman, S. (2009). *MCMI–III manual* (4th ed.). Minneapolis, MN: Pearson Education.

Murray, H. A. (1943). *Thematic Apperception Test*. Cambridge, MA: Harvard University Press.

Nagayama Hall, G. C., Bansal, A., & Lopez, R. (1999). Ethnicity and psychopathology: A meta-analytic review of 31 years of comparative MMPI/MMPI–2 research. *Psychological Assessment*, *11*, 186–197. http://dx.doi.org/10.1037/1040-3590.11.2.186

Nisbett, R. E. (2009). *Intelligence and how to get it: Why schools and cultures count*. New York, NY: Norton.

Oetting, E. R., & Beauvais, F. (1990–1991). Orthogonal cultural identification theory: The cultural identification of minority adolescents. *International Journal of the Addictions*, *25*(Suppl. 5), 655–685. http://dx.doi.org/10.3109/10826089109077265

Ortiz, S. O., & Ochoa, S. H. (2005). Advances in cognitive assessment of culturally and linguistically diverse individuals. In D. P. Flanagan & P. L. Harrison (Eds.), *Contemporary intellectual assessment: Theories, tests, and issues* (2nd ed., pp. 234–250). New York, NY: Guilford Press.

Oster, G. D., & Crone, P. G. (2004). *Using drawings in assessment and therapy: A guide for mental health professions*. New York, NY: Routledge.

Phinney, J. S. (1992). The Multigroup Ethnic Identity Measure: A new scale for use with diverse groups. *Journal of Adolescent Research*, *7*, 156–176. http://dx.doi.org/10.1177/074355489272003

Ready, R. E., & Veague, H. B. (2014). Training in psychological assessment: Current practice of clinical psychology programs. *Professional Psychology: Research and Practice*, *45*, 278–282. http://dx.doi.org/10.1037/a0037439

Reynolds, C. R., & Lowe, P. A. (2009). The problem of bias in psychological assessment. In C. R. Reynolds & T. B. Gutkin (Eds.), *The handbook of school psychology* (4th ed., pp. 332–374). Hoboken, NJ: Wiley.

Ridley, C. R., Li, L. C., & Hill, C. L. (1998). Multicultural assessment: Reexamination, reconceptualization, and practical application. *Counseling Psychologist*, *26*, 827–910. http://dx.doi.org/10.1177/0011000098266001

Ritzler, B. A. (2001). Multicultural usage of the Rorschach. In L. A. Suzuki, J. G. Ponterotto, & P. J. Meller (Eds.), *Handbook of multicultural assessment: Clinical, psychological, and educational applications* (2nd ed., pp. 237–252). San Francisco, CA: Jossey-Bass.

Robin, R. W., Greene, R. L., Albaugh, B., Caldwell, A., & Goldman, D. (2003). Use of the MMPI–2 in American Indians: I. Comparability of the MMPI–2 between two tribes and with the MMPI–2 normative group. *Psychological Assessment*, *15*, 351–359. http://dx.doi.org/10.1037/1040-3590.15.3.351

Roid, G. H., Miller, L. J., Pomplum, M., & Koch, C. (2013). *Leiter International Performance Scale* (3rd ed.). Torrance, CA: Western Psychological Services.

Rorschach, H. (1942). *Psychodiagnostics: A diagnostic test based on perception* (3rd ed.; B. Kronenberg & P. Lemkau, Trans.). Berne, Switzerland: Hans Huber.

Sattler, J. M. (2008). *Assessment of children: Cognitive foundations* (3rd ed.). San Diego, CA: Author.

Sehgal, R., Saules, K., Young, A., Grey, M. J., Gillem, A. R., Nabors, N. A., . . . Jefferson, S. (2011). Practicing what we know: Multicultural counseling competence among clinical psychology trainees and experienced multicultural psychologists. *Cultural Diversity and Ethnic Minority Psychology*, *17*, 1–10. http://dx.doi.org/10.1037/a0021667

Sellers, R. M., Rowley, S. A. J., Chavous, T. M., Shelton, J. N., & Smith, M. A. (1997). Multidimensional Inventory of Black Identity: A preliminary investigation of reliability and construct validity. *Journal of Personality and Social Psychology*, *73*, 805–815. http://dx.doi.org/10.1037/0022-3514.73.4.805

Serpell, R. (2000). Intelligence and culture. In R. J. Sternberg (Ed.), *Handbook of intelligence* (pp. 549–578). http://dx.doi.org/10.1017/CBO9780511807947.026

Steele, C. (2011). *Whistling Vivaldi: How stereotypes affect us and what we can do*. New York, NY: Norton.

Suárez-Orozco, C., Suárez-Orozco, M. M., & Todorova, I. (2008). *Learning in a new land: Immigrant students in American society*. Cambridge, MA: Harvard University Press.

Sue, D. W., & Sue, D. (2008). *Counseling the culturally diverse: Theory and practice* (5th ed.). Hoboken, NJ: Wiley.

Sue, D. W., & Sue, D. (2013). *Counseling the culturally diverse: Theory and practice* (6th ed.). Hoboken, NJ: Wiley.

Suzuki, L. A., Kugler, J. F., & Aguiar, L. J. (2005). Assessment practices in racial-cultural psychology. In R. T. Carter (Ed.), *Handbook of racial-cultural psychology and counseling* (Vol. 2, pp. 297–315). Hoboken, NJ: Wiley.

Suzuki, L. A., Naqvi, S., & Hill, J. S. (2014). Assessing intelligence in a cultural context. In F. T. L. Leong (Ed.), *APA handbook of multicultural psychology: Vol. 1. Theory and research* (pp. 247–266). http://dx.doi.org/10.1037/14189-013

Suzuki, L. A., Onoue, M. A., & Hill, J. (2013). Clinical assessment: A multicultural perspective. In K. F. Geisinger (Ed.), *APA handbook of testing and assessment in psychology: Vol. 2. Testing and assessment in clinical and counseling psychology* (pp. 193–212). http://dx.doi.org/10.1037/14048-012

Suzuki, L. A., & Ponterotto, J. G. (Eds.). (2008). *Handbook of multicultural assessment: Clinical, psychological, and educational applications* (3rd ed.). San Francisco, CA: Jossey-Bass.

Suzuki, L. A., Short, E. L., & Lee-Kim, C. (2011). Multicultural perspectives of racial and ethnic group differences on intelligence in the United States. In R. J. Sternberg & S. B. Kaufman (Eds.), *Cambridge handbook of intelligence* (pp. 273–292). http://dx.doi.org/10.1017/CBO9780511977244.015

Toku, M. (2000). Cross-cultural analysis of artistic development: Drawing by Japanese and U.S. children. *Visual Arts Research*, *27*, 46–59.

Trimble, J. E. (2010). Cultural measurement equivalence. In C. C. Clauss-Ehlers (Ed.), *Encyclopedia of cross-cultural school psychology* (pp. 316–318). New York, NY: Springer.

Tsai, D. C., & Pike, P. L. (2000). Effects of acculturation on the MMPI–2 scores of Asian American students. *Journal of Personality Assessment*, *74*, 216–230. http://dx.doi.org/10.1207/S15327752JPA7402_4

Tsai, G., & Curbow, B. (2001). The development and validation of the Taiwanese Ethnic Identity Scale (TEIS): A "derived etic" approach. *Journal of Immigrant Health*, *3*, 199–212. http://dx.doi.org/10.1007/978-0-387-71799-9_112

Turner, L., Georgatos, A., & Ji, P. (2013, August). *Recommendations for improving assessments for deaf and hard of hearing clientele*. Paper presented at the 121st Annual Convention of the American Psychological Association, Honolulu, HI.

van de Vijver, F. J. R. (2001). The evolution of cross cultural research methods. In D. Matsumoto (Ed.), *Handbook of culture and psychology* (pp. 77–97). New York, NY: Oxford University Press.

Whisman, M. A., Judd, C. M., Whiteford, N. T., & Gelham, H. L. (2012). Measurement invariance of the Beck Depression Inventory–Second Edition (BDI–II) across gender, race, and ethnicity in college students. *Assessment*, *20*, 419–428.

Wilkinson, G. S., & Robertson, G. J. (2006). *Wide Range Achievement Test 4 professional manual*. Lutz, FL: Psychological Assessment Resources.

Williams, W., Dotson, W., Don, P., & Williams, W. (1980). The war against testing: A current status report. *Journal of Negro Education*, *49*, 263–273.

Woodcock, R. R., McGrew, K. S., & Schenk, F. A. (2007). *Woodcock–Johnson III Normative Update technical manual*. Itasca, IL: Riverside.

CHAPTER 14

# INDIVIDUAL PSYCHOTHERAPY

*Irving B. Weiner*

Individual psychotherapy is a verbal interaction in which qualified professionals use psychological procedures to alleviate distress and promote adaptive living in people who would like their help. Although psychotherapy can be defined in other ways that are equally as appropriate, this definition is advantageous in two respects: It encompasses the nature and goals of psychotherapy (i.e., who does what to whom and for what purpose), and it differentiates psychotherapy from actions and events that, although psychotherapeutic, are not integral components of psychotherapy.

Psychotherapy research and practice have been prominent aspects of clinical psychology throughout its history (Norcross, VandenBos, & Freedheim, 2011; Routh, 2013). In a recent survey of members and fellows in the Society for Clinical Psychology, 76% of the respondents reported conducting psychotherapy and doing so far more frequently in individual sessions than in group, family, or couple formats (Norcross & Karpiak, 2012). In this chapter, I elaborate on the definition of psychotherapy and identify its major goals. I then discuss indications for and limitations of psychotherapy, major theories and methods of psychotherapy, research evidence, major accomplishments, and likely future directions in psychotherapy theory, research, and practice.

## DEFINITION AND GOALS

The above definition of psychotherapy circumscribes this treatment method in several ways. As a verbal interaction, psychotherapy consists of words and not actions. Psychotherapy may include treatment procedures that are mediated by verbal exchanges but are not themselves entirely verbal, such assigning homework, recommending meditation exercises, or advising engagement in or abstinence from certain activities. Although such procedures may play an important role in psychotherapy, psychotherapy has traditionally been labeled the *talking cure*, and its key components are what patients and therapists say to each other and the relationship that forms between them.

The requisite of a qualified professional for psychotherapy to occur does not refer to any particular degree, license, or certification but to therapists having sufficient education, training, experience, and commitment to conduct psychotherapy competently. Friends as well as qualified professionals can listen to what a person has to say and respond in helpful ways. However, the likelihood of psychotherapeutic verbal interactions occurring between two people is considerably enhanced if one of them possesses the knowledge and skills of a qualified therapist.

Psychotherapy relationships differ from friendships in two other important respects. First, psychotherapy is a nonmutual relationship, in that it concerns the well-being of just one of the parties to it. Friends ordinarily alternate in discussing each other's interests and problems, but psychotherapy attends only to the needs of the person being treated. Friendships deepen and dissolve as enjoyment in them waxes and wanes, but therapists

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do not ordinarily continue or end a treatment relationship on the basis of the pleasure it gives them. Unlike friends, moreover, therapists do not bring their personal needs directly into the treatment relationship, unless they have good clinical reason for doing so, nor do they respond to anger and criticism by reciprocating in kind.

Second, psychotherapy involves formal arrangements that rarely characterize friendships. These arrangements include a treatment contract that prescribes specific roles for the participants, both of whom are expected to meet certain treatment responsibilities. These treatment responsibilities vary, depending on the type of psychotherapy being provided, but both parties to the treatment contract have agreed to meet for sessions of a specified length and to continue meeting for a certain period of time or number of sessions or for as long as seems helpful to the person being treated. Among additional features of this formal arrangement not common to friendships, therapists ordinarily see their patients only during scheduled sessions, keep these sessions free from interruption, and seldom discuss matters unrelated to the purpose of the treatment.

With respect to restricting the definition of psychotherapy to psychological procedures, psychotropic medication and hospitalization are examples of treatments that often prove psychotherapeutic but are not psychotherapy. Likewise, taking a warm bath or getting a massage may improve a person's frame of mind, and thus be therapeutic, but physical pleasures and the laying on of hands are not an integral part of psychotherapy.

As for using psychological procedures to alleviate distress and promote adaptive living, people come to psychotherapy principally for three reasons: (a) for relief from distressing symptoms of psychological disorder, (b) for help in dealing with problematic circumstances in their lives, and (c) for personal enrichment through enhanced capacities to work productively and relate comfortably to other people. Depending on why a person has sought psychotherapy, the primary goals of the treatment will be some combination of symptom relief, problem resolution, and an increased sense of self-satisfaction and well-being.

This description of the elements of psychotherapy closely resembles other past and contemporary definitions. Strupp (1996) described psychotherapy as "the use of a professional relationship for the relief of suffering and for personal growth" (p. 1017), and Greenberg, McWilliams, and Wenzel (2014) defined psychotherapy as "any psychological service provided by a trained professional that primarily uses forms of communication and interaction to assess, diagnose, and treat dysfunctional emotional reactions, ways of thinking, and behavior patterns" (p. 7).

In addition to these common goals, psychotherapy should also serve preventive purposes. Whatever the difficulties that have brought people into psychotherapy, their treatment should aim at insulating them against recurrence of these difficulties. Therapy that accomplishes symptom relief should include efforts to minimize the risk of further episodes of disorder. People who have been helped to resolve problems in their lives should leave treatment better equipped to cope with these and similar life problems in the future. Personal enrichment and enhanced self-satisfaction gained through psychotherapy should be sustained in the years following termination of the treatment. In each of these respects, then, psychotherapy should always have preventive as well as curative goals (Foxx, 2013).

The last element in the definition of psychotherapy presented here refers to people who would like help. This defining characteristic might appear to exclude from receiving psychotherapy people who have not sought help voluntarily but for whom treatment has been compelled, perhaps by a court order or the insistence of a spouse. Conducting psychotherapy with people who have not sought help is challenging, because psychotherapy is not a magical or a medical procedure. It cannot be imposed or have much effect on people who are not willing participants in the process, and active participation in the treatment process may be elusive when a person is being seen by compulsion. However, this difficulty does not preclude beneficial psychotherapy for people whose treatment has been compelled. Instead, it means that therapists working with people who are being seen involuntarily must kindle some receptivity to the treatment process, perhaps by demonstrating that they can suggest

solutions to problems the person has been having. Such demonstrations of the potential benefit of talking about their problems can interest involuntary patients in getting further help and thereby lead to their productive engagement in psychotherapy (Brodsky, 2011).

## INDICATIONS AND LIMITATIONS

Psychotherapy is a powerful psychological intervention that can help many kinds of people with many types of psychological concerns and disorders feel better and function more effectively. Psychotherapy is indicated and can benefit people who are troubled by symptoms of psychological and some health disorders, difficulties in coping with circumstances in their lives, dissatisfaction with the kind of person they are, or dysfunctional or distressing relationships.

Yet psychotherapy is not indicated for everyone, nor is it certain to alleviate every kind of psychological difficulty. Instead, there are characteristics of people and their mental state that are likely to enhance or limit what psychotherapy can accomplish, and there are characteristics of therapists and the treatment relationship that can foster or hinder progress in psychotherapy.

### Patient Characteristics

At least three characteristics of people entering psychotherapy are known to influence the benefits or limitations of their treatment. First, psychological good health predicts a positive outcome in psychotherapy, whereas severe disturbance limits what psychotherapy can accomplish (Bohart & Wade, 2013; Clarkin & Levy, 2004). Just as good physical health promotes rapid recovery in people who need surgery, people who have been functioning reasonably well despite problems and concerns that bring them for psychological help have better prospects for benefiting from psychotherapy than people whose history is marked by adaptive shortcomings and recurrent episodes of disorder. This relationship between psychological good health and progress in psychotherapy does not signify that seriously disturbed people cannot profit from it, however. Psychotherapy appropriately designed to address their condition has proved at least somewhat beneficial even in the treatment of people with schizophrenia and other psychotic disorders (Beneditti, 1987; Brody & Redlich, 1952; Karon & VandenBos, 1994; Kopelowicz, Liberman, & Zarate, 2007).

Second, a moderate level of emotional distress fosters progress in psychotherapy, whereas minimal distress limits a person's involvement in the treatment process, and excessive distress impairs the individual's ability to concentrate on the content of the therapy. Within moderate limits, the more anxious and upset people are when they enter psychotherapy, the more likely they are to remain and engage actively in it. Moderate distress motivates people to persevere in the often difficult and demanding task of participating in psychotherapy, which accounts for its likelihood of predicting improvement (Beutler et al., 2012; Bohart & Wade, 2013). Conversely, the more self-satisfied, complacent, and unperturbed people are, the less likely they are to consider psychotherapy worth their time and effort and the less likely they are to become profitably engaged in the treatment process.

Relevant in this latter regard is a characteristic difference between symptomatic and personality disorders. People with symptomatic disorders are usually eager to rid themselves of unwelcome thoughts and unpleasant feelings, which are often of recent origin and have had an acute onset. Personality disorders, by contrast, usually involve inflexible and well-entrenched behavior patterns of long standing, and individuals with personality disorders typically attribute responsibility for any problems they are having to the actions or attitudes of other people or to circumstances beyond their control. From their perspective, resolution of their problems rests with changes in these other people or in these circumstances, but not in themselves. Individuals with symptomatic disorders are consequently more amenable to psychotherapy than people with a personality disorder, whose comfort with themselves and their disinterest in change tend to limit their participation and progress in treatment. As in the case of people who have not come for treatment voluntarily, effective psychotherapy with individuals with personality disorders is nevertheless possible if the therapist can get them involved in the treatment

process, and numerous authors have suggested methods of working toward this end (e.g., Beck, Freeman, & Davis, 2004; Millon & Grossman, 2007).

As for excessive distress, a disorganizing level of anxiety or preoccupying extent of depression can prevent people from engaging in calm consideration of their problems and concerns. When people are deeply depressed or overwhelmed by anxiety, psychotherapy may have to follow or be paired with medication or other psychotherapeutic interventions that alleviate their distress sufficiently for them to participate comfortably and productively in the psychotherapy process.

Third, eagerness to enter psychotherapy, hope of being able to make changes in themselves or in their lives, and anticipation that psychotherapy will facilitate these changes increase the prospects of people benefiting from treatment. Conversely, reluctance to become engaged in psychotherapy, pessimism regarding the possibility of change, and doubts whether psychotherapy can make a difference are likely to limit participation in the treatment process and the gains derived from it. First elaborated by J. D. Frank (1961; J. D. Frank & Frank, 1991), the impact of expectations in psychotherapy has been confirmed by research findings indicating that higher initial expectations reduce premature termination and improve overall treatment outcome (Bohart & Wade, 2013).

Although initially strong motivation, high hopes, and positive expectations enhance the likelihood of a person's benefiting from psychotherapy, their absence does not preclude the possibility of a positive outcome. Like people who come into treatment involuntarily or have features of personality disorder, those who are initially pessimistic and skeptical about being helped can nevertheless make progress in psychotherapy if the therapist can stir in them some interest in the treatment process and perhaps even some enthusiasm for it.

Unlike attitudes and expectations, demographic characteristics such as age, socioeconomic status, and cultural background are largely unrelated to outcome in psychotherapy (Bohart & Wade, 2013). Psychotherapy has proved helpful to people from early childhood into the later years, and neither youth nor old age contraindicates psychotherapy as a potential treatment of value (e.g., Knight & McCollum, 2011; Weisz et al., 2013). Similarly, and contrary to some beliefs, economically disadvantaged and cultural minority individuals who become engaged in psychotherapy have been found to profit from it as frequently and as much as advantaged majority group members (Aponte & Wohl, 2000; Comas-Díaz, 2011). Nevertheless, even though economic and cultural disadvantage do not contraindicate psychotherapy or necessarily limit its benefits, therapists must be sufficiently sensitive to the cultural and socioeconomic context in which their patients live to respond to them effectively and engage them productively in their treatment (Moodley & Palmer, 2006; L. Smith, 2005).

## Therapist Characteristics

Attention to therapist characteristics that are likely to promote or limit progress in psychotherapy derived from the seminal contributions of Carl Rogers (1951, 1957), who was among the first psychotherapists to emphasize how therapists should be. Rogers stressed in particular that progress in psychotherapy depends on therapists' ability to relate to their patients with empathy, warmth, and genuineness.

Empathy is the ability to assume the perspective of other people and understand their needs, feelings, and frame of reference. Empathic therapists listen carefully to their patients and respond in verbal and nonverbal ways that demonstrate an accurate grasp of their attitudes and concerns. Warmth consists of showing positive regard for patients in ways that help them feel safe, secure, and appreciated for who they are. Warm therapists convey that they value their patients as people, despite any objectionable features of their personality, lifestyle, or behavioral history. They evaluate and challenge their patients' statements and actions when they consider it useful to do so, but they do not denigrate them as a person. Genuineness involves relating to patients in an open, truthful, and authentic fashion. Genuine therapists say only what they mean and act only in ways that are comfortable and natural for them. They avoid the artificiality of being definitive when they lack conviction or expressing uncertainty when they have a definite opinion.

An extensive literature and recent meta-analyses have confirmed a significant relationship between therapist expressions of empathy, warmth, and genuineness and positive outcomes in psychotherapy. This positive impact holds true in many different kinds of psychotherapy and for many different kinds of patients (e.g., Elliott et al., 2011; Farber & Doolin, 2011; Kolden et al., 2011). On the basis of this evidence, therapist manifestations of aloofness, detachment, artificiality, and insensitivity can be expected to limit progress in psychotherapy.

### Relationship Characteristics

Treatment relationship characteristics that foster or limit progress in psychotherapy are subsumed within the concept of the working alliance. The working alliance in psychotherapy is an interactive process with three defining characteristics: (a) an explicit agreement between patient and therapist concerning the goals of the treatment and the methods to be used in pursuit of these goals, (b) consensus on the respective tasks to be used in pursuit of these goals, and (c) a sufficiently strong patient–therapist bond to sustain their collaboration during episodes of strain that commonly arise during the course of psychotherapy.

Research has robustly confirmed that the stronger this working alliance is, and the more effectively therapists can repair ruptures that occur in it, the more likely people are to remain in psychotherapy, participate actively in it, and derive benefit from it (Horvath et al., 2011; Shirk & Karver, 2011). In particular, better treatment outcomes have been found to be associated with patient–therapist agreement on the therapeutic goals and the procedures for achieving these goals (Tryon & Winograd, 2011) and with therapist ability to restore a collaborative relationship when unavoidable events cause a patient to resist or withdraw from participation in it (Safran, Muran, & Eubanks-Carter, 2011). In this regard, therapists' respectful solicitation of patients' experiences of their treatment and their satisfaction with the treatment relationship, together with joint monitoring of their clinical progress, improves treatment outcomes and reduces premature terminations (Baldwin & Imel, 2013).

Conversely, therapist inability to establish and maintain working alliance bonds with a person in psychotherapy limits the prospects for a positive treatment outcome. Research findings have confirmed that therapists differ in their effectiveness and that progress in psychotherapy is less likely when therapists are not adept in developing and sustaining a good working alliance (Baldwin & Imel, 2013). The evidence in this regard has suggested specifically that feeling rejected by the therapist, whether warranted or not, can be a root cause of negative outcomes in psychotherapy (Safran et al., 2005).

## PRINCIPAL METHODS AND THEORIES

Methods of psychotherapy are many and varied, and the number of different forms of psychotherapy has been estimated at more than 250 (Crits-Christoph, 2010). These many forms of psychotherapy align with four major perspectives on the nature of people, the origin of their problems, and the treatment approaches likely to help them improve their lives: psychodynamic, cognitive–behavioral, humanistic–experiential, and integrative. (See Volume 2, this handbook, for detailed chapters on these theoretical approaches.)

### Psychodynamic Perspectives

Psychodynamic perspectives in psychotherapy derived from the psychoanalytic formulations of Sigmund Freud (Strachey, 1955), which comprise three core elements: psychic determinism, which views every psychological event as having a reason or cause that can be understood; a dynamic unconscious, which posits that how people behave is influenced in part by thoughts and feelings of which they are not fully aware; and the substantial influence of early experience on subsequent personality development. Freud translated these formulations into a psychological treatment method based on free association, interpretation, and dream analysis. In this method, people talk as freely as they can about themselves and what is on their mind while the therapist listens, clarifies, and explores the origins of the person's anxiety-provoking thoughts and feelings. The interpretive process in psychoanalysis is intended to promote improved functioning through

increased self-understanding, commonly referred to as insight.

Traditional psychoanalysis is an intensive treatment consisting of multiple weekly sessions extending over an extended period of time. This tradition has given rise to many less intensive versions of psychoanalytic psychotherapy that subscribe to similar procedures but involve less frequent sessions than Freudian psychoanalysis, a briefer duration, and a narrower focus. Prominent among these subsequently developed psychodynamic psychotherapies are brief dynamic therapy (Levenson, 2010) and short-term dynamic psychotherapy (Davanloo, 1980), which are intended for working with mildly rather than severely disturbed people and are time limited by a specified number of sessions or by achievement of specific treatment goals related to reduced symptoms of emotional distress and improved interpersonal functioning.

Also widely practiced and researched are two psychodynamic treatments for which treatment manuals are available: supportive–expressive therapy and interpersonal therapy. Supportive–expressive therapy is a manualized form of dynamic psychotherapy that is applicable to a wide range of patients and problems, can be either time limited or open ended, and combines expressive interventions to promote change with supportive interventions to help people maintain their current level of functioning or return to some previously higher level (Luborsky, 1984). The central element of supportive–expressive therapy is a carefully constructed case conceptualization—the core conflictual relationship theme—that describes a person's relational patterns and interpersonal and psychic conflicts and helps direct the person's treatment.

Interpersonal therapy is a manualized time-limited therapy that was derived from the interpersonal theory of Harry Stack Sullivan (1953) and focuses on a person's current social relationships. Originally developed for treating people with depression by exploring the interpersonal context in which their depressive symptoms arose, interpersonal therapy has been adapted for treating other disorders as well. Interpersonal therapy is conducted in the expectation that episodes of psychological disorder can be successfully treated by helping people identify and understand interpersonal events in their lives that have triggered the onset of their symptoms (E. Frank & Levenson, 2011).

## Cognitive–Behavioral Perspectives

Behavioral perspectives in psychotherapy emerged from B. F. Skinner's (1953) view that human behavior can be understood as learned connections between stimuli and responses and can be shaped by reinforcing some of these connections and extinguishing others. An early application of Skinner's stimulus–response behaviorism was Wolpe's (1958) formulation of systematic desensitization, a treatment for fears and anxiety in which the core elements are relaxation and reciprocal inhibition. People receiving this treatment are trained in achieving a state of relaxation, following which the state of being relaxed is repetitively paired with a real or fantasized version of stimuli that have been a source of their distress until their relaxation inhibits their previously anxious or fearful reaction to these stimuli.

In subsequent developments, many behaviorally oriented clinicians concluded that the nature of people and the psychological problems for which they seek help involve principles of cognition as well as learning, that is, not only stimulus–response connections but also thoughts and feelings that link experience and behavior. Three widely known cognitive–behavioral treatment approaches that flowed from this expanded perspective are Ellis's (1962; Ellis & Ellis, 2011) rational emotive behavior therapy, Linehan's (1993) dialectical behavior therapy, and Beck's (1976) cognitive therapy. Rational emotive behavior therapy attributes psychological distress to unrealistic expectations, irrational beliefs, and unwarranted feelings, and the treatment focuses not on troubling events but on what people say to themselves about these events. The central technique in rational emotive behavior therapy is disputation, which consists of logically challenging a person's flawed convictions; the therapist also becomes actively involved in providing direction, education, homework assignments, role-playing, and other behavioral strategies for promoting positive change.

Dialectical behavior therapy is a multimodal cognitive–behavioral treatment that was developed

initially for working with chronically suicidal patients but has also proved useful in treating substance abuse, eating disorders, and borderline and antisocial personality disorders. The "dialectical" aspect of the therapy is a synthesized emphasis on warm acceptance of patients and their problems, on one hand, and a variety of change-oriented and problem-oriented strategies, on the other hand, including social skills training and problem-solving exercises.

Cognitive therapy, in common with rational emotive behavior therapy and dialectical behavior therapy, conceptualizes mental disorders as resulting from maladaptive or faulty ways of thinking and distorted attitudes toward oneself and others. As a divergence from these other two treatments, however, cognitive therapy does not ordinarily involve behavioral strategies. Cognitive therapists instead concentrate their efforts on cognitive restructuring, which consists of helping people recognize and revise mistaken, unwarranted, and ill-advised perceptions and attitudes that are causing their problems.

A further treatment that combines elements of relaxation and cognitive restructuring is hypnosis, in which therapists make suggestions to patients concerning ways of reducing their anxiety and gaining better control of their behavior. Numerous techniques are used to induce a state of relaxation that promotes receptivity to these suggestions. These induction procedures sometimes produce an altered state of consciousness, traditionally known as a trance, but a trance state is not necessary for hypnosis to be effective. Even when fully awake, patients who are sufficiently relaxed and able to focus their attention on the therapist's suggestions can show behavioral and subjective responses associated with hypnosis. Effective hypnosis does require a degree of suggestibility, however, which is fostered by positive attitudes and beliefs about hypnosis, expectations of being helped by it, and an ability to imagine suggested events (Lynn, Kirsch, & Rhue, 2010).

## Humanistic–Experiential Perspectives

Humanistic–experiential perspectives in psychotherapy derived from the parallel influence of Abraham Maslow's (1954) theoretical framework and the previously mentioned perspectives of Carl Rogers (1951). Both of these major figures in the history of psychology emphasized the uniqueness of individuals, with each person being different from every other person and a product of his or her distinctive experiences, temperament, and capacities. Maslow and Rogers emphasized people's psychological strengths rather than their limitations, and they shared the optimistic belief that people are capable of making constructive changes in their lives and are inherently inclined to develop their human potential and thereby become self-actualized.

Proceeding along these lines, Rogers (1951) formulated client-centered therapy, a humanistic–experiential treatment that focuses on the person, not the person's problems, and aims at facilitating personal growth through expanded self-awareness. Instead of addressing psychological difficulties, client-centered therapy is oriented toward helping people tap their psychological resources, achieve a sense of well-being, and move toward fulfillment of their human potential. Promoting openness to their experience and fuller awareness of themselves are considered the main ways of helping people realize their potential, and Rogers considered this approach more beneficial than direct efforts to free people of troubling symptoms or solve their life problems.

Client-centered therapists attempt to foster expanded self-awareness by reflecting the thoughts and feelings a person appears to be experiencing at the moment. Along with reflection, a second key element of Rogerian treatment is an encouraging, supportive, and mutually engaged treatment atmosphere in which the relationship with the therapist contributes to personal growth. In traditional client-centered therapy, the climate of the therapeutic relationship is believed by itself to account for whatever gains are made in the treatment. The previously mentioned therapist characteristics of empathy, warmth, and genuineness help to create this constructive climate, with their emphasis on nonjudgmental acceptance of people in therapy, affirmation of their worth as unique individuals, and clearly evident effort to understand what they are experiencing.

Clinicians following in the humanistic–experiential footsteps of Maslow and Rogers have

developed a variety of specific treatment approaches. Existential psychotherapy, influenced also by the philosophical writings of Kierkegaard, Heidegger, and Sartre, emphasizes the anxiety that often attends existence in a confusing and seemingly meaningless world. Treatment in existential therapy accordingly seeks to help people find meaning in their lives, take responsibility for making decisions about themselves, and feel free to endorse choices congruent with their own desires (Schneider & Krug, 2010; Yalom, 1980).

Gestalt therapy attributes psychological difficulties largely to insufficient contact with oneself and one's environment. Individuals in this treatment are encouraged to become fully aware of their immediate thoughts, feelings, body sensations, and surroundings, and therapists use a variety of techniques designed to promote personal growth by sharpening how people experience themselves and enlarging their capacity for free expression (Brownell, 2010; Yentef & Jacobs, 2013).

Emotion-focused therapy (Greenberg, 2002, 2011) is a person-centered treatment in which emotional change is regarded as the essential ingredient of improving one's life and achieving a greater sense of well-being. Emotion-focused therapists attempt to foster personal growth by combining empathic entrance into an individual's internal frame of reference with directive efforts to deepen the person's emotional experience. In addition to both following and guiding a person's experiences, emotion-focused therapy promotes emotional processing by encouraging people to explore and learn from their feelings rather than avoiding or trying to suppress them.

In the early history of the humanistic–existential approach, its emphasis on the uniqueness of individuals and their subjective experience, rather than on similarities among them and their external characteristics, limited empirical study of its potential benefits. Rogers (1957) nevertheless pioneered in using tape-recorded psychotherapy sessions for research and training purposes, and over time increasing attention to the outcome as well the experience of treatment generated empirical demonstrations of the general effectiveness of humanistic–experiential therapies and their utility in treating a variety of disorders.

## Integrative Perspectives

Integrative perspectives in psychotherapy developed from an eclectic preference for drawing on psychodynamic, cognitive–behavioral, humanistic–experiential, and other conceptualizations in ways that would provide a desirable alternative to sole commitment to any one of these three traditional perspectives. The resulting integrative efforts have taken four forms, commonly referred to as *technical, theoretical, common factors*, and *assimilative*.

Technical eclecticism is a pragmatic treatment that applies whatever interventions appear likely to be helpful, without regard for their theoretical origin. This pragmatic approach was first formulated within the context of behavior therapy by Lazarus (1976, 1989) as multimodal therapy, and it has more recently been refined by Beutler (2011; Beutler & Harwood, 2000) in the form of systematic treatment selection. Concerned that theoretical orientations can often lead to ineffective treatment, Beutler et al. (2013) recommended instead a prescriptive therapy based on empirically supported principles for producing therapeutic change and tailored to each person's reactance level, coping style, and severity of functional impairment.

Theoretical integration seeks to blend traditional treatment approaches into an overarching theoretical framework that, unlike technical eclecticism, enhances conceptual understanding of psychotherapy. Theoretical eclecticism traces back to a landmark book by Dollard and Miller (1950), *Personality and Psychotherapy*, in which the authors combined psychoanalytic theory and principles of learning to formulate an integrated perspective on psychotherapy. Wachtel (1977) has similarly proposed a theoretically eclectic integration of psychoanalysis and behavior therapy, and more recently integrations of psychodynamic and cognitive therapy have been devised as well (Georgakopoulou, 2013). Also of note is a transtheoretical integration in which different types of psychotherapy are used at different stages of treatment in the expectation that sound stage–treatment matching will prove more effective than relying on any one type of psychotherapy (Scaturo, 2005).

Common factors is concerned neither with specific techniques nor with the theories that underlie

these techniques. Emphasized instead are core ingredients of the psychotherapy process that characterize all therapies and have proved effective in promoting symptom relief and behavior change. "Corrective experiences" that challenge a person's fears or expectations characterize successful cognitive–behavioral, humanistic, and psychodynamic psychotherapies alike (Castonguay & Hill, 2012). In addition to exposure to previously feared and avoided internal states and external situations, other common psychotherapy ingredients with proved effectiveness include the previously mentioned strong working alliance; expectation of change; and therapist communication of warmth, genuineness, and empathic understanding.

Assimilative integration is a combinative approach in which therapists favor a particular theoretical orientation but draw as well on the perspectives and prescribed methods of other orientations when they consider it helpful to do so. This combination of a preferred perspective with openness to auxiliary use of practices associated with other perspectives could be considered an integration of integrationist views. By embracing both a preferred conceptualization and methods that are likely to work, assimilative eclecticism bridges technical and theoretical eclecticism and implicitly relies on common principles of effectiveness in selecting intervention strategies (Stricker & Gold, 1996).

## RESEARCH EVIDENCE

Psychotherapy research has principally encompassed two types of studies: outcome studies of the benefits and effects of treatment and process studies of the impact of therapist–patient interactions within treatment sessions. Outcome studies seek to determine whether psychotherapy works and whether some treatment methods work better than others, whereas process studies explore how psychotherapy works, with particular attention to the ingredients of the treatment and interactions that promote positive behavior change.

### Outcome Research

Outcome research in psychotherapy has evolved through increasingly refined attention to the criteria that should be used to evaluate treatment benefit, the comparison group against which people receiving treatment should be measured, and the experimental controls that should govern the design of data collection.

With respect to criteria for evaluating benefit, early outcome researchers merely asked patients and therapists whether they considered a course of treatment to have been helpful. Although direct inquiry is often a good route to discovery, patient and therapist opinion in this instance can be subject to numerous sources of bias or misperception (Walfish et al., 2012). Over time, a consensus emerged that treatment outcome should be measured by objective indications of the extent to which the goals of the therapy—whether symptom relief, problem resolution, or life enrichment and a sense of well-being—are achieved and sustained over time. A large number of procedures have been developed for conducting such outcome assessments, including the utilization of many standard psychological tests (Hill, Chui, & Baumann, 2013; Maruish, 2004).

Regarding the comparison group against whom people in treatment should be measured, the seemingly most logical way to evaluate whether psychotherapy is beneficial would be to compare treatment groups with no-treatment groups of people equally in need of treatment. However, the propriety of denying treatment to people who need it so that they can serve as comparison group for research purposes is questionable. As a frequent and more proper alternative to denying treatment in outpatient settings, psychotherapy for no-treatment comparison groups has been delayed, rather than denied, by placing them on a waiting list. The results obtained with this research method can be misleading, however, because the wait-listing of the no-treatment groups has usually followed an intake evaluation process. Being evaluated and placed on a waiting list can itself prove psychotherapeutic, not only because people have had an opportunity to present their problems to an interested and attentive mental health professional but also because being on the psychotherapy waiting list can nourish reassuring expectations that help is on the way. Wait-listed people may consequently feel better and show improvement, which could be interpreted as

spontaneous remission and as evidence challenging the utility of psychotherapy, when strictly speaking they do not constitute a no-treatment comparison group.

Misleading findings in studies involving waitlisted comparison groups can be avoided by having psychotherapy patients serve as their own controls. In a pre–post, own-control research design, progress and outcome in psychotherapy are measured by comparing patients' psychological functioning during or at the conclusion of treatment with their psychological status at the beginning of it. Needless to say, the information value of such progress and outcome comparisons is enhanced if the same or similar assessment procedures are used at each point in time. As an example of this longitudinal own-control methodology, Lambert (2007) collected data from large samples of patients in once-weekly psychotherapy who were asked before each session to rate their current symptoms, interpersonal relations, life functioning, and quality of life. This procedure provided an assessment of progress and change for these research participants from the beginning of their treatment until they completed or withdrew from it. With respect to their progress, about one third of the patients in Lambert's samples were showing substantial improvement by the 10th treatment session, one half by the 20th session, and three quarters by the 55th session of therapy.

Outcome research has also examined the relationship between the amount of psychotherapy people receive and the likelihood of their benefiting from treatment, which is known as the dose–effect ratio. The data from these studies have identified a positive but nonlinear relationship with a negatively accelerating curve. That is, the more sessions patients have, the more likely they are to show improvement, but the size of this effect diminishes at the higher doses. Generally speaking, then, more therapy has a greater probability of producing beneficial effects than does less therapy, but this difference becomes smaller as the length of therapy increases (Howard et al., 1986; Lambert, 2013a).

Concerning the experimental controls that should govern collection of psychotherapy outcome data, research has proceeded along two lines, efficacy studies and effectiveness studies. Efficacy studies aim to minimize the extent to which obtained data are confounded by variation in the people receiving treatment, the treating therapists, and the manner in which the treatment is delivered. To this end, efficacy researchers conduct carefully controlled studies in which participants with just one and the same psychological disorder are assigned randomly to treatment and comparison groups; participants in treatment groups receive identical therapy, typically for a predetermined number of sessions; and therapists administer the treatment precisely as specified by a treatment manual. This controlled format for conducting psychotherapy outcome research has become widely known as the randomized controlled trial (RCT) method and has served as the basis for identifying empirically supported treatments for a broad range of psychological disorders (Chambless & Ollendick, 2001).

The careful controls that characterize efficacy studies ensure highly dependable results with substantial internal validity, which gives good reason to believe that a beneficial outcome can be attributed to the treatment being delivered. On this basis, RCT evaluation has sometimes been labeled the gold standard for determining the value of a treatment method. However, the artificial conditions of RCTs rarely represent real-world psychotherapy, findings in laboratory studies may not generalize to real-world circumstances, and the strict controls in RCT research are likely to boost internal validity at the expense of external or ecological validity.

Effectiveness studies provide a naturalistic alternative to laboratory research by studying the outcome of psychotherapy as it is delivered in the field to heterogeneous groups of people, including many with multiple disorders, and in a variety of clinic, hospital, and private office settings. In the field, moreover, therapy typically proceeds flexibly, rather than as prescribed by a manual; people participate in deciding by whom and in what way they will be treated, rather than by random assignment to a therapist and a treatment method; and the duration of the treatment is commonly variable rather than predetermined. Although consequently less internally rigorous than efficacy research, effectiveness research is more attuned to psychotherapy outcomes in actual clinical practice (Castonguay et al., 2013).

Efficacy research has been limited in scope not only by a restricted selection of research participants that does not capture the diversity and complexity of people seen in actual psychotherapy practice, but also by a predominant focus on treatment methods. Research findings have indicated that positive progress in psychotherapy is far more attributable to patient characteristics (such as the previously mentioned motivation and expectations) and features of the treatment relationship (such as the previously mentioned alliance and collaboration) than to particular treatment methods (Norcross & Wampold, 2011). Psychotherapy researchers generally concur that patient and relationship factors account for much more of the variance in treatment outcome than the particular treatment techniques, to which as little as 12% of improvement appears attributable (Beutler et al., 2012; Bohart & Wade, 2013; Lambert, 2013a).

These considerations have led numerous scholars to question the wisdom of relying on RCT studies as the gold standard and sole basis for determining the scientific respectability and clinical utility of a treatment method (e.g., Barkham et al., 2010; Beutler, 2009). Some psychologists and agencies have nevertheless continued to endorse empirically supported treatments as the only psychotherapy methods that should be taught and practiced (Baker, McFall, & Shoham, 2008). Nevertheless, a narrow emphasis on empirically supported treatments has gradually given way to the broader concept of evidence-based practice, an official policy of the American Psychological Association (APA). It is defined as clinical practices based on "the integration of best available research with clinical experience in the context of patient characteristics, culture, and preferences" (APA Presidential Task Force on Evidence-Based Practice, 2006, p. 273; see also Duncan & Reese, 2013).

As a final methodological note, psychotherapy outcome research, whether designed to assess the efficacy or the effectiveness of a treatment, should be governed by attention to the integrity of the therapy being delivered. Treatment integrity refers to how well a course of psychotherapy adheres to the established guidelines for providing it. Treatment integrity thus requires therapists to be competent in providing the technical aspects of a treatment method in its intended manner and skillful in establishing a positive relationship with the person being treated (Southam-Gerow & McLeod, 2013). Without fidelity to the treatment methods being studied and therapists capable of implementing them, psychotherapy outcome studies are unlikely to provide dependable information about the benefit of these methods.

Psychotherapy does not always work, nor does it work equally well for everyone who enters treatment. Whereas two thirds to three quarters of psychotherapy patients show improvement, the remaining third to a quarter do not benefit from treatment, including an average of 8% across various studies who appear worse off when they leave treatment than when they entered it (Lambert, 2013a). Perhaps psychotherapy was not a necessary or wisely chosen intervention for those people who do not improve or become worse, or perhaps the therapy they received was ineptly delivered or inadequately tailored to their needs and circumstances, or perhaps events external to the treatment (e.g., physical illness, financial difficulty, traumatic life experience) interfered with their becoming productively engaged in it.

Before turning to comparative outcome research, it bears repeating from the earlier discussion that failure or a slow response in psychotherapy may be associated with certain limitations that people bring with them into their treatment. Specifically, individuals with personality disorders ordinarily do not respond as quickly or change as much as those with symptomatic disorders; people experiencing chronic or recurrent episodes of disorder often do not respond as soon or recover as fully as those with an initial acute episode of disorder; and people struggling with multiple or pervasive life problems are more difficult to help than those whose life problems are relatively few and circumscribed.

## Comparative Outcome Research

Convincing evidence of the effectiveness of psychotherapy dates from a 1977 report by M. L. Smith and Glass (see also M. L. Smith, Glass, & Miller, 1980), who first estimated on the basis of a meta-analysis of 475 controlled outcome studies that the average psychotherapy

patient is better off at the end of treatment than 80% of untreated people. M. L. Smith and Glass reported further that the many treatment methods included in their analysis showed little difference in average or overall treatment effectiveness. This observation of apparent equivalence among treatment methods became known as the "Dodo Bird Verdict," in reference to the Dodo Bird in *Alice in Wonderland* who declared after a race that "everyone has won, and all must have prizes." Subsequent research has appeared to confirm the Dodo Bird findings but also fomented sharp debate about them (Budd & Hughes, 2009). Some clinicians and scholars endorse a Dodo Bird view of equivalent effectiveness among psychotherapy methods, whereas others question the adequacy of the Dodo Bird research, even to the point of maintaining that their preferred treatment methods are the best ones to use.

Both endorsement and dismissal of the Dodo Bird Verdict have some justification. When considered in broad perspective, few psychotherapy methods have proved uniquely effective for treating any specific disorder, which is consistent with the Dodo Bird expectation, and comparisons among established methods have not shown any consistent superiority of one over another in the treatment of most diagnosed conditions (Baardseth et al., 2013; Beutler, 2009; Wampold, 2001). However, equivalent effectiveness across psychotherapy methods broadly conceived can obscure differential utility of specific intervention strategies in treating certain conditions. Volumes on treatments that work (Nathan & Gorman, 2007) and relationships that work (Norcross, 2011) have identified numerous procedures that have proved especially effective in addressing particular kinds of psychological problems.

Aside from whether methods of psychotherapy should be considered equivalent or differentially effective in treating psychological disorders, research has indicated that people differ in how they are likely to respond to certain treatment strategies. Meta-analyses have shown that highly reactive or resistant patients do better with less therapist control and more self-control (Beutler, 2011). As two more examples, people with different coping styles and at different stages of change require treatment adaptations. Patients with a primarily internalizing coping style are more likely to respond positively to an insight-oriented treatment approach than people with an externalizing style, who are more effectively treated with cognitive–behavioral methods. Consistent with the previously mentioned transtheoretical perspective, patients in early stages of change (called *contemplation*) are likely to differ from those in later stages (called *action* and *maintenance*) in the treatment approach that best serves their needs (Norcross, Krebs, & Prochaska, 2011). These empirically demonstrated individual differences in treatment response argue against regarding certain treatment methods as always the best ones; unique individuals require unique treatments.

## Process Research

Process research in psychotherapy complements demonstrations that psychotherapy works by identifying ingredients of the treatment that are associated with positive behavior change and presumably contribute to it. Researchers exploring patient characteristics associated with progress in psychotherapy have examined such process variables as hopeful expectations, openness of expression, receptivity to interventions, emotional responsiveness, psychological mindedness, self-exploration, and identification with the therapist. Therapist characteristics that have been assessed for their association with treatment progress include level of competence, amount of verbal and nonverbal activity, commitment to particular techniques or principles of change, nature and focus of interventions, adherence to a treatment manual, and self-disclosure. Process studies of patient–therapist interactions have examined the nature and quality of the working alliance, with particular attention to the feelings and attitudes of patients and therapists toward each other and toward the treatment.

To a large extent, the identified ingredients of effective psychotherapy parallel the patient, therapist, and treatment relationship characteristics mentioned earlier as being likely to enhance the benefits of psychotherapy. In addition, psychotherapy process research conducted from a variety of theoretical perspectives has produced two comprehensive findings. First, a strong therapeutic relationship has become widely recognized as being not only conducive to progress in psychotherapy

but perhaps the most important component of the therapeutic process (Crits-Christoph, Gibbons, & Mukherjee, 2013).

Second, many elements of psychotherapy associated with treatment progress have been recognized as characterizing all varieties of psychotherapy, regardless of the theories on which they are based or the technical procedures they use. As captured in part by the common factors approach, these universally effective ingredients in psychotherapy begin to have their impact when formal arrangements are made for the treatment. By committing themselves to a treatment contract and scheduling regular meeting times for sessions, therapists instill in people a reassuring anticipation of receiving continued help. Progress in all psychotherapies is additionally facilitated by the following five ingredients:

1. *Positive feelings and attitudes:* The beneficial impact of hopeful expectations and consensus concerning treatment goals and procedures was discussed earlier. In addition, a common feature that fosters progress in all psychotherapies is mutual trust and respect between patient and therapist and positive feelings toward each other.
2. *Emotional release:* All psychotherapies give patients an opportunity to unburden themselves, to talk about their problems and concerns, and to gain some emotional release by getting things off their chest.
3. *Attention and caring:* Patients in all psychotherapies appreciate and derive benefit from being listened to in confidence by an interested professional person who asks questions, seeks information, and is trying to be of help. Whatever their problems may be, people in treatment recognize that they are no longer facing them alone.
4. *Exposure:* Active participants in psychotherapy are confronting their problems, discussing them on a regular basis, and being repetitively exposed to anxiety-provoking thoughts and feelings. This recurring exposure in the secure setting of the therapist's office reduces levels of experienced distress, regardless of the form of psychotherapy.
5. *Reinforcement:* Also independent of whether the treatment is behaviorally focused, all psychotherapies promote change by reinforcing or discouraging certain behaviors. This reinforcement effect is sometimes achieved directly by praise or criticism and sometimes indirectly by a therapist's nod of approval or a frown of concern.

Whether explicit or subtle, positive and negative reinforcements in all psychotherapies usually address both what people are saying during treatment sessions and how they are conducting themselves in their lives.

## MAJOR ACCOMPLISHMENTS

The major accomplishments of psychotherapy have revolved around establishing its effectiveness. A vast body of research consisting of thousands of individual studies and hundreds of meta-analyses has demonstrated without doubt that psychotherapy works. Encompassing individual psychotherapy conducted in settings ranging from research-oriented laboratories to practice-oriented clinics, this body of research has shown (a) that the effect size across psychotherapy outcome studies averages about .80, which in the behavioral sciences is considered a large effect; (b) that between two thirds and three quarters of psychotherapy patients benefit from their treatment; and (c) that that the average psychotherapy patient is better off than approximately 80% of untreated people (Campbell et al., 2013; Lambert, 2013b). In light of these substantial indications of effectiveness, the APA (2013) has adopted a resolution proclaiming that "psychotherapy results in benefits that markedly exceed those experienced by individuals who need mental health services but do not receive psychotherapy" and consequently that "psychotherapy should be included in the health care system as an established evidence-based practice" (p. 324).

In addition to documenting that psychotherapy is a reliable and powerfully helpful treatment, research has demonstrated the effectiveness of a broad range of specific psychotherapy methods derived from psychodynamic, cognitive–behavioral, humanistic–experiential, and integrative perspectives. None of these established methods has proved consistently superior to any others, as noted earlier, but a great deal has been learned about which

methods are likely to work best in treating certain disorders and certain types of people. As examples of treatment selection, research has shown that cognitive–behavioral therapy is particularly effective in treating obsessive–compulsive disorder, exposure therapy in treating trauma, and interpersonal therapy in treating depression and bipolar disorder (Nathan & Gorman, 2007). As an example of adapting treatment methods to patient characteristics, previously mentioned knowledge has emerged that people with a primarily internalizing coping style are more likely to respond positively to insight-oriented treatment than people with an externalizing style, whereas externalizers are more effectively treated with cognitive–behavioral than with insight-oriented methods (Beutler et al., 2012).

## FUTURE DIRECTIONS

Individual psychotherapy is a bustling field of psychological theory, research, and practice with a large and expanding literature, a constant influx of fresh ideas and new data, and a growing cadre of energetic and well-trained professionals. What follows is my sense of what the future might hold for psychotherapy theory, research, and practice.

### Psychotherapy Theory

The history of psychotherapy theories and the treatment methods they prescribe has been marked by converging trends and hardening parochialism, both of which appear to remain on the horizon. With respect to convergence, the continuing diversity of the three traditional theoretical perspectives on psychotherapy has not prevented their development from sewing some common threads among them. As noted earlier, psychodynamic perspectives on psychotherapy originated with intensive, long-term, insight-oriented psychoanalysis but subsequently broadened to include short-term, problem-oriented treatments aimed at behavior change and recognition that psychological disorder behaviors can stem from dysfunctional beliefs that people form about themselves and their world—in common with cognitive–behavioral and humanistic–experiential perspectives.

Cognitive–behavioral perspectives began with a mechanistic focus on reinforcing and extinguishing stimulus–response connections but evolved to include attention to what people are thinking, even outside of their conscious awareness, and recognition of the helping potential of the treatment relationship—in common with psychodynamic and humanistic–experiential perspectives.

Humanistic–experiential perspectives initially emphasized attending to the individual person, not the person's problems, to promote self-awareness and personal growth through the beneficial experience of an accepting and nondirective treatment atmosphere. Over time, however, humanistic–experiential perspectives came to recognize the importance of understanding as well as experiencing life situations and the corresponding role of cognitive processes in promoting personal growth, and even to encompass directive treatment procedures intended to help people ease their life problems—in common with psychodynamic and cognitive–behavioral perspectives.

These lines of convergence emerging over time identify a degree of complementarity among psychodynamic, cognitive–behavioral, and humanistic–experiential perspectives, with elements of each enriching clinicians' ability to provide effective psychotherapy. With this observation in mind, I once wrote, "The complete clinician is one who appreciates the lessons taught by various theories and can draw on the concepts and methods of many different approaches in delivering psychological services" (Weiner, 1991, p. 37). This complementarity has been reflected in the emergence of integration.

On the horizon, then, are strong possibilities for continued convergence among theoretical perspectives together with awareness of instructive differences between them and the increasing influence of integrative perspectives that promote tolerance and respect for multiple points of view. As also mentioned, however, there may be some darkness on the horizon as well, in the form of a hardened parochialism that disparages any but one preferred perspective and seeks to restrict education, training, and practice in clinical psychology to the tenets of this perspective. Damaging single-mindedness may substantially reduce intellectual diversity in clinical psychology (Levy & Anderson, 2013).

## Psychotherapy Research

Psychotherapy research in the years ahead is likely to broaden in scope, generate increasingly meaningful data, and move in important new directions. With respect to broadening in scope, psychotherapy research is likely to address three groups of people more extensively than in the past. The first of these groups are members of minority cultures. Given the necessity of adequate representation in research samples and the importance of determining the types of psychological interventions to which minority group members are most responsive, there should and will be efforts to increase their participation in investigative research.

The second group for which there should and hopefully will be increased research participation are therapists themselves. Psychotherapy research has attended more often to patient characteristics and treatment methods than to qualities of the therapist, and there is much to be gained from exploring more fully the characteristics that make some therapists more effective than others and applying what is learned from this research in the education and training of psychotherapists.

The third group who should be studied in greater numbers are people receiving psychotherapy in private offices and public agencies in the community rather than in laboratories and research facilities. Attention to the real-world effectiveness of psychotherapy has lagged behind investment in the well-controlled efficacy studies described earlier. Both efficacy and effectiveness studies serve valuable purposes, but advances in demonstrating the accountability of psychotherapy as a treatment method will require expanded sampling of research participants who are broadly representative of people receiving psychotherapy in all kinds of settings.

As for generating meaningful data, the earlier discussion of psychotherapy research noted several shortcomings in traditional research designs. In the future, psychotherapy outcome research will involve longitudinal studies in which researchers use patients as their own controls, conduct systematic pretreatment assessments against which subsequent assessments during and after the treatment can be compared with measures of patient progress and outcome, and assess outcome in broad life satisfaction terms rather than merely symptom relief or problem resolution, and over an extended posttreatment time, not just at termination. This outcome research will be integrated with process research because researchers interested in assessing effectiveness also explore how psychotherapy works, and process researchers interested primarily in nuances of the treatment relationship and the impact of therapist interventions attend as well to treatment outcomes.

Turning to new directions in psychotherapy research, a promising likelihood is an increased interface with neuroscience, particularly in the utilization of neural imaging. Psychological changes in what people are thinking and how they are feeling produce physical modifications in the brain, and the imaging of neural correlates of ideational or affective changes induced by psychotherapy may lead to greater understanding of the effects of therapist interventions (Wampold, Hollon, & Hill, 2011). Should this be the case, measured changes in the brain may cast light on how different forms of treatment work and provide a new tool for assessing psychotherapy effectiveness. Neural imaging of the psychotherapy process could also show the way to new and improved treatment methods and might even identify types of psychotherapy that can be helpful in treating brain disorders.

## Psychotherapy Practice

Psychotherapy practice in the future seems likely to involve one area of constriction and several areas of expansion. The probable constriction of psychotherapy will be in its typical length, with movement toward increased utilization of brief treatments. Briefer treatments have been evolving for many years in psychodynamic, cognitive–behavioral, and humanistic–experiential psychotherapy (Messer, Sanderson, & Gurman, 2013). In a Delphi study on the future of psychotherapy, experts rated short-term therapy (five to 12 sessions) and very short-term therapy (one to three sessions) as therapy formats quite likely to become more prevalent in the next decade (Norcross, Pfund, & Prochaska, 2013).

The future expansion of psychotherapy practice is likely to involve the people served and the methods used. Changes in the practice of psychotherapy

can be expected to mirror greater research attention to the psychological needs of an increasingly diverse population. In addition to this extended application to previously underserved cultural minorities, psychotherapists are likely to participate more frequently in providing general health care. Psychotherapists are already well-established collaborators with physicians in the treatment of such conditions as addictions and eating disorders, and they are likely to become increasingly engaged in addressing behavioral aspects of health problems and in helping to alleviate the distress of people with disabilities or chronic physical illness. This growing participation in primary care could lead to a refocusing of psychotherapy as a first-line intervention in behavioral health (Cummings & Cummings, 2013). As a relatively efficient treatment modality with proven effectiveness and minimal side effects, psychotherapy might even come to precede medication in the treatment of mild anxiety and mood disorders.

This last speculation touches on the broader question of what the future holds for the relative popularity of psychotherapy and pharmacotherapy. Combined psychological and medicinal treatment is widely practiced for many disorders and has an extensive literature (Beitman & Saveanu, 2005; Muse & Moore, 2012). Questions for the years ahead are whether both modalities will continue to be included in these combinations with the same frequency or whether one will become more often chosen than the other as a stand-alone intervention for psychological disorders. The Delphi study respondents forecasted in this regard that pharmacotherapy was somewhat likely to expand at the expense of psychotherapy in the next decade, whereas expansion of psychotherapy at the expense of pharmacotherapy was quite unlikely. To suggest a different possibility, might it be that growing concerns about excessive prescription of psychotropic medications and a growing preference for being helped with psychological problems without having to take pills will brighten the future of psychotherapy?

Turning to treatment methods, there is likely to be a continued flow of new methods in the years ahead. As an example in this regard, two relatively new cognitive–behavioral methods that were not mentioned previously have attracted considerable attention in the literature: mindfulness-based cognitive therapy (Crane, 2009; Felder, Dimidjian, & Segal, 2012) and acceptance and commitment therapy (Hayes, Strosahl, & Wilson, 2012). Mindfulness-based cognitive therapy and acceptance and commitment therapy share a focus on helping people become fully aware of their thoughts and feelings but accepting rather than reacting to them. People receiving these treatments are taught to observe these internal events without passing judgment on them or attempting to control them, and they are encouraged to deal with their experience in a flexible manner and act in accord with their personal values.

Also probable in the future expansion of psychological treatment methods is growing utilization of telepsychology, which the Delphi study respondents rated the most likely of 25 possible scenarios in the delivery of psychotherapy to increase in the coming decade. Telepsychology refers to any use of electronic means (e.g., telephone, video, email) in conducting psychotherapy, whether in conjunction with in-person sessions or as the sole treatment modality, and APA has recently provided guidelines for its practice (Joint Task Force for the Development of Telepsychology Guidelines for Psychologists, 2013). Several studies have reported successful telephone therapy (Blanko, Lipsitz, & Caligor, 2012), but broad demonstration of the people with whom and the circumstances under which telepsychology will prove effective is yet to come.

In the future, psychotherapy will enjoy continued recognition as a valuable treatment that is worth its cost, become increasingly integrated into primary health care, and perhaps gain status as a first-line intervention in behavioral health. Psychotherapy researchers and practitioners will become increasingly attuned to the psychological needs of a culturally diverse population, they will continue to identify and implement common factors, and they will more frequently conduct systematic assessments that provide a basis for monitoring patient progress and treatment outcome and for selecting treatments suited to nature and needs of individual patients. Psychotherapists will increasingly integrate their attention to process and outcome variables,

recognize that both efficacy and effectiveness studies are necessary to document the scientific merit and real-world utility of psychotherapy, and, one can only hope, listen to each other more than has often been the case.

## References


American Psychological Association. (2013). Recognition of psychotherapy effectiveness. *Journal of Psychotherapy Integration*, *23*, 320–330. http://dx.doi.org/10.1037/a0033179

American Psychological Association Presidential Task Force on Evidence-Based Practices. (2006). Evidence-based practice in psychology. *American Psychologist*, *61*, 271–285. http://dx.doi.org/10.1037/0003-066X.61.4.271

Aponte, J. F., & Wohl, J. (2000). *Psychological intervention and cultural diversity* (2nd ed.). Boston, MA: Allyn & Bacon.

Baardseth, T. P., Goldberg, S. B., Pace, B. T., Wislocki, A. P., Frost, N. D., Siddiqui, J. R., . . . Wampold, B. E. (2013). Cognitive–behavioral therapy versus other therapies: Redux. *Clinical Psychology Review*, *33*, 395–405. http://dx.doi.org/10.1016/j.cpr.2013.01.004

Baker, T. B., McFall, R. M., & Shoham, V. (2008). Current status and future prospects of clinical psychology: Toward a scientifically principled approach to mental and behavioral health care. *Psychological Science in the Public Interest*, *9*, 67–103.

Baldwin, S. A., & Imel, Z. E. (2013). Therapist effects: Findings and methods. In M. J. Lambert (Ed.), *Bergin and Garfield's handbook of psychotherapy and behavior change* (6th ed., pp. 258–297). Hoboken, NJ: Wiley.

Barkham, M., Stiles, W. B., Lambert, M. J., & Mellor-Clark, J. (2010). Building a rigorous and relevant knowledge-base for the psychological therapies. In M. Barkham, G. E. Hardy, & J. Mellor-Clark (Eds.), *Developing and delivering practice-based evidence: A guide for the psychological therapies* (pp. 21–61). http://dx.doi.org/10.1002/9780470687994.ch2

Beck, A. T. (1976). *Cognitive therapy and the emotional disorders*. New York, NY: International Universities Press.

Beck, A. T., Freeman, A. N., & Davis, D. D. (2004). *Cognitive therapy of personality disorders*. New York, NY: Guilford Press.

Beitman, B. D., & Saveanu, R. V. (2005). Integrating pharmacotherapy and psychotherapy. In J. C. Norcross & M. R. Goldfried (Eds.), *Handbook of psychotherapy integration* (2nd ed., pp. 417–436). New York, NY: Oxford University Press.

Beneditti, G. (1987). *Psychotherapy of schizophrenia*. New York, NY: New York University Press.

Beutler, L. E. (2009). Making science matter in clinical practice: Redefining psychotherapy. *Clinical Psychology: Science and Practice*, *16*, 301–317. http://dx.doi.org/10.1111/j.1468-2850.2009.01168.x

Beutler, L. E. (2011). Prescriptive matching and systematic treatment selection. In J. C. Norcross, G. R. VandenBos, & D. K. Freedheim (Eds.), *History of psychotherapy: Continuity and change* (2nd ed., pp. 402–407). http://dx.doi.org/10.1037/12353-019

Beutler, L. E., Forrester, B., Gallagher-Thompson, D., Thompson, L., & Tomlins, J. R. (2012). Common, specific, and treatment fit variables in psychotherapy outcome. *Journal of Psychotherapy Integration*, *22*, 255–281. http://dx.doi.org/10.1037/a0029695

Beutler, L. E., Forrester, B., Holt, H., & Stein, M. (2013). Common, specific, and cross-cutting psychotherapy interventions. *Psychotherapy*, *50*, 298–301. http://dx.doi.org/10.1037/a0032405

Beutler, L. E., & Harwood, T. M. (2000). *Prescriptive psychotherapy: A guide to systematic treatment selection*. New York, NY: Oxford University Press.

Blanko, C., Lipsitz, J. D., & Caligor, E. (2012). Interpersonal psychotherapy by telephone. In J. C. Markowitz & M. M. Weissman (Eds.), *Casebook of interpersonal psychotherapy* (pp. 411–423). New York, NY: Oxford University Press.

Bohart, A. C., & Wade, A. G. (2013). The client in psychotherapy. In M. J. Lambert (Ed.), *Bergin and Garfield's handbook of psychotherapy and behavior change* (6th ed., pp. 219–257). Hoboken, NJ: Wiley.

Brodsky, S. L. (2011). *Therapy with coerced and reluctant clients*. http://dx.doi.org/10.1037/12305-000

Brody, E. B., & Redlich, F. C. (Eds.). (1952). *Psychotherapy with schizophrenics*. http://dx.doi.org/10.1037/10768-000

Brownell, P. (2010). *Gestalt therapy: A guide to contemporary practice*. New York, NY: Springer.

Budd, R., & Hughes, I. (2009). The Dodo Bird Verdict—controversial, inevitable and important: A commentary on 30 years of meta-analyses. *Clinical Psychology and Psychotherapy*, *16*, 510–522. http://dx.doi.org/10.1002/cpp.648

Campbell, L. F., Norcross, J. C., Vasquez, M. J., & Kaslow, N. J. (2013). Recognition of psychotherapy effectiveness: The APA resolution. *Psychotherapy*, *50*, 98–101. http://dx.doi.org/10.1037/a0031817

Castonguay, L. G., Barkham, M., Lutz, W., & McAleavey, A. A. (2013). Practice-oriented research: Approaches and applications. In M. J. Lambert (Ed.), *Bergin and Garfield's handbook of psychotherapy and behavior change* (6th ed., pp. 85–133). New York, NY: Wiley.

Castonguay, L. G., & Hill, C. E. (Eds.). (2012). *Transformation in psychotherapy: Corrective*

*experiences across cognitive–behavioral, humanistic, and psychodynamic approaches*. http://dx.doi.org/10.1037/13747-000

Chambless, D. L., & Ollendick, T. H. (2001). Empirically supported psychological interventions: Controversies and evidence. *Annual Review of Psychology*, *52*, 685–716. http://dx.doi.org/10.1146/annurev.psych.52.1.685

Clarkin, J. F., & Levy, K. N. (2004). The influence of client variables on psychotherapy. In M. J. Lambert (Ed.), *Bergin and Garfield's handbook of psychotherapy and behavior change* (5th ed., pp. 194–226). Hoboken, NJ: Wiley.

Comas-Díaz, L. (2011). Multicultural approaches. In J. C. Norcross, G. R. VandenBos, & D. K. Freedheim (Eds.), *History of psychotherapy: Continuity and change* (2nd ed., pp. 243–267). http://dx.doi.org/10.1037/12353-008

Crane, R. (2009). *Mindfulness-based cognitive therapy: Distinctive features*. New York, NY: Routledge.

Crits-Christoph, P. (2010). Psychotherapy. In I. B. Weiner & W. E. Craighead (Eds.), *Corsini's encyclopedia of psychology* (4th ed., pp. 1371–1373). http://dx.doi.org/10.1002/9780470479216.corpsy0752

Crits-Christoph, P., Gibbons, M. B. C., & Mukherjee, D. (2013). Psychotherapy process-outcome research. In M. J. Lambert (Ed.), *Bergin and Garfield's handbook of psychotherapy and behavior change* (6th ed., pp. 298–340). Hoboken, NJ: Wiley.

Cummings, N. A., & Cummings, J. L. (2013). *Refocused psychotherapy as the first line intervention in behavioral health*. New York, NY: Routledge.

Davanloo, H. (1980). *Short-term dynamic psychotherapy*. Northvale, NJ: Jason Aronson.

Dollard, J., & Miller, N. E. (1950). *Personality and psychopathology*. New York, NY: McGraw-Hill.

Duncan, B. L., & Reese, R. J. (2013). Empirically supported treatments, evidence-based treatments, and evidence-based practice. In I. B. Weiner (Ed.-in-Chief), G. Stricker, & T. A. Widiger (Eds.), *Handbook of psychology: Vol. 8. Clinical psychology* (2nd ed., pp. 489–513). Hoboken, NJ: Wiley.

Elliott, R., Bohart, A. C., Watson, J. C., & Greenberg, L. S. (2011). Empathy. *Psychotherapy*, *48*, 43–49. http://dx.doi.org/10.1037/a0022187

Ellis, A. (1962). *Reason and emotion in psychotherapy*. New York, NY: Stuart.

Ellis, A., & Ellis, D. J. (2011). *Rational emotive behavior therapy*. Washington, DC: American Psychological Association.

Farber, B. A., & Doolin, E. M. (2011). Positive regard. *Psychotherapy*, *48*, 58–64. http://dx.doi.org/10.1037/a0022141

Felder, J. N., Dimidjian, S., & Segal, Z. (2012). Collaboration in mindfulness-based cognitive therapy. *Journal of Clinical Psychology*, *68*, 179–186. http://dx.doi.org/10.1002/jclp.21832

Foxx, R. M. (2013). The maintenance of behavioral change: The case for long-term follow-ups. *American Psychologist*, *68*, 728–736. http://dx.doi.org/10.1037/a0033713

Frank, E., & Levenson, J. C. (2011). *Interpersonal psychotherapy*. Washington, DC: American Psychological Association.

Frank, J. D. (1961). *Persuasion and healing: A comparative study of psychotherapy*. Oxford, England: Johns Hopkins University Press.

Frank, J. D., & Frank, J. B. (1991). *Persuasion and healing: A comparative study of psychotherapy* (3rd ed.). Baltimore, MD: Johns Hopkins University Press.

Georgakopoulou, I. (2013). Psychodynamic-cognitive therapy: Working from the framework of a multimodal matrix of contributors to personality development and behavior. *Journal of Psychotherapy Integration*, *23*, 359–372. http://dx.doi.org/10.1037/a0034361

Greenberg, L. S. (2002). *Emotion-focused therapy: Coaching clients to work through their feelings*. http://dx.doi.org/10.1037/10447-000

Greenberg, L. S. (2011). *Emotion-focused therapy*. Washington, DC: American Psychological Association.

Greenberg, L. S., McWilliams, N., & Wenzel, A. (2014). *Exploring three approaches to psychotherapy*. http://dx.doi.org/10.1037/14253-000

Hayes, S. C., Strosahl, K. D., & Wilson, K. G. (2012). *Acceptance and commitment therapy: The process and practice of mindful change* (2nd ed.). New York, NY: Guilford Press.

Hill, C. E., Chui, H., & Baumann, E. (2013). Revisiting and reenvisioning the outcome problem in psychotherapy: An argument to include individualized and qualitative measurement. *Psychotherapy*, *50*, 68–76. http://dx.doi.org/10.1037/a0030571

Horvath, A. O., Del Re, A. C., Flückiger, C., & Symonds, D. (2011). Alliance in individual psychotherapy. *Psychotherapy*, *48*, 9–16. http://dx.doi.org/10.1037/a0022186

Howard, K. I., Kopta, S. M., Krause, M. S., & Orlinsky, D. E. (1986). The dose–effect relationship in psychotherapy. *American Psychologist*, *41*, 159–164. http://dx.doi.org/10.1037/0003-066X.41.2.159

Joint Task Force for the Development of Telepsychology Guidelines for Psychologists. (2013). Guidelines for the practice of telepsychology. *American Psychologist*, *68*, 791–800. http://dx.doi.org/10.1037/a0035001

Karon, B. P., & VandenBos, G. R. (1994). *Psychotherapy of schizophrenia: The treatment of choice*. Latham, MD: Jason Aronson.

Knight, B. G., & McCollum, T. J. (2011). Older adults. In J. C. Norcross, G. R. VandenBos, & D. K. Freedheim (Eds.), *History of psychotherapy: Continuity and change* (2nd ed., pp. 458–466). http://dx.doi.org/10.1037/12353-026

Kolden, G. G., Klein, M. H., Wang, C.-C., & Austin, S. B. (2011). Congruence/genuineness. *Psychotherapy*, *48*, 65–71. http://dx.doi.org/10.1037/a0022064

Kopelowicz, A., Liberman, R. P., & Zarate, R. (2007). Psychosocial treatments for schizophrenia. In P. E. Nathan & J. M. Gorman (Eds.), *A guide to treatments that work* (3rd ed., pp. 243–270). http://dx.doi.org/10.1093/med:psych/9780195304145.003.0008

Lambert, M. J. (2007). A program of research aimed at improving psychotherapy outcome in routine care: What we have learned from a decade of research. *Psychotherapy Research*, *17*, 1–14. http://dx.doi.org/10.1080/10503300601032506

Lambert, M. J. (2013a). The efficacy and effectiveness of psychotherapy. In M. J. Lambert (Ed.), *Bergin and Garfield's handbook of psychotherapy and behavior change* (6th ed., pp. 169–218). New York, NY: Wiley.

Lambert, M. J. (2013b). Outcome in psychotherapy: The past and important advances. *Psychotherapy*, *50*, 42–51. http://dx.doi.org/10.1037/a0030682

Lazarus, A. A. (1976). *Multimodal behavior therapy*. New York, NY: Springer.

Lazarus, A. A. (1989). *The practice of multimodal therapy*. Baltimore, MD: Johns Hopkins University Press.

Levenson, H. (2010). *Brief dynamic therapy*. Washington, DC: American Psychological Association.

Levy, K. N., & Anderson, T. (2013). Is clinical psychology doctoral training becoming less diverse? And if so, what can be done? *Clinical Psychology: Science and Practice*, *20*, 211–220. http://dx.doi.org/10.1111/cpsp.12035

Linehan, M. M. (1993). *Cognitive–behavioral treatment of borderline personality disorder*. New York, NY: Guilford Press.

Luborsky, L. (1984). *Principles of psychoanalytic psychotherapy: A manual for supportive–expressive treatment*. New York, NY: Basic Books.

Lynn, S. J., Kirsch, I., & Rhue, J. (Eds.). (2010). *Handbook of clinical hypnosis*. Washington, DC: American Psychological Association.

Maruish, M. E. (Ed.). (2004). *The use of psychological testing for treatment planning and outcomes assessment* (3rd ed., Vols. 1–3). Mahwah, NJ: Erlbaum.

Maslow, A. H. (1954). *Toward a psychology of being*. New York, NY: Wiley.

Messer, S. B., Sanderson, W. C., & Gurman, A. S. (2013). Brief psychotherapies. In I. B. Weiner (Ed.-in-Chief), G. R. Stricker, & T. A. Widiger (Eds.), *Handbook of psychology: Vol. 8. Clinical psychology* (2nd ed., pp. 431–453). Hoboken, NJ: Wiley.

Millon, T., & Grossman, S. (2007). *Moderating severe personality disorders: A personalized psychotherapy approach*. http://dx.doi.org/10.1002/9781118269893

Moodley, R., & Palmer, S. (Eds.). (2006). *Race, culture and psychotherapy: Critical perspectives in multicultural practice*. New York, NY: Routledge.

Muse, M., & Moore, B. A. (Eds.). (2012). *Handbook of clinical psychopharmacology for psychologists*. Hoboken, NJ: Wiley.

Nathan, P. E., & Gorman, J. M. (Eds.). (2007). *A guide to treatments that work* (3rd ed.). New York, NY: Oxford University Press.

Norcross, J. C. (Ed.). (2011). *Psychotherapy relationships that work* (2nd ed.). http://dx.doi.org/10.1093/acprof:oso/9780199737208.001.0001

Norcross, J. C., & Karpiak, C. (2012). Clinical psychologists in the 2010s: 50 years of the APA Division of Clinical Psychology. *Clinical Psychology: Science and Practice*, *19*, 1–12. http://dx.doi.org/10.1111/j.1468-2850.2012.01269.x

Norcross, J. C., Krebs, P. M., & Prochaska, J. O. (2011). Stages of change. In J. C. Norcross (Ed.), *Relationships that work* (2nd ed., pp. 279–300). http://dx.doi.org/10.1093/acprof:oso/9780199737208.003.0014

Norcross, J. C., Pfund, R. A., & Prochaska, J. O. (2013). Psychotherapy in 2022: A Delphi poll on its future. *Professional Psychology: Research and Practice*, *44*, 363–370. http://dx.doi.org/10.1037/a0034633

Norcross, J. C., VandenBos, G. R., & Freedheim, D. K. (Eds.). (2011). *History of psychotherapy: Continuity and change* (2nd ed.). http://dx.doi.org/10.1037/12353-000

Norcross, J. C., & Wampold, B. E. (2011). Evidence based therapy relationships: Research conclusions and clinical practice. In J. C. Norcross (Ed.), *Relationships that work* (2nd ed., pp. 423–430). http://dx.doi.org/10.1093/acprof:oso/9780199737208.003.0021

Rogers, C. R. (1951). *Client-centered therapy*. Boston, MA: Houghton Mifflin.

Rogers, C. R. (1957). The necessary and sufficient conditions of therapeutic personality change. *Journal of Consulting Psychology*, *21*, 95–103. http://dx.doi.org/10.1037/h0045357

Routh, D. K. (2013), Clinical psychology. In I. B. Weiner (Ed.-in-Chief) & D. K. Freedheim (Ed.), *Handbook of psychology: Vol. 1. History of psychology* (2nd ed., pp. 377–396). Hoboken, NJ: Wiley.

Safran, J. D., Muran, J. C., & Eubanks-Carter, C. (2011). Repairing alliance ruptures. *Psychotherapy*, *48*, 80–87. http://dx.doi.org/10.1037/a0022140

Safran, J. D., Muran, J. C., Samstag, L. W., & Winston, A. (2005). Evaluating alliance-focused intervention for potential treatment failures: A feasibility study and descriptive analysis. *Psychotherapy*, *42*, 512–531. http://dx.doi.org/10.1037/0033-3204.42.4.512

Scaturo, D. J. (2005). *Clinical dilemmas in psychotherapy: A transtheoretical approach to psychotherapy integration*. http://dx.doi.org/10.1037/11110-000

Schneider, K. J., & Krug, O. T. (2010). *Existential–humanistic therapy*. Washington, DC: American Psychological Association.

Shirk, S. R., & Karver, M. (2011). Alliance in child and adolescent therapy. In J. C. Norcross (Ed.), *Relationships that work* (2nd ed., pp. 70–91). http://dx.doi.org/10.1093/acprof:oso/9780199737208.003.0003

Skinner, B. F. (1953). *Science and human behavior*. Oxford, England: Macmillan.

Smith, L. (2005). Psychotherapy, classism, and the poor: Conspicuous by their absence. *American Psychologist*, *60*, 687–696. http://dx.doi.org/10.1037/0003-066X.60.7.687

Smith, M. L., & Glass, G. V. (1977). Meta-analysis of psychotherapy outcome studies. *American Psychologist*, *32*, 752–760. http://dx.doi.org/10.1037/0003-066X.32.9.752

Smith, M. L., Glass, G. V., & Miller, T. I. (1980). *The benefits of psychotherapy*. Baltimore, MD: Johns Hopkins University Press.

Southam-Gerow, M. A., & McLeod, B. D. (2013). Advances in applying treatment integrity research for dissemination and implementation science: Introduction to special issue. *Clinical Psychology: Science and Practice*, *20*, 1–13. http://dx.doi.org/10.1111/cpsp.12019

Strachey, J. (Ed. & Trans). (1955). *Standard edition of the complete psychological works of Sigmund Freud*. London, England: Hogarth Press.

Stricker, G., & Gold, J. (1996). Psychotherapy integration: An assimilative, psychodynamic approach. *Clinical Psychology: Science and Practice*, *3*, 47–58. http://dx.doi.org/10.1111/j.1468-2850.1996.tb00057.x

Strupp, H. H. (1996). The tripartite model and the *Consumer Reports* study. *American Psychologist*, *51*, 1017–1024. http://dx.doi.org/10.1037/0003-066X.51.10.1017

Sullivan, H. S. (1953). *The interpersonal theory of psychiatry*. New York, NY: Norton.

Tryon, G. S., & Winograd, G. (2011). Goal consensus and collaboration. *Psychotherapy*, *48*, 50–57. http://dx.doi.org/10.1037/a0022061

Wachtel, P. L. (1977). *Psychoanalysis and behavior therapy: Toward an integration*. New York, NY: Basic Books.

Walfish, S., McAlister, B., O'Donnell, P., & Lambert, M. J. (2012). An investigation of self-assessment bias in mental health providers. *Psychological Reports*, *110*, 639–644. http://dx.doi.org/10.2466/02.07.17.PR0.110.2.639-644

Wampold, B. E. (2001). *The great psychotherapy debate: Models, methods, and findings*. Hillside, NJ: Erlbaum.

Wampold, B. E., Hollon, S. D., & Hill, C. E. (2011). Unresolved questions and future directions in psychotherapy research. In J. C. Norcross, G. R. VandenBos, & D. K. Freedheim (Eds.), *History of psychotherapy: Continuity and change* (2nd ed., pp. 333–356). http://dx.doi.org/10.1037/12353-011

Weiner, I. B. (1991). Theoretical foundations of clinical psychology. In M. Hersen, A. E. Kazdin, & A. S. Bellack (Eds.), *The clinical psychology handbook* (2nd ed., pp. 26–44). New York, NY: Pergamon.

Weisz, J. R., Ng, M. Y., Rutt, C., Lau, N., & Masland, S. (2013). Psychotherapy for children and adolescents. In J. J. Lambert (Ed.), *Bergin and Garfield's handbook of psychotherapy and behavior change* (6th ed., pp. 541–586). Hoboken, NJ: Wiley.

Wolpe, J. (1958). *Psychotherapy by reciprocal inhibition*. Stanford, CA: Stanford University Press.

Yalom, I. (1980). *Existential psychotherapy*. New York, NY: Basic Books.

Yentof, G., & Jacobs, L. (2013). Gestalt therapy. In D. Wedding & R. Corsini (Eds.), *Current psychotherapies* (pp. 299–336). Belmont, CA: Brooks/Cole.

CHAPTER 15

# GROUP PSYCHOTHERAPY

*Gerald Corey and Marianne Schneider Corey*

Group psychotherapy offers a powerful context for psychological examination and behavior change. Well-run groups provide members with a place to give and receive feedback, to gain insight into their interpersonal dynamics, to address psychological wounds in their lives, to make new decisions, and to practice new behaviors. Many of the problems that people are interested in exploring in a group involve difficulties in forming or maintaining intimate relationships. Those who participate in a group often believe their problems are unique and that they have few options for making significant life changes. Groups provide a natural laboratory and a sense of community that demonstrates to people that they are not alone and that there is hope for creating a better life. A group experience allows participants to explore their long-term problems in the group sessions with the opportunity to try something different from what they have been doing.

In this chapter, we define group psychotherapy, describe its various types, and discuss core principles in group work by way of the typical stages in a group's evolution. The applications of group therapy in working with children and adolescents are discussed. We then summarize the research on the process and outcome of group therapy and also address multicultural and social justice perspectives.

## DESCRIPTION AND DEFINITIONS

Although different types of groups serve different purposes, these groups have considerable overlap. Psychoeducational groups and therapeutic groups have some key differences, yet it is difficult to clearly differentiate between a therapy group and a counseling group, which is the main focus of this chapter. We use the terms *group counseling* and *group psychotherapy* somewhat interchangeably and consider the term *group psychotherapy* broadly.

The psychoeducational group specialist works with group members who are relatively well-functioning individuals but who may have awareness or skill deficits in a certain area, such as social skills. Psychoeducational groups focus on developing members' cognitive, affective, and behavioral skills through a structured set of procedures within and across group meetings. The goal is to ameliorate an array of educational deficits and psychological problems. These groups deal with imparting, discussing, and integrating factual information and skills. The emphasis on learning in psychoeducational groups provides members with opportunities to acquire and refine skills through behavioral rehearsal, skills training, and cognitive exploration. These groups are useful for a broad range of problems, including stress management, domestic violence, anger management, and behavioral problems. Intervention strategies based on psychoeducational formats are increasingly being applied in health care settings (Drum, Becker, & Hess, 2011; McCarthy & Hart, 2011).

Psychotherapy groups are aimed at helping the members to remediate psychological problems and interpersonal problems. Group members often have diagnosed mental problems and evidence marked distress, impairment in functioning, or both.

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Because the depth and extent of the psychological disturbance is significant, the goal is to aid each individual in reconstructing major personality dimensions. Exchanges among members of a therapy group are viewed as instrumental in bringing about change. Within the group context, members are able to practice new social skills and to apply some of their new knowledge. Support groups in the community are excluded from this category.

Counseling groups differ from psychotherapy groups in that they deal with conscious problems, are not aimed at major personality changes, are generally oriented toward the resolution of specific short-term problems, and are not concerned with treatment of the more severe psychological and behavioral disorders. These groups are often found in schools, college and university counseling centers, churches, and community mental health clinics and agencies. Counseling groups focus on interpersonal process and problem-solving strategies that stress conscious thoughts, feelings, and behavior. They emphasize interactive group process for those who may be experiencing transitional life problems or those who want to enhance their relationships. With an emphasis on discovering inner resources of personal strength and constructively dealing with barriers that are preventing optimal development, members expand their interpersonal skills to better cope with both current difficulties and future problems.

Brief group therapy generally refers to groups that are time limited, have a preset time for termination, have a process orientation, and are professionally led. In a time-limited group, clear ground rules are critical, and leaders provide structure for the group process (Shapiro, 2010). The increased interest in the various applications of brief group therapy is largely due to the economic benefits of this approach to group work. In line with the economic theme, a panel of experts predicted changes in therapy formats, with a sharp increase in the use of short-term therapy (five to 12 sessions), very short-term therapy (one to three sessions), and psychoeducational groups for individuals with specific disorders (Norcross, Pfund, & Prochaska, 2013). Brief groups are popular in both community agencies and school settings because of the realistic time constraints and the ability of a brief format to be incorporated into both educational and therapeutic programs.

A final important distinction is that between closed groups and open groups. The former typically have some time limitation, with the group meeting for a predetermined number of sessions. Members are expected to remain in the group until it ends, and new members are not added. Open groups, by contrast, are characterized by changing membership. As certain members leave, new members are admitted, and the group continues. In some settings, such as a state hospital or day treatment center, group leaders typically do not have a choice between an open and a closed group. Because the membership of the group changes almost from week to week, continuity between sessions and cohesion within the group are difficult to achieve, but not impossible. Leaders of open groups tend to be more active and directive than in some closed groups.

## CORE PRINCIPLES OF GROUPS

There are many different theoretical approaches to group therapy (G. Corey, 2016). Group practitioners will work in a variety of ways with the same group, largely based on their theory of choice. Their theory will provide them with a framework for making sense of the multitude of interactions that occur within the therapy group. A theory will provide direction for what a leader hopes to accomplish, the best methods for getting there, and a way to evaluate what has been accomplished. A theory informs the way leaders operate in facilitating a group, guiding the way they interact with the members and defining both their leadership role and the group members' roles. A theory provides a frame of reference for understanding and evaluating the world of the client, especially when it comes to building rapport, making an assessment, defining problems, and selecting appropriate techniques in meeting the members' goals.

Despite the diversity of therapeutic groups, common principles cut across them. Below we review many of these common principles in the context of the typical stages of a therapy group. A clear understanding of the stages of group development,

including awareness of the factors that facilitate group process and of those that interfere with it, will maximize a group therapist's ability to help the group members reach their goals. Knowledge of the developmental sequence of groups will give group leaders a perspective required to lead group members in constructive directions by reducing unnecessary confusion and anxiety. The following discussion of the stages of a group is adapted and summarized from M. Corey, Corey, and Corey (2014).

## Stage 1: Pregroup Issues—Formation of the Group

For a group to be successful, it is necessary to devote considerable time to planning. Ideally, planning begins by considering the purposes of the group, the population to be served, and a clear rationale for the group. Group leaders do well to think about the kind of group they want and to prepare themselves psychologically. If a leader's expectations are unclear, and if the purposes and structure of the group are vague, the members will most likely flounder needlessly.

Once potential members have been recruited, the leader must determine who (if anyone) should be excluded. The American Counseling Association's (2014) Code of Ethics provides this ethical standard pertaining to screening group members:

> Counselors screen prospective group counseling/therapy participants. To the extent possible, counselors select members whose needs and goals are compatible with goals of the group, who will not impede the group process, and whose well-being will not be jeopardized by the group experience. (Section A.9.a., p. 6)

In screening and selecting group members, the following are important questions: "Who is most likely to benefit from this group?" and "Who is likely to be harmed by group participation or have a harmful effect on the other members?" Careful screening will lessen the psychological risks of inappropriate participation in a group. During the screening session, the leader can spend some time exploring with potential members any concerns they have about participating in a group.

The leader can help members make an assessment of their readiness for a group and discuss the potential life changes that could arise. For example, if individuals go into a group unaware of the potential impact of their personal changes on others in their life, their motivation for continuing is likely to decrease if they encounter problems in their outside life. Ideally, screening can be a two-way process, and potential members should have an opportunity at the interview to ask questions to determine whether the group and the leader are right for them. Prospective members can be involved in the decision concerning the appropriateness of their participation in the group.

The purpose of screening is to prevent potential harm to group members, not to make the leader's job easier. Although some individuals may appear somewhat reluctant or defensive, this alone is not a sufficient reason to rule out their participation in a group. The basic question for the selection of a group member is this: "Will the group be productive or counterproductive for this individual?" It is also a chance for prospective members to get to know the leader and to think about what they would want to accomplish by participating in the group (M. Corey et al., 2014).

In the context of group psychotherapy, Yalom (2005) maintained that it is easier to identify those individuals who should be excluded from a therapy group than it is to identify those who should be included. Yalom identified the following as poor candidates for a heterogeneous, outpatient, intensive-therapy group: people with brain damage, clients with paranoia, individuals with hypochondria, those who are addicted to drugs or alcohol, individuals who are acutely psychotic, and people with sociopathic personalities. In terms of criteria for inclusion, Yalom contended that the client's level of motivation to work is a critical variable. From his perspective, groups are useful for people who have interpersonal problems such as loneliness, an inability to make or maintain intimate contacts, feelings of being unlovable, and dependency. Individuals who lack meaning in life, who suffer from diffuse anxiety, who are searching for an identity, and who fear success might also profit from a group experience.

Screening and adequate preparation are essential for prospective group members from certain cultural backgrounds, especially if they have had no prior therapeutic experience in a group setting. In some cultures, individuals are not encouraged to express their feelings openly, to talk about their personal problems with people whom they do not know well, or to tell others what they think about them. Group workers need to be aware that guardedness and a hesitation to participate fully in a group may be more the result of cultural background than of an uncooperative attitude.

In addition to a private screening and an orientation interview, it can be useful to arrange for a preliminary group meeting with all those who have been selected to participate in a group. The informed consent process can continue at this initial session, which involves presenting basic information to individuals that will enable them to make an informed decision about whether to enroll in a group.

The Association for Specialists in Group Work's (ASGW's) Best Practice Guidelines (Thomas & Pender, 2008) suggests providing the following information regarding informed consent in writing to potential group members:

- Information on the nature, purposes, and goals of the group
- Confidentiality and exceptions to confidentiality
- Leader's theoretical orientation
- Group services that can be provided
- The role and responsibility of group members and leaders
- The qualifications of the leader to lead a particular group.

A useful practice is to inform group members at the outset that informed consent is an ongoing process rather than a one-time event. When informed consent is done effectively, it engages members in a collaborative process and reduces the likelihood of exploitation or harm (Wheeler & Bertram, 2015).

Confidentiality is essential if members are to develop a sense of safety in a group, which is basic to being willing to engage in risk taking. At the initial group meeting, group leaders can provide guidelines for maintaining the confidential nature of the group. The group leader has the responsibility for explaining how confidentiality can be broken, even without intending to do so. The leader can emphasize to members that it is their responsibility to continually make the group safe by addressing their concerns regarding how their disclosures will be treated.

Group leaders cannot guarantee confidentiality in a group setting because they cannot control what the members do or do not keep private. Members have a right to know that absolute confidentiality in groups is difficult and at times even unrealistic (Lasky & Riva, 2006). The leader should explain that legal privilege (confidentiality) does not apply to group treatment, unless provided by state statute (ASGW, 2008). The American Counseling Association's (2014) Code of Ethics makes this statement concerning confidentiality in groups: "In group work, counselors clearly explain the importance and parameters of confidentiality for the specific group" (Section B.4.a., p. 7). Group therapists owe it to their members to specify at the outset the limits of confidentiality, and in mandatory groups they should inform members of any reporting procedures required of them. Group practitioners should also mention to members any documentation or record-keeping procedures that they may be required to keep that affect confidentiality.

In institutions, agencies, and schools, where members know and have frequent contact with one another and with one another's associates outside of the group, confidentiality becomes especially critical and also more difficult to maintain. The risk of breach of confidentiality is heightened in situations if members of a therapy group engage in social media. Group therapists are responsible for addressing the parameters of online behavior through informed consent and are advised to establish ground rules whereby members agree not to post pictures, comments, or any type of confidential information about other members online. Developing rules that address the use of online discussion outside of the group should be part of the informed consent process and part of the discussion about group norms governing the group.

## Stage 2: Initial Stage—Creating a Climate of Trust and Safety

The initial stage of a group is a time of orientation and exploration: determining the structure of the group, getting acquainted, and exploring the members' expectations. During this phase in a group's development, the members learn how the group functions, define their personal goals, identify and explore their expectations, and take steps toward creating a safe climate. This phase is generally characterized by a certain degree of anxiety and insecurity about the structure of the group. Members are tentative because they are discovering and testing limits and are wondering whether they will be accepted. Some of the other distinguishing characteristics of this stage are as follows:

- Participants are getting acquainted and assessing the trust within the group.
- Members are learning the group norms and what is expected of them.
- A central issue is safety and being assured of a supportive atmosphere.
- Members are learning the basic attitudes of respect, empathy, acceptance, caring, and responding—all attitudes that contribute to the building of trust.

Trust is a basic consideration during the early stage of any group. Group cohesion and trust are gradually established if members are willing to express what they are aware of in the here and now. Members may ask themselves, "Is it safe for me to be myself?" and "Will I be listened to?" If trust is not established in a task group, it will be extremely difficult for the participants to direct their energy into accomplishing the given task. In a psychoeducational group, if trust is lacking, it is doubtful that members will be open to learning new information and exploring the personal implications of the content that is being imparted. In a therapy group, if members do not view the group as a safe place, they will be hesitant to engage in significant self-disclosure necessary for in-depth work.

One of the main tasks group leaders have early on is to help the participants get involved. At this stage, leaders can do this by assisting members to identify, clarify, and develop meaningful personal goals. There are general group goals, which vary depending on the purpose of the group, and there are group process goals, which apply to most groups. Some examples of process goals are staying in the here and now, making oneself known to others, taking risks both in the group and in daily life, giving and receiving feedback, listening and responding to others honestly, expressing one's feelings and thoughts, deciding what to work on, and applying new behavior in and outside of the group.

In addition to establishing these group process goals, members often need help in establishing their individual goals. Typically, during the early stages of a group people often have vague ideas about what they want. These unclear expectations need to be translated into specific, concrete goals with regard to the desired changes and to the efforts the person is actually willing to make to bring about changes. It is clear that cultural factors need to be considered in helping members identify their personal goals.

During the early phase of a group, paying attention to the ways that individuals from diverse cultural groups may experience a group is particularly important. Many group members hold values and expectations that make it difficult for them to participate fully in a group experience. For example, the free participation and exchange of views in therapy groups may conflict with the values of some Latinos and Latinas who consider the expression of intense emotions as private, only to be shared with their family. Latinos and Latinas may approach people carefully and cautiously because of their negative experiences in society at large (Torres Rivera, Torres Fernandez, & Hendricks, 2014). Some African American clients may experience difficulty in a group if they are expected to make deeply personal disclosures too quickly or if they are expected to talk about their family. In general, group counselors will need to be aware of the cultural background of African American clients and incorporate their values into group work (Steen, Shi, & Hockersmith, 2014). Many of the goals of group counseling tend to be based on an individualistic culture, but Asians, Latinos and Latinas, and African Americans are often from a collectivistic culture, which means the goals, structure, and techniques used in a group may need to be modified to make a group culturally

appropriate and therapeutically useful for the members.

A key task for group leaders during the early stage of a group involves being aware of members' concerns about self-disclosure. Leaders can intervene by helping members identify and process their concerns early in the life of a group. Research has indicated that early structuring provided by the leader tends to increase the frequency of therapeutically meaningful self-disclosure, feedback, and confrontation. It appears that this structuring can also reduce negative attitudes about self-disclosure (Robison, Stockton, & Morran, 1990).

How structuring is done can be either useful or inhibiting in a group's development. Too little structure results in members' becoming unduly anxious, which inhibits their spontaneity. Too much structuring and direction can foster overreliance on the leader. Although many variables are related to creating norms and trust during the early phase of a group's development, the optimum balance between too much and too little leader direction is a significant factor. The art is to provide structuring that is not so rigid that it deprives group members of their responsibility to find their own way to participate in the group. Members need to be taught specific skills to monitor group process if they are to assume this responsibility. Involving group members in a continual process of evaluating their own progress and the progress of the group as a whole is one effective way of checking for the appropriate degree of structure.

The leader must carefully monitor and assess this therapeutic structure throughout the life of a group rather than waiting to evaluate it during the final stage. Structuring that offers a coherent framework for understanding the experiences of individuals and the group process will be of the most value. When therapeutic goals are clear, when appropriate member behaviors are identified, and when the therapeutic process is structured to provide a framework for change, members tend to engage in therapeutic work more quickly (Dies, 1983). Leader direction during the early phases of a group tends to foster cohesion and the willingness of members to take risks by engaging in appropriate self-disclosure and by giving others feedback. Group cohesion is a key element that is basic to a productive group experience. Once cohesion is established, leaders can then develop other therapeutic factors that involve risk taking on the part of members, which often results in catharsis and insights (Stockton, Morran, & Chang, 2014).

### Stage 3: Transition Stage—Addressing Reluctance

Before a group can progress to a deeper level of work, it typically goes through a transition phase that involves members dealing with their anxiety, defensiveness, conflict, and ambivalence about participating in the group. If a level of trust has been established during the initial stage, members will tend to express certain feelings, thoughts, and reactions that they may not have been willing to verbalize during earlier sessions. The group leader helps the members learn how to begin working on the concerns that brought them to the group. A central function that leaders have during the transition phase is to intervene in a sensitive manner and at the right time. The basic task is to provide both the encouragement and the challenge necessary for the members to address what is going on in the group and their reactions to the here-and-now events that are unfolding in it.

Reluctance is behavior that keeps members from exploring personal issues or painful feelings in depth. Taken in context, defensive behavior and reluctance generally make sense. Defensiveness is an inevitable phenomenon in groups, and unless it is recognized and explored, it can seriously interfere with the group process. An effective way of dealing with defensive behavior is to treat it as the way in which a member is attempting to cope with anxiety and the ambivalence toward making attitudinal and behavioral changes. An open atmosphere that encourages people to acknowledge and work through whatever hesitations and anxieties they may be experiencing is essential.

The unwillingness of members to cooperate is not always a form of reluctance and guardedness. There are times when defensive behavior on the part of a member is the result of factors such as an unqualified leader, a dogmatic or authoritarian leadership style, a leader's failure to prepare

the participants for the group experience, or a lack of trust engendered by the leader. In short, group members may be unwilling to share their feelings because they do not trust the group leader or because the group is simply not a safe place in which to open up. It is imperative that those who lead groups look honestly at the sources of defensive behavior, keeping in mind that not all ambivalence stems from the members' lack of willingness to face unconscious and unpleasant sides of themselves.

Group members need to become aware of the defenses that may prevent them from getting involved in the group and of the effects of their behavior on the other members. However, they should be challenged to look at their dynamics with care and in such a way that they are invited to recognize their defensive behaviors and are encouraged to experiment with more effective behaviors. The manner in which group leaders perceive and conceptualize problematic behavior contributes a great deal to either lessening or entrenching what appears to be uncooperative or counterproductive behavior. To categorize someone as a resistant and difficult member often leads to blaming the person, which tends to reinforce the member's uncooperative behavior. By using more descriptive and nonjudgmental terminology, leaders will likely change their attitude toward members who appear to be difficult (G. Corey, Corey, & Haynes, 2014).

During the transitional phase, it is the members' task to monitor their thoughts, feelings, and actions and to learn to express them verbally. In a respectful manner, leaders can help members come to recognize and accept their hesitations and reluctance. For members to progress to a deeper level of exploration, it is necessary that they talk about their anxiety and reluctance as they pertain to being in the group. Members make decisions regarding taking risks to bring into the open some ways they may be holding back, either because of what they might think of themselves or what others could think of them if they were to reveal themselves more. It is important that group leaders understand there is a purpose for any defense. Above all, member reluctance needs to be respected, understood, and explored.

### Stage 4: Working Stage—A Deeper Level of Exploration

No arbitrary dividing lines exist between the stages of a group, because the stages merge with each other. This is especially true of the progression from the transition stage to the working stage. If a group does move into the working stage, one can expect that earlier themes of trust and interpersonal tensions may surface from time to time. As a group takes on new challenges, deeper levels of trust have to be achieved.

Reaching the working stage entails the following central characteristics:

- Trust and cohesion are high.
- Communication is open and involves an accurate expression of what is being experienced.
- Interaction is free and direct with a here-and-now focus.
- Self-disclosure is more frequent and leads to deeper self-exploration.
- Support of each other and willingness to risk new behavior are evidenced.
- Conflict is recognized and dealt with effectively.
- Feedback is given freely and considered nondefensively.
- Confrontation occurs without being judgmental of others.
- Behavioral changes are implemented, and homework assignments are conducted.

A higher degree of cohesion, a clearer notion of what members want from their group, and increased interaction among the members are characteristic of the working stage. This is the time when participants must be encouraged to decide what concerns or problems to explore and to become more actively involved in the group. The honest sharing of significant personal experiences and struggles unites the group because the process of sharing allows members to identify with others by seeing themselves in others. This increased cohesion provides the group with the impetus to move to a deeper level. Although group cohesion by itself is not a sufficient condition for effective group work, cohesiveness is necessary for other group therapeutic factors to operate. Cohesion fosters action-oriented behaviors such as immediacy,

mutuality, confrontation, risk taking, and translation of insight into action.

Both the empirical research (Burlingame, McClendon, & Alonso, 2011) and most group practitioners identify cohesion as a valuable driver of group outcome. Although group members' life circumstances may differ depending on their cultural background, groups allow a diverse range of people to learn what they share with others. Common human themes emerge that most members can relate to personally, regardless of their age, sociocultural background, or occupation. In the earlier stages of the group, members are likely to be aware of the differences that separate them, but as the group achieves an increased degree of cohesion, members frequently express the common concerns they share.

Self-disclosure is particularly instrumental for deepening the level of interaction among the members during the working stage. One level of self-disclosure involves sharing one's persistent reactions to what is happening in the group. Another level entails revealing current struggles, unresolved personal issues, personal goals, joys and hurts, and strengths and weaknesses. By focusing on the here and now, participants make direct contact with one another and generally express what they are experiencing in the present. The interactions become increasingly honest and spontaneous as members share their reactions to one another.

As with self-disclosure, confrontation is a basic dimension of the working stage, and if some degree of challenge is absent, stagnation tends to result. Constructive confrontation is an invitation to examine discrepancies between what one says and what one does, to become aware of unused potential, and to carry insights into action. Confrontation should be done so as to preserve the dignity of the one being confronted and with the purpose of helping the person identify and see the consequences of his or her behavior. Effective confrontation should open up the channels of communication, not close them.

Although the topics of cohesion, self-disclosure, confrontation, and feedback are treated separately for the purpose of discussion, these therapeutic factors overlap in practice. Feedback occurs when both members and leaders share, with each other, their personal reactions about one another. The main role of the group leader with respect to feedback is to create a climate of safety within the group that will allow for an honest exchange of feedback and to establish norms that will help members give and receive feedback.

The exchange of feedback among group members is widely considered to be a key element in promoting interpersonal learning and group development (Morran, Stockton, & Whittingham, 2004; Stockton et al., 2014). For members to benefit from feedback, they need to be willing to listen to a range of reactions that others have to their behavior. If members give one another their reactions and perceptions honestly and with care, participants are able to hear what impact they have had on others and can decide what they may want to change. Leaders do well to model giving effective feedback and to encourage members to engage in thoughtful feedback exchange.

### Stage 5: Final Stage of a Group—Consolidation of Learning

As a group evolves into its final stage, cognitive work takes on particular importance, as does exploring feelings associated with endings. To maximize the impact of the group experience, participants need to conceptualize what they have learned, how they learned these lessons, and what they will continue to do about applying their insights to situations once the group ends. Specifically, members

- deal with their feelings about separation and termination,
- complete any unfinished business,
- make decisions and plans concerning ways they generalize what they have learned,
- identify ways of reinforcing themselves so that they will continue to grow once they are no longer in the group,
- explore ways of constructively meeting any setbacks after termination, and
- evaluate the impact of the group experience.

In closed groups with a predetermined number of meetings, termination must be faced well before the last session. When termination is not attended to, the group members miss the opportunity to share what the group has meant to them. The reality

of the eventual ending of the group can be used to motivate people to do further work. It is a good practice for leaders to stress the urgency of making full use of the limited time a group has and to help members assess how well they are making use of this time. Leaders can use questions such as these: "Assume that this is the last chance you're going to have in this group to explore what you want. How do you want to use this time?" or "How do you feel about what you've done, and what do you wish you had done differently?"

Members need to face the reality of termination and learn how to say good-bye. Many people have experienced negative or unhealthy good-byes in their life, and group leaders can teach members how to process endings and have a sense of closure both in the group and in relationships outside of the group. Members have the opportunity to address the loss they may experience over the ending of their group and how this may parallel separation and loss in their lives. During the initial phase, members are often asked to express their fears of participating in the group. Now, members can be encouraged to share their concerns about leaving the group and having to face day-to-day realities without the group's support. It is not uncommon for members to say that they have developed genuine bonds of intimacy and have found a trusting and safe place where they can be themselves without fear of being judged. They may have concerns over not being able to be open with people outside the group.

During this final stage, one task for members is to develop a plan of action for ways to continue applying changes to situations outside of the group. If a group has been successful, members now have some new directions in dealing with problems as they arise. A useful way to assist members in continuing the new beginnings established during the group is to devote time during one of the final sessions to developing contracts. These contracts outline steps the members agree to take to increase their chances of successfully meeting their goals when the group ends. If the participants choose to, they can read their contracts aloud so others can give specific helpful feedback.

Even with hard work and commitment, members will not always get what they expected from their encounters once they leave a group. During the final stages of a group, it is helpful to reinforce members so that they can cope with realistic setbacks and avoid getting discouraged and giving up. Assisting members in creating a support system is a good way to help them deal with setbacks and stay focused on carrying out their contracts. It is important for members to realize that even a small change is the first step in a new direction.

Evaluation, which is a basic aspect of any group experience, can benefit both members and the leader. At its best, evaluation is an ongoing process throughout the life of a group that monitors the progress of individual members and the group as a whole. Group leaders are increasingly required to use objective, standardized measures as a means of demonstrating the effectiveness of a group in many work settings. Rating scales and outcome measures can give the leader a sense of how the members experienced and evaluated the group. Such practical evaluation tools can be given over the duration of the life of a group, not just at the final group session. Monitoring the progress of each group member through systematic collection of data on how each member is experiencing the group can help leaders make adjustments to their interventions.

## Applying Group Principles to Children and Adolescents

Much of this chapter applies mainly to group therapy with adults, but many of the group principles and processes also have applicability to group work with children and adolescents. What follows is a sampling of youth therapeutic groups from different theoretical orientations, especially in the school setting.

Zaretsky (2009) applied psychoanalytic techniques in her work with a group of recently immigrated Chinese high school students who wanted to improve their spoken English. The students in this group displayed a host of resistances to being emotionally available, which Zaretsky worked through using psychoanalytic group techniques. By the end of the school year, these students were able to discuss a wide range of meaningful concerns in English. Her experiences convinced her that psychoanalytic theory and technique are an invaluable resource for teachers.

Although classical psychodrama may prove too intense for use with children and adolescents, role-playing derived from psychodrama can be useful for developing psychosocial skills. Role-playing involves active integration of the imaginative and emotional dimensions of human experience, and it is widely used in school settings. Selected psychodrama methods can be applied in working with children and adolescents who are experiencing a conflict or problem situation that can be enacted or dramatized in some form (Crane & Baggerly, 2014; Green & Drewes, 2014). These action-oriented methods build group cohesion, giving young people opportunities to become aware that they are not alone in their struggles.

Some basic ideas and methods of the person-centered approach can be applied to play therapy in small-group work. Play can be the medium through which children express their feelings, bring their conflicts to life, explore relationships, and reveal their hopes and fears. Other expressive techniques, such as art, music, and movement, can also be used in group work with children (N. Rogers, 2011). Many group formats can be altered to integrate some play therapy elements (Green & Drewes, 2014; Kottman, 2011).

Oaklander (1988, 2006) described Gestalt exercises for children that can be adapted to group work. Creative activities she has used aim to help children experience their feelings and their relationship with people in their environment and to develop a sense of responsibility for their actions. Oaklander saw value in projection through art and storytelling as ways of increasing a child's self-awareness.

Cognitive–behavioral group therapies are a good fit in working with both children and adolescents in the school setting because they emphasize a present-centered, short-term, action-focused, reeducative framework. Cognitive–behavioral principles are easy to understand, and they can be adapted to children of most ages and from many cultural backgrounds. Cognitive–behavioral therapy groups help young people to cope with what they can change and to accept what they cannot change. The cognitive principles empower young people to deal with both present concerns and future problems (Vernon, 2004). One form of cognitive–behavioral therapy, rational emotive behavior therapy, has been applied to children with a wide spectrum of problems, including anxiety, anger, depression, school phobia, acting out, perfectionism, and underachievement (Vernon, 2004).

Solution-focused brief therapy has much to offer group therapists who want a practical and time-effective approach to working with children and adolescents. It is a strength-based approach rather than a model based on psychological disorders and dysfunctional behaviors. Solution-focused brief therapy shifts the focus from what is wrong to what is working. Group participants can identify exceptions to their problematic situations and resources that can be useful to them in achieving their goals. Rather than being a cookbook of techniques for removing students' problems, this approach provides a collaborative framework aimed at achieving small, concrete changes that enable young people to discover a more productive direction (Murphy, 2015).

Group therapy methods can serve both preventive and remedial purposes. Small groups have the potential to reach many students before they need remedial treatment for more serious mental health problems. Groups fits well with diverse students in school settings because of the limitations of time and the need to serve many students. Groups in the schools are generally brief, structured, problem focused, and homogeneous in membership and have a cognitive–behavioral orientation (Sink, Edwards, & Eppler, 2012).

## LIMITATIONS AND CONTRAINDICATIONS OF GROUP PSYCHOTHERAPY

The limitations of group psychotherapy need to be considered in the context of the type of group and the group members' goals. Heterogeneous group therapy is particularly useful for individuals who are seeking a group because of interpersonal problems. Process groups allow the group leader to observe group members' behavior, especially how they deal with multiple transferences. If a group has its own agenda, the members may have difficulty adjusting to new members and addressing their specific concerns. A client's need for intense and private

individual work is a contraindication for group therapy alone.

Homogeneous group therapy is often targeted to a specific problem or problematic symptom. This format can help in reducing a client's sense of isolation and demoralization, which allows the member to be helpful to others. A major limitation of homogeneous groups is the narrow focus, which can foreclose on addressing a range of important issues (Frances, Clarkin, & Perry, 1984).

Most traditional group therapy models are designed for long-term homogeneous clients. Changes in the provision of psychological care have created a demand for brief and problem-focused group therapy. Thus, traditional inpatient group therapy models have limited applications to the current reality of brief, diagnostically heterogeneous, inpatient therapy groups (Cook et al., 2014).

## RESEARCH EVIDENCE

Group therapy involves a complex and dynamic endeavor designed to aid those who are in chronic or acute psychological distress. Over the past 50 years, researchers and clinicians have focused on the dynamics of this complexity to understand the effectiveness of group therapy (outcome research) and the therapeutic processes that account for change (process research; Burlingame, Whitcomb, & Woodland, 2014).

Most of the empirical evidence on the effectiveness of group therapy has been based on studies of time-limited, closed groups; evidence from meta-analytic studies has strongly supported the value of these groups. In general, the evidence for the efficacy of brief group therapy has been quite positive (Shapiro, 2010). Multiple reviews of the group literature have lent a strong endorsement of the efficacy and applicability of brief group therapy as well. Brief group therapy is often the treatment of choice for specific problems, such as complicated grief reactions, medical illness, personality disorders, trauma reactions, or adjustment problems (Piper & Ogrodniczuk, 2004).

Although it is clear that group psychotherapy works, there are no simple explanations of how it works. Reviews of psychotherapy research have made it clear that the similarities rather than the differences among theoretical models account for the effectiveness of psychotherapy (Lambert, 2011, 2013). Movement is afoot (e.g., Lau et al., 2010) to complement empirical research aimed at systematically evaluating treatments under controlled conditions with qualitative research methods and case studies. This effectiveness research emphasizes clinical aspects of group work done in real-world situations. Increasing cooperation between clinicians and researchers will likely result in more useful and relevant research results.

Group practitioners in diverse work settings are increasingly expected to demonstrate the efficacy of their group procedures. Psychologists are being asked to provide convincing evidence that particular forms of group therapy work with the particular types of group members (Klein, 2008). Accountability is now being stressed in all settings, especially in managed health care companies.

It is essential that what therapists do in their groups be informed by research on the process and outcomes of groups. A way to do this is to rely primarily on an evidence-based practice approach to evaluation, which considers the best research evidence in light of a therapist's expertise and client factors (American Psychological Association Presidential Task Force on Evidence-Based Practice, 2006). Evidence-based practice reflects an emphasis on "what works, not on what theory applies" (Norcross & Beutler, 2014, p. 507).

It can be difficult to use the evidence-based model in the practice of group therapy because involvement of active and informed group members is crucial to the success of a group. On the basis of their clinical expertise, group therapists make decisions regarding particular interventions in the context of considering the members' values, needs, and preferences. For group leaders to base their practices exclusively on interventions that have been empirically validated may seem to be the competent path to take, yet some view this model as mechanistic and failing to take into full consideration the relational dimensions of the therapeutic process. This is especially true of group leaders whose theoretical framework is existential, humanistic, and relationship oriented.

Some writers have suggested an alternative to evidence-based practice because they do not agree that the matching techniques that have been empirically tested with specific problems are a meaningful way of working with the problems presented by clients. This alternative, practice-based evidence, uses data generated from clients during treatment to inform the process and outcome of treatment. The client's theory of change can be used as a basis for determining which approach, by whom, can be most effective for this person, with his or her specific problem, under this particular set of circumstances. The practice-based evidence approach places emphasis on continuous client input into the therapy process (Duncan, Miller, & Sparks, 2004).

Group practitioners with a relationship-oriented approach emphasize understanding the world of the group members and healing through the therapeutic relationship. Many aspects of treatment—the therapy relationship, the therapist's personality and therapeutic style, the client, and environmental factors—contribute to the success of psychotherapy and must be taken into account in any evaluation (Norcross, Beutler, & Levant, 2006). Group leaders do well to systematically gather and use formal client feedback to inform, guide, and evaluate treatment. Significant improvements in client retention and outcome have been shown when therapists regularly and purposefully collect data on clients' experiences of the alliance and progress in treatment (Miller et al., 2010). "Group psychotherapists could benefit from a structured way to check in with group members about how they are doing, as well as globally demonstrate the efficacy of their psychotherapy groups" (Jensen et al., 2012, p. 391). The practice-based evidence approach can help therapists assess the value of a group experience for its members throughout the life of the group, as well as providing a tool to aid evaluation of the outcomes of a group during the termination phase.

## LANDMARK CONTRIBUTIONS AND MAJOR ACCOMPLISHMENTS

Carl Rogers was a pioneer in the group movement and did a great deal to promote groups on both a national and an international basis. In his classic book, *Carl Rogers on Encounter Groups*, Rogers (1970) described the process people typically experience when they are a part of a person-centered group, and he described outcomes, in both the individual and the group as a whole. On the basis of his vast experience in conducting groups and workshops, as well as his process and outcomes studies, Carl Rogers (1970, 1987) identified and summarized a number of changes that tend to occur within individuals in a successful group experience. Members become more open and honest. They learn to listen to themselves and increase their self-understanding. They gradually become less critical and more self-accepting. As they feel increasingly understood and accepted, they have less need to defend themselves, and therefore they drop their facades and are willing to be themselves. Because they become more aware of their own feelings and of what is going on around them, they are more realistic and objective. They tend to be more like the self that they wanted to be before entering a group experience. They are not as easily threatened because the safety of the group changes their attitude toward themselves and others. Within the group, there is more understanding and acceptance of who others are. Members become more appreciative of themselves as they are, and they move toward self-direction. They empower themselves in new ways, and they increasingly trust themselves. They become more empathic, accepting, and congruent in their relationships with others and, in doing so, engage in more meaningful relationships.

Carl Rogers and his colleagues engaged in research with personal growth groups when the group movement reached its zenith in the 1960s. During the past two decades, numerous studies of person-centered group therapy have emerged, especially in Europe. The findings of these studies have generally supported a strong relationship among empathy, warmth, and genuineness and positive therapeutic outcomes in a group setting (Elkins, 2012).

A major accomplishment of group therapy is reflected in its increasing use in many settings. Therapists are creating a multitude of groups to fit the needs of a diverse clientele in schools and community mental health agencies. In fact, the types

of groups that can be designed are limited only by one's imagination. Group psychotherapy is not a second-rate modality; it is a treatment of choice for many patients (M. Corey et al., 2014).

## MULTICULTURAL DIVERSITY AND SOCIAL JUSTICE

*Cultural competence* refers to the knowledge and skills required to work effectively in any cross-cultural encounter (Comas-Diaz, 2014). However, these knowledge and skills, though necessary, are not sufficient for effective group work. Becoming a diversity-competent group therapist demands self-awareness and an open stance on the leader's part. It is critical that leaders modify strategies to fit the needs and situations of the individuals in their group.

Developing cultural competence enables practitioners to appreciate and manage diverse worldviews. Group leaders will not have knowledge about every culture, but they need to have a basic knowledge of how culture affects group process. Effective multicultural practice in group work with diverse populations requires cultural awareness and sensitivity, a body of knowledge, and a specific set of skills. The importance of multicultural competence for group psychotherapists has emerged as an ethical imperative. To fail to address diversity issues that arise in a group is to fail the group members (Debiak, 2007).

Religious and spiritual beliefs are part of the cultural background of many group members and can be considered a key dimension of multiculturalism. Group practitioners need to know how to effectively address members' spiritual and religious values as these concerns emerge in a group. It is essential that group therapists understand their own spiritual beliefs and values if they hope to facilitate an exploration of these issues with the members of their groups. One study found that religious and spiritual interventions were infrequently used in group work, even when such interventions were viewed as appropriate (Cornish, Wade, & Post, 2012).

In therapy groups without a specific spiritual or religious theme, using explicitly religious or spiritual interventions could be inappropriate because of the heterogeneous nature of clients' beliefs and practices. However, group practitioners could assist members in appropriately exploring their spiritual or religious struggles when they initiate such concerns (Post et al., 2013). Interventions tied to a particular faith could present problems in a group composed of members from diverse backgrounds. Some highly religious or spiritual therapists who use these interventions frequently may find that some group members are uncomfortable with these interventions, especially those who are not religious or whose spiritual beliefs do not match the interventions integrated into the group process (Cornish, Wade, & Knight, 2013).

Multiculturalism and social justice concepts are often intricately linked. The *Multicultural and Social Justice Competence Principles for Group Workers*, developed by the ASGW, address both of these concepts in their guidelines for training group workers, conducting research, and understanding how multiculturalism and social justice affect group processes (Singh et al., 2012). This ASGW document offers specific guidelines for the acquisition of awareness, knowledge, and skills that will equip group leaders to work ethically and effectively with the diversity within their groups.

"Social justice involves access and equity to ensure full participation in the life of a society, particularly for those who have been systematically excluded on the basis of race/ethnicity, gender, age, physical or mental disability, education, sexual orientation, socioeconomic status, or other characteristics of background or group membership" (Lee, 2013, p. 16). To deepen members' awareness of social justice, therapists have the responsibility for creating a group climate that encourages open discussion of cultural diversity and social justice considerations, especially issues of power and privilege. As microcosms of society, groups provide a context for addressing power, privilege, discrimination, oppression, and social injustice. Power and privilege dynamics operate in a group just as in the wider world, and the imbalance of power is a relevant topic to address in a therapy group. In any group, some members may come from power, and others may have been denied power; these power dynamics can be explored as they emerge in a group. Social inequalities often arise from an intolerance of

differences that results in discrimination, oppression, and prejudice. Group members can be given encouragement to talk about their painful experiences they have encountered as a result of social injustices.

## INTEGRATIVE AND INTERNATIONAL APPROACHES TO GROUP THERAPY

An integrative model draws on concepts and techniques from various theoretical approaches. Psychotherapy integration, a favored approach of many clinicians, is based on searching across the boundaries of single-school models, with the goals of enhancing the efficacy and applicability of psychotherapy (Norcross & Beutler, 2014). In a Delphi poll of the future of psychotherapy in 2022, integrative psychotherapies were among those theoretical orientations predicted to increase the most (Norcross et al., 2013). Effective group psychotherapy practice implies flexibility and tailoring interventions to the emerging needs of each group member. One reason for the current trend toward an integrative approach to the practice of psychotherapy is the recognition that functioning exclusively within the parameters of a single theory is not adequate to account for the complexities of human behavior associated with diverse client populations. Most clinicians now acknowledge the limitations of basing their practice on a single theoretical system and are open to the value of integrating various concepts and techniques from different therapeutic approaches.

We do not subscribe to any single theory in its totality. Rather, we function within an integrative framework, drawing on various concepts and techniques associated with many of the contemporary counseling models. The goal is to blend the unique contributions of various theoretical orientations so that all the dimensions of human experiencing are given attention. Our conceptual framework takes into account the thinking, feeling, and behaving dimensions of human experience.

We value those approaches that emphasize the thinking dimension. We typically challenge the members of our groups to think about the decisions they have made about themselves. Some of these decisions may have been necessary for their psychological survival as children but may no longer be functional. Group members are assisted in reflecting on how their beliefs and way of thinking influence their feelings and behavior. Many techniques are designed to tap group members' thinking processes, to help them think about events in their lives and how they have interpreted these events, and to work on a cognitive level to change certain aspects of their belief systems.

The feeling dimension is equally as important. We emphasize this facet of human experience by encouraging clients to identify and express their feelings. Group members are often emotionally frozen as a result of unexpressed and unresolved emotional concerns. If they allow themselves to experience the range of their feelings and talk about how certain events have affected them, their healing process is facilitated. If individuals feel listened to and understood, they are more likely to express a wider range of their feelings. Before too quickly asking group members to examine their belief system or decide on behavioral changes, we tend to notice the affect a member seems to be expressing. Often these questions tap what members are feeling: "What are you aware of now?" or "What are you experiencing?" We operate on the assumption that this is an important aspect of therapy, and expressing and exploring feelings can be therapeutic and an important part of the change process.

Although thinking and feeling are vital components in group therapy, eventually individuals must address the behaving or doing dimension. Our integrative approach draws heavily from the various cognitive–behavioral therapies as pathways to experimenting with more effective behaviors. Members can participate in a wide range of cognitive and behavioral techniques such as self-monitoring exercises, cognitive restructuring, behavioral rehearsal, mindfulness exercises, carrying out homework assignments that are collaboratively designed, and experimenting with new behaviors, both during the group sessions and between therapy meetings. Group members are asked to get involved in an action-oriented program of change. It is useful to ask group members questions such as these: "What are you doing?" "What do you see for yourself now and in the future?" and "Does your present behavior have a reasonable chance of getting you

what you want, and will it take you in the direction you want to go?"

Individuals cannot be understood without considering the various systems that affect them—family, social groups, community, church, and other cultural forces. For the therapeutic process to be effective, it is critical to understand how individuals influence and are influenced by their social world. Effective group counselors need to acquire a holistic approach that encompasses all of human experience and the contextual factors as well.

Our experience with group work for more than 40 years has convinced us that the integrative approach to group therapy practice that we describe above has applicability in many places in the world. Although most of the training workshops we have done for group therapists have taken place in the United States, we have been fortunate in doing some workshops in other countries.

A few years ago, we were invited by the Korean Society of Group Counseling to conduct a series of three intensive workshops for professionals in the mental health field and for graduate students in counseling programs in Korea. We were told that there was a keen interest in group work in Korea and that students were eager to learn more about group counseling. Before we accepted this invitation, we carefully considered whether our philosophy and many of the basic concepts and assumptions underlying the practice of group work in the United States would be appropriate for the Korean culture. After deliberation and consultation with a number of our colleagues who did work on an international scale, we accepted the invitation.

In addition, we taught weeklong workshops in group counseling for people in the various helping professions in Ireland for six summers. We found students and professionals in Ireland to be most enthusiastic in learning ways of facilitating small groups and also eager to explore real concerns that they could apply in their work setting and in their personal life. Doing these workshops for many years in Ireland, and in other countries as well, taught us the value of combining the didactic and experiential approaches to learning about group process.

Teaching about group therapy on the international scene demonstrated to us how eager students and professionals in various cultures are to experience and learn about the practical applications of various theories and techniques of group counseling. Group work fits well with the cultural norms of many countries, and doing this teaching demonstrated to us how appreciative students are of supervised opportunities to participate in a small experiential group, both personally and academically. Indeed, group therapy and other kinds of group work are alive and well in the United States, but it is clear that group work is also finding a home internationally (Hohenshil, Amundson, & Niles, 2013).

## FUTURE DIRECTIONS

What does the future hold for group psychotherapy? A recent Delphi poll showed that psychoeducational groups and group therapy generally are predicted to rise in the future. The experts also foresee an increase in short-term therapy and very short-term therapy in the next 10 years. This has implications for group work, because brief group therapy will increasingly be used (Norcross et al., 2013). Inpatient group therapy is also alive, providing an opportunity for members of the group to share their most meaningful concerns, to be heard and understood, and to solidify their alliance with the treatment process. There are clear benefits to process-oriented inpatient groups that can supplement psychoeducational groups (Deering, 2014).

Our involvement with the four major professional organizations devoted to group work leads us to the conclusion that the future of group work holds a bright future. In reading the journals of these professional organizations and attending their conferences, it is clear to us that groups are increasingly being used in mental health and school settings. Structured groups, psychoeducational groups, and counseling groups with populations of various ages seem to be increasingly used not only for economic reasons, but for therapeutic values inherent in the group process.

For those who want to learn more about group therapy, four professional organizations (each with journals) are of value to group workers. These organizations regularly sponsor conferences and contribute to the development of the field. These

organizations are (a) the American Psychological Association's Division 49, the Society for Group Psychology and Group Psychotherapy (with *Group Dynamics: Theory, Research, and Practice* as its journal); (b) the American Group Psychotherapy Association (with the *International Journal of Group Psychotherapy* as its official publication); (c) ASGW (with the *Journal for Specialists in Group Work* as its journal publication); and (d) the American Society for Group Psychotherapy and Psychodrama (with the *Journal of Group Psychotherapy, Psychodrama, and Sociometry* as its official publication).

Finally, we foresee group therapy becoming more integrative over time. It is essential to adapt group techniques to the needs of the individual members rather than attempt to fit the member to the leader's techniques. In the future, the leader will fit the treatment to an array of client factors. In working with culturally diverse client populations, leaders will modify some of their interventions to suit the client's cultural and ethnic background. Leaders can respect the cultural values of members and at the same time encourage them to think about how these values and their upbringing have a continuing effect on their behavior (G. Corey et al., 2015). The future of group therapy will assuredly prove more integrative and culturally sensitive.

## References


American Counseling Association. (2014). *ACA code of ethics*. Alexandria, VA: Author.

American Psychological Association Presidential Task Force on Evidence-Based Practice. (2006). Evidence-based practice in psychology. *American Psychologist*, *61*, 271–285. http://dx.doi.org/10.1037/0003-066X.61.4.271

Burlingame, G. M., McClendon, D. T., & Alonso, J. (2011). Cohesion in group therapy. In J. C. Norcross (Ed.), *Psychotherapy relationships that work: Evidence-based responsiveness* (2nd ed., pp. 110–131). http://dx.doi.org/10.1093/acprof:oso/9780199737208.003.0005

Burlingame, G. M., Whitcomb, K., & Woodland, S. (2014). Process and outcome in group counseling and psychotherapy: A perspective. In J. DeLucia-Waack, C. R. Kalodner, & M. T. Riva (Eds.), *Handbook of group counseling and psychotherapy* (2nd ed., pp. 55–67). Thousand Oaks, CA: Sage.

Comas-Diaz, L. (2014). Multicultural theories of psychotherapy. In D. Wedding & R. J. Corsini (Eds.), *Current psychotherapies* (10th ed., pp. 533–567). Belmont, CA: Brooks/Cole, Cengage Learning.

Cook, W. G., Arechiga, A., Dobson, L. A., & Boyd, K. (2014). Brief heterogeneous inpatient psychotherapy groups: A process-oriented psychoeducational (POP) model. *International Journal of Group Psychotherapy*, *64*, 180–206. http://dx.doi.org/10.1521/ijgp.2014.64.2.180

Corey, G. (2016). *Theory and practice of group counseling* (9th ed.). Boston, MA: Cengage Learning.

Corey, G., Corey, M., Callanan, P., & Russell, J. M. (2015). *Group techniques* (4th ed.). Belmont, CA: Brooks/Cole.

Corey, G., Corey, M., & Haynes, R. (2014). *Groups in action: Evolution and challenges. DVD and workbook* (2nd ed.). Belmont, CA: Brooks/Cole.

Corey, M., Corey, G., & Corey, C. (2014). *Groups: Process and practice* (9th ed.). Belmont, CA: Brooks/Cole.

Cornish, M. A., Wade, N. G., & Knight, M. A. (2013). Understanding group therapists' use of spiritual and religious interventions in group therapy. *International Journal of Group Psychotherapy*, *63*, 572–591. http://dx.doi.org/10.1521/ijgp.2013.63.4.572

Cornish, M. A., Wade, N. G., & Post, B. C. (2012). Attending to religion and spirituality in group counseling: Counselors' perceptions and practices. *Group Dynamics: Theory, Research, and Practice*, *16*, 122–137. http://dx.doi.org/10.1037/a0026663

Crane, J. M., & Baggerly, J. N. (2014). Integrating play and expressive art therapy into educational settings: A pedagogy for optimistic therapists. In E. J. Green & A. A. Drewes (Eds.), *Integrating expressive arts and play therapy with children and adolescents* (pp. 231–251). Hoboken, NJ: Wiley.

Debiak, D. (2007). Attending to diversity in group psychotherapy: An ethical imperative. *International Journal of Group Psychotherapy*, *57*, 1–12. http://dx.doi.org/10.1521/ijgp.2007.57.1.1

Deering, C. G. (2014). Process-oriented inpatient groups: Alive and well? *International Journal of Group Psychotherapy*, *64*, 164–179. http://dx.doi.org/10.1521/ijgp.2014.64.2.164

Dies, R. R. (1983). Clinical implications of research on leadership in short-term group psychotherapy. In R. R. Dies & K. R. MacKenzie (Eds.), *Advances in group psychotherapy: Integrating research and practice* (pp. 27–78). New York, NY: International Universities Press.

Drum, D., Becker, M. S., & Hess, E. (2011). Expanding the application of group interventions: Emergence of groups in health care settings. *Journal for Specialists in Group Work*, *36*, 247–263. http://dx.doi.org/10.1080/01933922.2011.613902

Duncan, B. L., Miller, S. D., & Sparks, J. A. (2004). *The heroic client: A revolutionary way to improve effectiveness through client-directed, outcome-informed therapy* (Rev. ed.). San Francisco, CA: Jossey-Bass.

Elkins, D. N. (2012). Toward a common focus in psychotherapy research. *Psychotherapy*, *49*, 450–454. http://dx.doi.org/10.1037/a0027797

Frances, A., Clarkin, J., & Perry, S. (1984). *Differential therapeutics in psychiatry: The art and science of treatment selection*. New York, NY: Brunner/Mazel.

Green, E. J., & Drewes, A. A. (Eds.). (2014). *Integrating expressive arts and play therapy with children and adolescents*. Hoboken, NJ: Wiley.

Hohenshil, T. H., Amundson, N. E., & Niles, S. G. (Eds.). (2013). *Counseling around the world: An international handbook*. Alexandria, VA: American Counseling Association.

Jensen, D. R., Abbott, M. K., Beecher, M. E., Griner, D., Golightly, T. R., & Cannon, J. A. N. (2012). Taking the pulse of the group: The utilization of practice-based evidence in group psychotherapy. *Professional Psychology: Research and Practice*, *43*, 388–394. http://dx.doi.org/10.1037/a0029033

Klein, R. H. (2008). Toward the establishment of evidence-based practices in group psychotherapy. *International Journal of Group Psychotherapy*, *58*, 441–454. http://dx.doi.org/10.1521/ijgp.2008.58.4.441

Kottman, T. (2011). *Play therapy: Basics and beyond* (2nd ed.). Alexandria, VA: American Counseling Association.

Lambert, M. J. (2011). Psychotherapy research and its achievements. In J. C. Norcross, G. R. Vandenbos, & D. K. Freedheim (Eds.), *History of psychotherapy* (2nd ed., pp. 299–332). Washington, DC: American Psychological Association.

Lambert, M. J. (2013). The efficacy and effectiveness of psychotherapy. In M. J. Lambert (Ed.), *Bergin and Garfield's handbook of psychotherapy and behavior change* (6th ed., pp. 169–218). Hoboken, NJ: Wiley.

Lasky, G. B., & Riva, M. T. (2006). Confidentiality and privileged communication in group psychotherapy. *International Journal of Group Psychotherapy*, *56*, 455–476. http://dx.doi.org/10.1521/ijgp.2006.56.4.455

Lau, M. A., Ogrodniczuk, J., Joyce, A. S., & Sochting, I. (2010). Bridging the practitioner-scientist gap in group psychotherapy research. *International Journal of Group Psychotherapy*, *60*, 177–196. http://dx.doi.org/10.1521/ijgp.2010.60.2.177

Lee, C. C. (2013). The cross-cultural encounter: Meeting the challenge of culturally competent counseling. In C. C. Lee (Ed.), *Multicultural issues in counseling: New approaches to diversity* (4th ed., pp. 13–19). Alexandria, VA: American Counseling Association.

McCarthy, C. J., & Hart, S. (2011). Designing groups to meet evolving challenges in health care settings. *Journal for Specialists in Group Work*, *36*, 352–367. http://dx.doi.org/10.1080/01933922.2011.614143

Miller, S. D., Hubble, M. A., Duncan, B. L., & Wampold, B. E. (2010). Delivering what works. In B. L. Duncan, S. D. Miller, B. E. Wampold, & M. A. Hubble (Eds.), *The heart and soul of change: Delivering what works in therapy* (2nd ed., pp. 421–429). http://dx.doi.org/10.1037/12075-014

Morran, D. K., Stockton, R., & Whittingham, M. H. (2004). Effective leader interventions for counseling and psychotherapy groups. In J. L. DeLucia-Waack, D. Gerrity, C. R. Kalodner, & M. T. Riva (Eds.), *Handbook of group counseling and psychotherapy* (pp. 91–103). http://dx.doi.org/10.4135/9781452229683.n7

Murphy, J. J. (2015). *Solution-focused counseling in schools* (3rd ed.). Alexandria, VA: American Counseling Association.

Norcross, J. C., & Beutler, L. E. (2014). Integrative psychotherapies. In D. Wedding & R. J. Corsini (Eds.), *Current psychotherapies* (10th ed., pp. 499–532). Belmont, CA: Brooks/Cole.

Norcross, J. C., Beutler, L. E., & Levant, R. F. (Eds.). (2006). *Evidence-based practices in mental health: Debate and dialogue on the fundamental questions*. http://dx.doi.org/10.1037/11265-000

Norcross, J. C., Pfund, R. A., & Prochaska, J. O. (2013). Psychotherapy in 2022: A Delphi poll on its future. *Professional Psychology: Research and Practice*, *44*, 363–370. http://dx.doi.org/10.1037/a0034633

Oaklander, V. (1988). *Windows to our children*: *A Gestalt therapy approach to children and adolescents*. Highland, NY: Center for Gestalt Development.

Oaklander, V. (2006). *Hidden treasure: A map to the child's inner self*. London, England: Karnac Books.

Piper, W. E., & Ogrodniczuk, J. S. (2004). Brief group therapy. In J. L. DeLucia-Waack, D. Gerrity, C. R. Kalodner, & M. T. Riva (Eds.), *Handbook of group counseling and psychotherapy* (pp. 641–650). http://dx.doi.org/10.4135/9781452229683.n46

Post, B. C., Cornish, M. A., Wade, N. G., & Tucker, J. R. (2013). Religion and spirituality in group counseling: Beliefs and practices of university counseling center counselors. *Journal for Specialists in Group Work*, *38*, 264–284. http://dx.doi.org/10.1080/01933922.2013.834401

Robison, F. F., Stockton, R., & Morran, D. K. (1990). Anticipated consequences of self-disclosure during early therapeutic group development. *Journal of Group Psychotherapy, Psychodrama, and Sociometry*, *43*, 3–18.

Rogers, C. R. (1970). *Carl Rogers on encounter groups*. New York, NY: Harper & Row.

Rogers, C. R. (1987). The underlying theory: Drawn from experience with individuals and groups. *Counseling and Values*, *32*, 38–46. http://dx.doi.org/10.1002/j.2161-007X.1987.tb00689.x

Rogers, N. (2011). *The creative connection for groups: Person-centered expressive arts for healing and social change*. Palo Alto, CA: Science & Behavior Books.

Shapiro, J. L. (2010). Brief group treatment. In R. K. Conyne (Ed.), *The Oxford handbook of group counseling* (pp. 487–510). New York, NY: Oxford University Press.

Singh, A. A., Merchant, N., Skudrzyk, B., & Ingene, D. (2012). Association for specialists in group work: Multicultural and social justice competence principles for group workers. *Journal for Specialists in Group Work*, *37*, 312–325. http://dx.doi.org/10.1080/01933922.2012.721482

Sink, C. A., Edwards, C. N., & Eppler, C. (2012). *School based group counseling*. Belmont, CA: Brooks/Cole.

Steen, S., Shi, Q., & Hockersmith, W. (2014). Group counseling for African Americans: Research and practice considerations. In J. DeLucia-Waack, C. R. Kalodner, & M. T. Riva (Eds.), *Handbook of group counseling and psychotherapy* (2nd ed., pp. 220–230). Thousand Oaks, CA: Sage.

Stockton, R., Morran, K., & Chang, S. (2014). An overview of current research and best practices for training beginning group leaders. In J. DeLucia-Waack, C. R. Kalodner, & M. T. Riva (Eds.), *Handbook of group counseling and psychotherapy* (2nd ed., pp. 133–145). Thousand Oaks, CA: Sage.

Thomas, R. V., & Pender, D. A. (2008). Association for Specialists in Group Work: Best practice guidelines 2007 revisions. *Journal for Specialists in Group Work*, *33*, 111–117.

Torres-Rivera, E., Torres Fernandez, I., & Hendricks, W. A. (2014). Psychoeducational and counseling groups with Latinos/as. In J. DeLucia-Waack, C. R. Kalodner, & M. T. Riva (Eds.), *Handbook of group counseling and psychotherapy* (2nd ed., pp. 242–252). Thousand Oaks, CA: Sage.

Vernon, A. (2004). Using cognitive behavioral techniques. In B. T. Erford (Ed.), *Professional school counseling: A handbook of theories, programs, and practices* (pp. 91–99). Austin, TX: CAPS Press.

Wheeler, N., & Bertram, B. (2015). *The counselor and the law: A guide to legal and ethical practice* (7th ed.). Alexandria, VA: American Counseling Association.

Yalom, I. D. (with Leszcz, M). (2005). *The theory and practice of group psychotherapy* (5th ed.). New York, NY: Basic Books.

Zaretsky, S. (2009). The conversation group: Using group psychoanalytic techniques to resolve resistances of recently immigrated Chinese students to learning English in a high school setting. *International Journal of Group Psychotherapy*, *59*, 335–356. http://dx.doi.org/10.1521/ijgp.2009.59.3.335

CHAPTER 16

# COUPLE THERAPY

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Significant cultural changes in the past half-century have had an enormous impact on marriage and the expectations and experiences of those who marry or enter into other long-term committed relationships. Reforms in divorce law (e.g., no-fault divorces), more liberal attitudes about sexual expression, increased availability of contraception, and the growth of the economic and political power of women have all increased the expectations of committed relationships to go well beyond maintaining economic viability and ensuring procreation. Most couple relationships nowadays are also expected to be the primary source of adult intimacy, support, and companionship and a facilitative context for personal growth. At the same time, the "limits of human pair-bonding" (Pinsof, 2002, p. 135) are increasingly clear, and the changing cultural expectations of couple relationships have led the "shift from death to divorce" (Pinsof, 2002, p. 139) as the primary terminator of marriage.

In this chapter, we describe the historical and current state of couple therapy, discuss the numerous applications of couple therapy, and present the major models of couple therapy. We conclude by identifying landmark achievements in couple therapy and discussing probable future directions.

## DESCRIPTION AND DEFINITION

*Couple therapy* refers to a diverse set of interventions provided to partners in an intimate relationship that are intended to reduce relationship distress and promote relationship well-being. Typically provided to partners in conjoint sessions (both partners meeting simultaneously with the same therapist), couple-based therapies may be delivered not only to married couples but also to cohabiting heterosexual and same-sex couples as well as those in which partners live separately. Although couple therapy most often aims to reduce or prevent relationship distress, couple-based interventions have also been developed to treat couples in which one or both partners struggle with individual emotional or behavioral disorders.

With the increased demands on intimate relationships, couple therapy has become an essential component of mental health services, emerging partly in response to a divorce rate of approximately 50% for first marriages in the United States. In fact, approximately half of all clinical psychologists routinely conduct couple therapy (Norcross & Karpiak, 2012), and the most frequently cited reason for seeking mental health services is relationship difficulties (Swindle et al., 2000).

## EVOLUTION OF COUPLE THERAPY

Gurman and Fraenkel (2002) described four conceptually distinct but overlapping phases in their historical account of couple therapy. The first phase, atheoretical marriage counseling formation (c. 1930–1963), began with the opening of marriage counseling centers in several U.S. cities and Great Britain and culminated in the first legal recognition of the marriage counseling profession in California (1963). The only national professional organization

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in the field during this period was the American Association of Marriage Counselors, now the American Association for Marriage and Family Therapy.

Marriage counseling was a service-oriented profession, populated primarily by obstetricians, gynecologists, clergy, social workers, and family life educators rather than psychologists or other mental health practitioners. This is because couples sought guidance about problems in everyday living that pertained to married life rather than help because one or both partners had a mental disorder that caused relationship distress. That is, marriage counselors provided advice and information, largely from an educational perspective, and helped couples solve relatively uncomplicated problems of everyday living. Early couple therapy was not regularly conjoint until the 1970s. It focused on adjustment to culturally dominant marital roles and advice and information giving about practical aspects of married life. Marriage counselors did not work with couples in severe conflict or with significant individual psychopathology. Unfortunately, this first historical phase, characterized as a "technique in search of a theory" (Manus, 1966, p. 449), did not produce any influential clinical theorists.

Couple therapy's second phase (c. 1931–1966), psychoanalytic experimentation, began with bold challenges (e.g., Mittelmann, 1948) to the conservative dominant psychoanalytic tradition against the inclusion of analysands' relatives in treatment. Noticing the apparent "interlocking neuroses" of married analysands and the inconsistencies in their narratives reported to the same analyst, such innovators began experimenting with different combinations and sequences of working with both partners, including some conjoint work. Even as the conjoint approach became more commonplace late in this period (Sager, 1966), the treatment focus remained largely on the partners as individuals, not on their dyadic system, and on the patient–therapist transference (e.g., Sager, 1967). Psychoanalytic couple therapists had not yet recognized "the healing power within couples' own relationships" (Gurman & Fraenkel, 2002, p. 208).

Just as a more interactional awareness was emerging in psychoanalytic couple therapy, it was significantly dulled by the accelerating family therapy movement, which disavowed most psychoanalytic principles in favor of a more mechanistic black-box understanding of human behavior. Psychodynamically oriented couple therapy, with rare exceptions (e.g., Framo, 1965), went underground. It has resurfaced (e.g., Scharff & Scharff, 2008) in couple therapy's current phase of development, especially because of growing interest in object relations and attachment theories.

In couple therapy's third phase (c. 1963–1985), family therapy incorporation, there were prominent voices within the family therapy field who had a major impact on couple therapy from the family systems perspective. Don Jackson and Jay Haley of the Mental Research Institute in California exemplified the "system purists" (Beels & Ferber, 1969), and Murray Bowen at the Menninger Clinic showed little or no interest in, and at times even disdain for, the psychology of the individual, unconscious motivation, and anything that smacked of mainstream psychoanalysis and psychiatry. Jackson (1959, 1965), a founder of the interactional approach, contributed the seminal concepts of family homeostasis and the marital quid pro quo. Haley (1963), a pioneer in the strategic approach, emphasized the interpersonal functions of symptoms and the power and control dimensions of couple relationships, and Bowen (1978) created the first multigenerational family and couple therapy approach, well known for its concepts of differentiation of self and therapist detriangulation. Although none of these influential perspectives resulted in a discernible school of couple therapy, many of their central concepts have trickled down to and permeated the thinking and practices of most clinicians who regularly treat couples.

The one major family therapy figure in this period who was not a system purist was, significantly, a woman and a social worker, Virginia Satir. Satir's (1964) classic *Conjoint Family Therapy* emphasized a humanistic and experiential sensitivity that was hard to find in most family therapy quarters during this period. Satir emphasized patients' self-esteem and both individual and relationship growth and has probably had the most enduring effects on couple therapy of all the important family therapy pioneers.

Couple therapy's current phase, refinement, extension, diversification, and integration (c. 1986–present), has been marked by continual modification of therapy theory, research, and practice. The refinement component has centered primarily on three particular treatments: behavioral couple therapy (BCT), emotionally focused couple therapy (EFT), and insight-oriented marital therapy. BCT has evolved from a simple behavior exchange phase emphasizing couples' contracted trading of desired behavior (e.g., Stuart, 1969), to a skills training phase emphasizing teaching couples communication and problem-solving skills (e.g., Jacobson & Margolin, 1979), to the current acceptance phase balancing the earlier focus on behavior change with a new interest in enhancing partners' abilities to accept inevitable and unresolvable perpetual difficulties (Dimidjian, Martell, & Christensen, 2008). EFT (Johnson, 2004) has reacquainted the couple field with the humanistic–experiential psychotherapy tradition of Satir and has singlehandedly exposed clinicians to the couple relevance of attachment theory (Bowlby, 1988). Insight-oriented marital therapy (Snyder & Mitchell, 2008) is an empirically supported approach that draws on psychodynamic object relations theory, interpersonal role theory, and social learning theory, with a developmental emphasis.

Couple therapy's recent extension has seen a dramatic shift from marriage counseling's exclusive attention to minimally troubled couples to couples with partners with significant mental disorder disorders, such as depression, anxiety disorders, alcoholism, and personality disorders, with BCT and EFT leading the way in this direction (e.g., Fruzzetti & Fantozzi, 2008; Snyder & Whisman, 2003). Couple therapy's diversification refers to its increasing attention to multiculturalism—recognizing the role of ethnicity, race, social class, religion and sexual orientation in couple relationships and couple therapy (e.g., Rastogi & Thomas, 2009). Diversification also includes incorporation of feminist social values and awareness, especially regarding gender, power, and intimacy (Knudson-Martin & Mahoney, 2009).

Couple therapy's integration refers to the revision of clinical theory and practice in the movement toward theoretical and technical integration (Gurman, 2008), with the most common integrative approaches emphasizing combinations of behavioral and psychodynamic methods. Integration has also included increased attention being paid to the practical relevance of basic research on marital relationships (e.g., Gottman, 1999). The integrative thrust in couple therapy also includes awareness of the biological bases (e.g., Fishbane, 2013) of behavior relevant to couple relationships.

## Relationship Between Couple and Family Therapy

Nathan Ackerman, the unofficial founder of family therapy, once identified "the therapy of marital disorders as the core approach to family change" (Ackerman, 1970, p. 124). Despite this early assertion, and the fact that family therapy and couple therapy have traditionally drawn from the same body of concepts and techniques (Fraenkel, Markman, & Stanley, 1997), the field of family therapy has historically failed to embrace the practice of couple therapy as central to its identity and, in fact, has usually placed it in a marginalized position (Gurman & Fraenkel, 2002). This marginalized position is universally reflected in most textbooks of family therapy, which devote only a small fraction of their pages to couple therapy despite the fact that surveys have repeatedly shown that couple problems exceed whole-family problems in the practices of family therapists (Doherty & Simmons, 1996). Influential couple therapy approaches have derived at least as much from clinical extensions of social learning theory–behavior therapy, psychodynamic theory, and humanistic–experiential theory as from family systems theory and general systems theory (Gurman, 1978), the conceptual soils in which dominant family therapy approaches were planted and have grown.

## Individual Therapy for Couple Problems

Despite the demonstrated efficacy of conjoint couple therapy (Lebow et al., 2012), many clients seeking help for couple conflict ultimately find themselves in individual therapy for couple problems. This therapy format may evolve from a

partner's refusal of conjoint therapy or from the treatment format preferences of either the client or the therapist. Among the pitfalls in working this way with couple problems (Gurman & Burton, 2014) are five central areas of concern in individual therapy for couple problems: issues involved in the optimizing and constraining of change (e.g., the impossibility of directly observing couple interactions and limited chances to activate mechanisms of change in couple relationships, such as taking mutual responsibility and improving partners' systemic awareness); therapist side taking and the therapeutic alliance (e.g., being inducted into one partner's biased perceptions, siding against treatment refusers); inaccurate assessment based on individual client reports (because of, e.g., confirmation bias, attitude polarization, or memory distortion); establishing and changing the therapeutic focus (e.g., therapeutic drift away from the initial primary relationship concerns and therapeutic shift involving potentially disruptive changes in treatment formulation or format); and ethical concerns (e.g., the therapist's obligations to nonattending partners).

Although conjoint couple therapy probably constitutes the standard for treating couple conflict, individual therapy for couple problems is also common despite its difficulties. Few clear methods of practicing individual therapy for couple problems have yet been offered, only one controlled study of its outcomes has appeared, and couple therapists in training are rarely guided in how to minimize its dangers and maximize its effectiveness (Gurman & Burton, 2014). For the moment, conjoint therapy clearly remains the likely treatment of choice for couple problems.

## PRINCIPLES AND APPLICATIONS

### Couple Therapy for Specific Couple Difficulties

Although couple therapy is primarily viewed as a treatment modality for general relationship distress, couples often present with specific problems, and research foci have been developed to target specific couple difficulties. For instance, infidelity is the most common presenting problem that brings couples into therapy. Thus, many researchers have developed specific treatments for infidelity. For example, research has identified three distinct phases to the treatment of infidelity (Snyder, Baucom, & Gordon, 2008). The first phase, the impact phase, focuses on helping the couple cope with the initial emotional and behavioral disruption. After addressing the emotional impact, the therapy moves on to help the couple explore the factors contributing to the onset or maintenance of the affair. Finally, the therapy is focused on helping the couple reach an informed decision about how to resolve the underlying conflicts. Their research has found that at termination, the majority of couples report less emotional and marital distress and greater forgiveness toward their partners.

Related to infidelity is a body of research focused on elucidating the construct of forgiveness in the wake of a broader range of injuries. EFT was used to examine the efficacy of treating couples experiencing emotional and attachment injuries (Greenberg, Warwar, & Malcolm, 2010). They examined 12 couples who experienced injury and found that at the end of treatment 11 of 12 couples rated themselves as completely forgiving their partners. Furthermore, they found that these couples were able to maintain their gains at 3-month follow-up.

One of the most important areas of research from a public health perspective is using couple therapy as a treatment for intimate partner violence (Stith, Rosen, & McCollum, 2003). In a randomized clinical trial comparing couple group therapy to individual therapy for the treatment of intimate partner violence, couple group therapy outperformed individual therapy in terms of decreased violence, increased marital satisfaction and improved beliefs about intimate partner violence. Moreover, men who participated in the couple treatment group were less likely to recidivate than men in the individual treatment group. In another study, conjoint cognitive BCT resulted in increased relationship satisfaction, decreased partner hostile withdrawal, fewer humiliating behaviors, and decreased psychological aggression with few differences across treatments (LaTaillade, Epstein, & Werlinich, 2006).

## Treatment of Mental Disorders With Couple Therapy

A growing body of research has documented the efficacy of couple therapy for treating individual mental disorders, in addition to improving the couple relationship. Most of this research has been conducted in the context of substance use disorders (Haaga, McCrady, & Lebow, 2006). That is, when one member of the couple has a substance use disorder, there is often a comorbid relationship dissatisfaction and relationship dysfunction (e.g., Fals-Stewart, Birchler, & O'Farrell, 1999) and that that relationship discord is often a precursor to relapse (Fals-Stewart et al., 2009).

BCT for alcohol and substance use disorders has two primary goals. First, BCT has an alcohol component that directly supports abstinence; second, BCT has a relationship-focused component that focuses on increasing positive feelings, shared activities, and constructive communication (O'Farrell & Fals-Stewart, 2003). BCT has also been found to have an effect in reducing marital violence in these couples, with the change in violence being mediated by changes in drinking (O'Farrell et al., 2004)

In addition to treating substance use disorders, couple therapy has been found to be effective in treating individuals with a diagnosis of depression (e.g., Beach & O'Leary, 1992), particularly for women in distressed relationships. Furthermore, only couple therapy has been shown to have an equal impact in reducing both depression and marital distress. Couple therapy has also been shown to be useful in the treatment of individuals with anxiety disorder (Baucom et al., 1998), posttraumatic stress disorder (Rotunda et al., 2008), and borderline personality disorder (Fruzzetti & Fantozzi, 2008).

## Change Mechanisms in Couple Therapy

Couple therapy has begun to move past the efficacy of particular models toward delineating generalized evidence-based principles that transcend approach. One interesting set of such principles for couple therapy consisted of five principles (Christensen, 2010):

1. dyadic conceptualization challenging the individual view that partners tend to manifest
2. modifying emotion-driven maladaptive behavior by finding constructive ways to deal with emotions
3. eliciting avoided, emotion-based, private behavior so that this behavior becomes public to the partners, making them aware of each other's internal experience
4. fostering productive communication, attending to problems in both speaking and listening
5. emphasizing strengths and positive behaviors.

Although this list has not been empirically tested and is not exhaustive (e.g., creating a balanced alliance), such efforts provide fertile ground for developing a more integrative couple therapy.

Consequently, integrative and pluralistic models have been emerging. An integrative model called integrative problem-centered metaframeworks integrates transtheoretical, systemic principles for understanding individual, couple, and family problems (Breunlin et al., 2011). From a similar perspective, Sprenkle, Davis, and Lebow (2009) have highlighted the importance of common factors in couple therapy. These factors entail the expanded relationship system; the generation of hope in the context of demoralization; a systemic viewpoint; adapting to client stage of change; and intervention strategies that work with emotion, cognition, and behavior. It also appears that transtheoretical aspects of relationships such as attachment, exchanges, skill building, and attributions typically all need addressing, directly or indirectly, in effective couple therapy.

# METHODS AND INTERVENTIONS

The field of couple therapy features different approaches. What follows is a summary of the major approaches to couple therapy. For each approach, we include an overview, the structure of conducting couple therapy with that approach, common techniques and process, and the research evidence for that approach.

## Behavioral Couple Therapy

BCT has passed through several distinctive phases since its initial appearance four decades ago.

The earliest BCT was based on Stuart's (1969) social exchange theory understanding of couple problems, that is, that the success of a marriage depends on the frequency and variety of reciprocated positive behaviors. Treatment emphasized specification of desired positive changes from one's mate in the form of behavioral exchanges (BE), which partners were encouraged to reinforce.

That approach soon evolved into the skills training phase of BCT, ushered in by Jacobson and Margolin's (1979) treatment manual, which launched traditional BCT. Research on the differences between happy and unhappy couples flowered. Couples in unsatisfying relationships communicate and problem solve less effectively than satisfied couples; use coercive rather than positive approaches to influence; and engage in less positive, and more negative, behavior. Treatment emphasized skill deficits and included communication and problem-solving training. Another domain soon attracting attention was the cognitive, emphasizing partners' problematic appraisals of relationship interactions and evaluations of their own and each other's behavior (Baucom et al., 2008), central couple processes in cognitive–behavioral couple therapy.

The next phase of BCT saw the development of integrative BCT (Dimidjian et al., 2008) but included other developments as well. Having found that the outcomes of BCT were not as durable as had been hoped for and that many couples were dealing with inherently unresolvable perpetual problems (Gottman, 1999), Jacobson and Christensen (1996) shifted their skills training emphasis to an emphasis on mutual acceptance of differences, that is, empathically understanding the reasons why one's mate behaves as he or she does.

Several important clinical developments have taken place in BCT. First, attention to the role of self-regulation in couple difficulties has been heightened in the development of a couple therapy adaptation (Fruzzetti & Fantozzi, 2008) of dialectical behavior therapy for affectively dysregulated couples. Second, behavioral intervention has been used to treat couples with co-occurring relationship difficulties and individual psychological or medical problems (Snyder & Whisman, 2003). Third, a renewed emphasis on a functional–contextual understanding of couple problems (Gurman, 2013) has resulted in the use of a more technically flexible repertoire of interventions, including new possibilities for the therapist's use of self. Behavioral principles have also been prominent in the development of integrative approaches to couple therapy (Gurman, 2008).

BCT is goal focused, but is not inherently brief, typically lasting eight to 20 sessions. BCT differs from many other approaches by including individual assessment sessions with each partner at the beginning of therapy and by providing a systematic and structured feedback session with the couple after the initial three or four meetings to form a treatment contract (e.g., Chambers, 2012).

Although BCT emphasizes individualized goals, some common goals are considered, the choice of which depends on whether the therapist is more or less skill oriented, more or less cognitively oriented, and more or less acceptance oriented and on characteristics of the couple (e.g., severity of conflict, collaborative capacity, level of trust). Generally, BE occur early in therapy with more compatible, flexible, and regulated couples. Emotional acceptance strategies may appear earlier with more combative or mistrustful couples, although elements of both of these styles appear in most phases of BCT.

Functional analysis is key to BCT and is concerned not with the topography (form) of behavior but with its effects. The goals of functional analysis are to identify patterns of behavior of concern and the conditions (behavioral, cognitive, affective) that maintain these patterns, to select appropriate interventions, and to monitor treatment progress. The function of behavior is understood by identifying the factors that control the behavior. Assessment requires a description of the problem behavior, its frequency, the conditions under which it is more and less likely, and its consequences. BE and skill training emphases focus more on the content, or form, of behavior, and acceptance-oriented intervention focuses more on its context, or function. Skills-oriented and BE-oriented therapists focus more on specific behavioral events, whereas acceptance-oriented therapists focus more on problematic

relationship themes, or functional (response) classes, in which behaviors that have different forms share the same function.

Common BCT goals are increasing overall relationship positivity; decreasing overall negativity; teaching problem-solving and communication skills; changing from negative (e.g., coercion, punishment) to positive (e.g., appreciation, acknowledgment) styles of influencing one's partner; modifying dysfunctional assumptions, expectations, and relationship standards and attributions about one's partner; modifying emotional reactivity; and enhancing empathic attunement to foster mutual acceptance around basic incompatibilities and differences, often involving dominant personality styles or long-term emotional vulnerabilities.

**Techniques and process of therapy.** BCT sessions initially begin with the couple raising issues for discussion or one partner's recounting of a recent conflict. Some sessions, or parts of sessions, are structured and closely directed by the therapist, for example, when teaching interpersonal skills or new cognitive appraisal strategies, but with most couples is most often more conversational, with the therapist following as much as leading. BCT typically involves both behavior-changing interventions and acceptance-enhancing interventions.

BE asks the partners to specify behaviorally (pinpoint) what behaviors they would like to see increased in each other. Point-for-point exchanges are discouraged because they imply mistrust and caution. Partners commit to the therapist to make changes based on the partner's list but are not required to make any particular change from that list. The use of BE requires active therapist guidance and feedback. Communication skills taught include, for the speaker, the use of "I" statements rather than blaming "you" statements, measured honesty in the expression of feelings rather than letting it all hang out, checking to see that the message sent or intended matches the message received and, for the listener, paraphrasing and reflecting the speaker's expressions to maintain adequate understanding rather than interrupting or reacting defensively, validating and empathizing with the speaker rather than discounting or trivializing the speaker's feelings.

Improved problem solving may include discussing one (agreed-on) topic at a time and not allowing sidetracking; identifying problems in terms of behavior rather than personality traits; avoiding mind reading; requesting positive ("more of") behavior change rather than negative ("less of") behavior change; emphasizing present- and future-oriented solution possibilities rather than rehashing the past; brainstorming potential behaviorally specific solutions and evaluating their pros and cons; implementing an agreed-on solution; and evaluating the effectiveness of the solution chosen.

Although earlier BCT methods emphasized changes in rule-governed behavior, the newer integrative BCT acceptance-oriented approach emphasizes changes in contingency-shaped behavior. Rule-governed behavior occurs in response to explicit verbal rules, with consequences determined by the degree to which behavior matches the rule, not by consequences (contingencies) occurring in the natural environment (e.g., husband watches more television with wife because the therapist says the couple should spend more time together). BE involves rule-governed changes. In contrast, contingency-shaped behavior is strengthened or weakened as a result of natural consequences. Changes generated in this way (e.g., wife spends more time watching sports on TV with husband because he is friendly and affectionate to her) tend to feel more authentic (vs. "You're just doing this because the therapist said you should"), are likely to generalize outside of the treatment office, and tend not to be under the stimulus control of the therapist.

The most important tactical change in acceptance-oriented intervention is empathic joining around the problem, which involves the therapist's reattribution of the problem from behavior as bad to behavior seen as understandable in light of the vulnerabilities (Scheinkman & Fishbane, 2004) of theretofore unexpressed factors that influence the bad behavior. The partner can now see the motivation (controlling consequences) in a new light. Such a shift is achieved by helping the "offending" partner identify and express the feeling behind the feeling, or the feelings behind the undesirable behavior. Such softening self-disclosures facilitate empathic responses, help decrease the aversiveness

of the behavior at issue, and make new responses by the receiving partner more likely.

Other acceptance-oriented techniques include unified detachment, in which the couple is encouraged to discuss problems in a more intellectual, descriptive manner as though the problem is an external "it," and tolerance building, reducing the pain caused by a partner's behavior, even though the behavior may not change a great deal. Tolerance may be enhanced by pointing out possible positive (and unrecognized) aspects of undesirable behavior (producing a cognitive shift), by practicing the undesirable behavior in the session (desensitization), by faking or pretending undesirable behavior at home (thus bringing it under voluntary control), and by increased self-care (filling more of one's own needs).

**Therapist role and change mechanisms.** In BCT, therapists assume a great deal of responsibility for the outcome of treatment, first conducting a thorough functional analysis in the initial assessment and later ensuring that the direction and topical focus of the unfolding therapy process remains thematically consistent. As in all couple therapies, a supportive, empathic attitude toward both partners is essential for developing trust and collaboration. More than in many other couple treatments, BCT therapists may take on a decidedly instructional, didactic coaching role, especially when using BE and cognitive restructuring. Therapists must be flexible enough to adopt different stances with the couple as required by both the overall focus of the therapy and the exigencies of the moment.

**Applicability and research evidence.** There are few specific contraindications to BCT, the main exceptions being severe intimate partner violence, substance abuse, and ongoing extramarital affairs. Traditional BCT and cognitive–behavioral couple therapy have both been found to be effective (Lebow et al., 2012). One major randomized controlled trial comparing traditional BCT and integrative BCT (Christensen et al., 2004) found roughly equivalent outcomes at termination and follow-up and also found that the trajectories of change in the two approaches differed, with traditional BCT couples showing changes earlier than integrative BCT couples. Different iterations of BCT have also been found to be effective in treating depression (Beach et al., 2008), anxiety disorders (especially posttraumatic stress disorder; e.g., Monson & Fredman, 2012), and alcoholism (McCrady, 2012).

## Object Relations Couple Therapy

Of the varieties of psychoanalytic thought, object relations theory (ORT) has had the most pervasive and enduring influence on the theory and practice of couple therapy. Challenging Freudian theory, ORT (e.g., Scharff & Scharff, 2008) asserts that the main drive in human experience is to be connected with a nurturant, responsive person, as opposed to struggles with sexual and aggressive impulses. This aspect of object relations couple therapy (ORCT) overlaps with some aspects of EFT (Johnson, 2004), but the clinical methods of the two approaches differ significantly.

Despite early forays into couple work (e.g., Mittelmann, 1948), it was not until the mid-1960s that analytically oriented couple therapists worked conjointly on a regular basis. Even as conjoint therapy became more common, it remained oriented toward the two individuals. As Sager (1967), the most influential analytic couple therapist of that period, noted, "I am not primarily involved in treating marital disharmony, which is a symptom, but rather in treating the two individuals in the marriage" (p. 185). Therapy emphasized the interpretation of defenses and the use of free association, dream analysis, and catharsis, and the transference was still the major focus of the therapist's attention.

Because of its marginalized position in the family therapy field, psychoanalytical couple therapy receded from visibility during family therapy's golden age (Nichols & Schwartz, 1998), although some important contributions came forth in this period (e.g., Framo, 1981). Psychodynamic couple therapy reemerged in the 1980s, partly because of growing interest in integrative treatments, partly because of renewed interest in the self in the system (Nichols, 1987) in family therapy, and partly because of the efforts of a number of clinical theorists working independently to refine their approaches to couple problems. Jill and David Scharff (e.g., Scharff & Scharff, 2008) have made

particularly valuable contributions to ORCT over the past two decades.

ORT applied to clinical work with couples rests on the conceptual groundwork of Dicks's (1967) classic text, *Marital Tensions*. The central lesson from Dicks that led object relations therapists away from traditional psychoanalytic ideas was expressed cogently as "the unconscious conflicts are already fully developed in the mutual projective system between the couple, and could be better dealt with directly rather than by the indirect methods of 'transference'" (Skynner, 1980, pp. 276–277). The aim of therapy, then, was "getting the projections (in the marriage) back somehow into the individual selves" (Skynner, 1976, p. 205).

In ORT, the core source of couple dysfunction is both partners' failure to see both themselves and each other as whole persons. Conflict-laden aspects of oneself, presumably punished or aversively conditioned earlier in life, are repudiated and split off from conscious experience. That is, these unwanted, anxiety-laden aspects of self are projected onto the mate, and attacked in the mate, who, in turn "accepts" the projection (behaves in accordance with it). For example, a husband socialized to be a "real man" finds it unacceptable to be dependent by asking for his wife's emotional support even when he is distressed. His wife, in turn, socialized not to be comfortable with her own competence, frequently asks her husband for advice on matters about which she is quite knowledgeable. He criticizes her for her neediness, and she sulks in the face of his criticism, for which he also criticizes her as being too sensitive. She angrily responds that the problem is not that she is too sensitive, but that her husband is too self-reliant and, thus, distant from her.

Their two-way impasse is supported by a process of projective identification, further complicated by collusion, an implicit, unspoken agreement not to talk about the unconscious agreement. Projective identification and collusion involve a shared avoidance, a dyadic defense mechanism via unconscious communication, protecting each partner from unexpressed, and often not consciously experienced, fears and impulses (e.g., of merger, attack, or abandonment). Highly or chronically conflicted couples tend to see each other, consciously or unconsciously, in terms of past relationships instead of as real contemporary people (Rausch et al., 1974). Such rigidity leads to polarized psychological roles, reducing a couple's capacity to respond effectively to new developmental circumstances and to accommodate to other necessary changes and requests for change.

**Structure of therapy.** ORCT is preferably conducted as a long-term experience, with sessions held once or twice a week over a 2-year period or longer. ORCT can be used as the basis of a short-term approach but with more limited aims, such as crisis management. In either situation, in ORCT little structuring of the sessions is provided by the therapist, who prefers to follow the lead of the couple.

The ORCT therapist does not attempt to impose an agenda on therapy or to emphasize specific therapy goals, which are believed to be too restrictive. Symptom removal, although desirable, is not a priority because symptoms are seen as useful in allowing a therapeutic focus on the defenses that produce them. The ORCT clinician's overriding goal is to help the couple reduce the maladaptive controlling power of their collusive arrangement. This is done primarily by improving their holding capacity, which is their joint, dyadic ability to listen to the partner's feelings empathically without experiencing intolerable anxiety. This is also done by improving their capacity for containment, which is the ability to experience, acknowledge, and regulate their own affective experience, as in allowing painful feelings and thoughts into consciousness without acting on the need to project them onto the mate. This, in turn, improves the partners' individuation and, thus, capacity for empathy, intimacy, and sexuality. Partners who remain unable to identify with each other's feelings are more likely to show reciprocal, and often rapidly escalating, problematic behavior.

**Techniques and process of therapy.** The therapist listens nondirectively, maintaining a simultaneous awareness of both partners' transferences toward her or him and of the mutually transferential

projective system within the dyad. The therapist provides a clear and consistent environment to explore one's self and one's partner (setting the frame). He or she identifies and points out repetitive couple interaction patterns, paying particular attention to those that seem to be fueled by defensiveness. As the patient–therapist alliances deepen, the therapist is more likely to interpret partners' resistance to change, including self-exploration. The ORCT therapist prizes therapeutic neutrality with regard to the couple's choices and values and avoids siding with either partner. In this process, the therapist's use of self is a central technique. It is described as negative capability: the ability to not need to impose meaning and to "know" and is striven for by not doing too much in sessions (e.g., taking too much responsibility) and by remaining open to one's own internal experience. This negative capability facilitates the therapist's capacity to take in the partners' transference reactions and to experience her or his own countertransference as a way of understanding the couple as a couple as well as each partner (e.g., in receiving each partner's projections).

A central technical therapist activity in ORCT involves the interpretation of patient defenses in general and especially defenses against intimacy. These defenses might be expressed in the emerging session themes, silences, nonverbal behavior, and patients' expressed fantasies and dreams (about which the interpersonal meaning is emphasized). Termination is deemed appropriate when partners have developed adequate holding capacities, can relate more intimately, and so forth. The couple decides when termination should occur. Separating from the therapist is considered a significant part of the therapeutic process and is treated as such.

**Therapist's role and change mechanisms.** In ORCT, the therapeutic alliance is fortified primarily by therapists' ability to tolerate the partners' anxiety in an adequate holding environment. Although mostly nondirective, therapists are not a traditional psychoanalytic "blank screen." Whereas ORCT therapists generally follow rather than lead, they are confrontational at times, as the mood of the session and the needs (and avoidances) of the couple require. Therapeutic change is mediated through the patient–therapist relationship, and projectively distorted perceptions of both the therapist and one's partner are examined, interpreted as to both their current avoidance function and their historical origins, and reworked many times over the course of treatment. Clearly, ORCT therapists must be skilled at maintaining appropriate affective boundaries, capable of holding a neutral stance, and composed in the face of the couple's anxiety in response to therapists' low level of directiveness and structuring.

**Applicability and research evidence.** Psychological mindedness is a fundamental characteristic of couples who are appropriate for ORCT, especially long-term ORCT. In its ideal application, it is indicated for couples who are interested in understanding and in personal and relational growth rather than for couples who are seeking swift problem resolution. Briefer, more focused modifications of ORCT are nonetheless offered to motivated clients. Contraindications for ORCT are common to other types of couple therapy, for example, ongoing affairs, severe mental disorder, and uncontrollable volatility in sessions.

Research on the efficacy of ORCT is limited. A randomized controlled study (Snyder & Wills, 1989) of insight-oriented couple therapy (Snyder & Mitchell, 2008) that, among other interventions, included significant attention to the kinds of concerns and factors typically focused on by ORCT therapists, found that approach to have very positive outcomes at termination and follow-up.

Insight-oriented marital therapy promotes awareness of the contradictions and incongruencies within people regarding their relational needs and expectations and attends to partners' behavior, feelings, and cognitions in both present and historical terms. It draws on object relations, experiential, and cognitive–behavioral techniques and values insight and affective immediacy. Insight-oriented marital therapy is a pluralistic approach in which the most common sequencing is from more present-centered, pragmatic, and problem-focused emphases toward increasingly more historical–multigenerational understandings.

## Emotion-Focused Couple Therapy

The fundamental premise underlying EFT—originally codeveloped by Leslie Greenberg and Susan Johnson (1988)—is that all human beings have an inherent need for consistent, safe contact with responsive others. EFT is best described as an experiential and systemic approach centered on the adult attachment bond. The approach is experiential in that it focuses on the ongoing construction of present, internal, and relational experience, especially emotionally charged experience (Johnson, 2008), and it is systemic in that it focuses on the interactive patterns between intimate partners. Attachment theory provides a frame for EFT practitioners who believe that intimate partners crave bonds rather than negotiated and behaviorally enacted bargains with each other (Johnson, 1986). Hence, this approach views marital conflict and harmony as dependent on the degree to which partners' basic needs for bonding or attachment are satisfied.

In the 1980s, couple therapists had two main intervention tools to offer their clients. Behavioral therapists had data supporting the benefits of action-oriented interventions, and psychodynamic therapists created relational change by helping couples develop insight into their families of origin. Greenberg and Johnson (1988) were struck by the emotional drama of couple sessions and used tapes of therapy sessions to study how therapy can support both internal emotion formulation and regulation and positive interactional changes (Johnson, 2008). Bringing emotion to the forefront as an organizing principle and the focus of intervention was underused at that time.

Most research studies of EFT have used 10 to 12 therapy sessions, but in clinical practice, therapy may continue longer. The three tasks of EFT are (a) to create a safe and collaborative alliance, (b) to access and expand the emotional responses that guide the couple's interactions, and (c) to restructure those interactions. The therapeutic alliance is built as the therapist "validates each partner's construction of his or her emotional experience and places this experience in the context of the negative interaction cycle" (Johnson, 2008, p. 119). The therapist's message is that both partners create and are victims of their cycle or "demon dance," which allows for responsibility without blame and positions partners side by side, looking together at their patterns.

Goal setting in EFT is best conceptualized within the three stages of EFT. Stage 1 is cycle deescalation, Stage 2 is changing interactional positions, and Stage 3 is consolidation and integration (see Johnson, 2008, for greater detail). Moving successfully through these three stages allows a couple to deeply shift their experiences of themselves and each other. Thus, the ultimate goal of therapy is that partners can approach their relationship's inevitable difficult moments in a way that allows them to prevent or exit problem cycles and create and maintain safety and closeness. At termination, booster sessions are offered if the couple experiences a crisis triggered by strains outside the relationship, but booster sessions are not expected to be needed to deal with marital problems per se (Johnson, 2008).

**Techniques and process of therapy.** The corrective emotional experience sought in EFT is achieved through a mixture of Gestalt, client-centered, and systemic interventions in which affective immediacy is high. Specific interventions include creating a working alliance; delineating core conflicts; mapping problematic interaction patterns; accessing relevant unacknowledged feelings and reframing problems in light of these feelings; encouraging acceptance of one's own needs as well as the partner's emotional experience; and ultimately creating new solutions for developing and maintaining secure attachment (Johnson, 2004). In EFT, the therapist does not explore the past, interpret unconscious motivations, or directly teach interpersonal skills.

**Therapist's role and change mechanisms.** EFT therapists position themselves as a process consultant to the couple's relationship. The client is the relationship between the partners. Therapists new to EFT practice need to be mindful of several potential pitfalls. Accessing, formulating, and reformulating emotion in the here and now with partners requires therapists to trust emotion. Therapists must be willing to expand and explore powerful emotions such

as fear, helplessness, and sadness rather than dampening or avoiding them out of protectiveness of self or for other reasons. In addition, EFT therapists must also be willing to support partners becoming effectively dependent on each other in a culture that values independence and is quick to judge neediness. Moreover, therapists practicing EFT cannot become sidetracked by what Johnson (2004) calls "content tubes." Couples may provide compelling details and complicated dilemmas regarding pragmatic issues and interactional content, yet EFT therapists listen vigilantly instead for attachment needs and the emotions surrounding those needs.

**Applicability and research evidence.** EFT has been used with couples who present in therapy with a wide range of problems including depression, trauma, infidelity, and grief. EFT offers a relatively well-researched change process and evidence of positive clinical outcomes. A meta-analysis of the four most rigorous studies found a 70% to 73% recovery rate for relationship distress (86% significant improvement over controls) and an effect size of 1.3 (Johnson et al., 1999). Of particular note, the results were robust across all couples, including those at high risk for relapse (Cloutier et al., 2002). There is also evidence of the stability of treatment change across time (Johnson, 2008). However, no randomized controlled trial has as yet been done to compare EFT with other validated approaches to couple therapy.

## Narrative Couple Therapy

Narrative couple therapy stems from work that Michael White and David Epston, family therapists from Australia and New Zealand, respectively, began in the 1990s. They began to work with the story analogy in therapy: "the notion that meaning is constituted through the stories we tell and hear concerning our lives" (Freedman & Coombs, 2008, p. 229). With this model, therapists make a shift in their worldview. Now, rather than solving problems, their work centers around "focusing collaboratively on enriching the narratives of people's lives" (p. 229). Narrative couple therapists help people construct thick descriptions (Geertz, 1973; Ryle, 1971/1990). Problematic stories become surrounded and cushioned by the multiple strands—the alternative and additional narratives.

As narrative couple therapists work with couples, they remain cognizant that couples' stories do not occur in a vacuum. This approach is heavily influenced by postculturalism (Foucault, 1982), which states that there is an inseparable link between knowledge and power. Those with power create and reify dominant discourses. In other words, one's culture is full of stories that seep into a couple's relationship—for example, stories about how men ought to behave, how women ought to feel, and how sex ought to look within a marriage. These stories then limit what is possible between partners.

In its focus on privileged and marginalized cultural stories, this approach has a strong feminist foundation. For example, a heterosexual couple may present for couple therapy with conflict regarding the husband's difficulty earning enough money to support his wife and children. A narrative couple therapist may highlight the impact of a dominant cultural narrative that privileges the idea that men should be breadwinners and women should nurture the children. Labeling this narrative may allow the couple to bring forth alternative narratives that make space for the wife's career ambitions and the husband's patience and creativity with the children.

Woven into this approach is a commitment to resisting the urge to label individuals and couples. Narrative couple therapy does not support the idea that individuals have fixed core identities with static personality features, so therapy does not seek to move people from pathology to normalcy per se. This does not mean, however, that narrative therapists believe anything goes in a couple's relationship. This therapy helps couples create stories that empower partners and do not harm them. Abuse, coercion, and cruelty are clearly opposed.

**Structure of therapy.** It should come as no surprise that this approach values therapists and couples working collaboratively to create a therapeutic structure that will work best for them. Therapy may be brief or longer term. Sessions are usually 60 minutes but may vary in length depending on

the work at hand. Because the therapist is working to support couples unfolding in new directions, a session is likely to begin with the therapist asking the couple to share any new developments that relate to the work of the previous session. In this approach, there is intentionality regarding how to make use of between-session time. Therapists use letters, documents, and videotape to help couples internalize their new stories. Although there is no formal assessment per se, narrative couple therapists assess couples' current stories ("What name would you give the problem?" "How does the problem alter your relationship with yourself or with each other?") and wonder with them about what is possible ("Is this what you want for your relationship?").

Freedman and Coombs (2008) state that "our general goal in therapy is to collaborate with people in living out, moment-by-moment, choice-by-choice, life stories that they prefer, that are more just, and that make their worlds more satisfying" (p. 236). Narrative couple therapists proceed cautiously because goal setting may set up a single strand or trajectory that closes down rather than opens up possibility, perhaps opting for the language of projects or directions in life.

**Techniques and process of therapy.** Couple therapy from a narrative framework is iterative and recursive, rather than linear and stage-based, process. Techniques are intended to support couples' abilities to create and live within stories that offer greater complexity, possibility, and satisfaction. To support couples' movement in that direction, specific kinds of listening, questioning, and witnessing are used. Freedman and Coombs (2008) outlined more than 10 specific techniques, three of which are mentioned briefly here.

Deconstructive listening rests on the understanding that when therapists listen to clients, what is spoken and what is heard are not identical. Here, the therapist awaits inevitable gaps in understanding and ambiguities in meaning and asks the clients to fill in detail and clarify what feels murky. Beyond deepening the connection between therapist and client and increasing empathy between partners in a couple, what happens for clients through deconstructive listening is that "their realities inevitably begin to shift, at least a little, as they expand their narratives in response to our retelling and questions" (Freedman & Coombs, 2008, p. 237).

Naming the problem and naming the project are techniques that help couples externalize their problem, transcend finger pointing and blame, and make explicit what is preferred. Narrative couple therapists attempt to use a couple's own words to create a name for a problem (e.g., "the blame game" or "the road to nowhere"). In doing so, couples can begin to stand side by side, looking together for the emergence of the problem. Naming the project identifies the counterplot so that experiences that lie outside of the problem story can be noticed and therefore strengthened. By committing explicitly to projects (e.g., growing intimacy, having a voice, standing against violence; Freedman & Coombs, 2008), couples are able to look ahead at the future they would like to create.

**Therapist's role and change mechanisms.** In narrative couple therapy, therapists are vigilant to decenter their meanings and to conduct themselves not as the experts but as interested collaborators who use their skills at asking questions to bring forth the knowledge and experience of the particular couple. Couple therapists are sometimes likened to an anthropologist or field researcher.

**Applicability and research evidence.** Narrative couple therapy is applicable to a wide variety of couples with a range of presenting problems. However, couples who are seeking direct instruction or expert advice might not work well with the collaborative framework used in this approach. Researchers who are interested in narrative approaches tend to use qualitative rather than quantitative methods, but little has been done regarding narrative approaches with couples. That is, we are not aware of any randomized controlled trials conducted on the approach. However, it is worth mentioning that narrative approaches have been found to be effective in individual therapy.

## Solution-Focused Couple Therapy

Solution-focused therapy was developed in the 1980s and 1990s by the husband-and-wife family

therapy team of Steve de Shazer and Insoo Kim Berg with contributions of many others, most notably psychotherapist Bill O'Hanlon and marriage and family therapist Michelle Weiner-Davis. Although this is a theory-based, teachable model with specific techniques, "it is important to recognize that the essence of solution-focused therapy is an overarching worldview, a way of thinking and being, not a set of clinical operations" (Hoyt, 2008, p. 259). This worldview is non-normative and constructivist. Rather than focusing on psychopathology, insight, or history, this approach is "optimistic, collaborative, future-oriented, versatile, user-friendly, and often effective" (Hoyt, 2008, p. 259). In addition, "goals such as promoting personal growth, working through underlying emotional issues, or teaching couples better communication skills are not emphasized" (Shoham, Rohrbaugh, & Patterson, 1995, p. 143).

The premise of this approach is the belief that there is not a necessary connection between problem and solution. Rather, people are often better able to change with a solution focus rather than with a problem focus (DeJong & Berg, 1997). Couple therapy focuses on identifying the exceptions to the problem and building on them with solutions that work. De Shazer and Dolan (2007) laid out the basic rules of solution-focused therapy:

- If it ain't broke, don't fix it.
- Once you know what works, do more of it.
- If it doesn't work, don't do it again; do something different.

Solution-focused therapists do not predetermine how many sessions they will have, but the work tends to be brief (between one and 10 sessions).

Goal setting is client driven. Goals are defined simply as what clients would define as viable solutions or successes. Solution-focused therapists often help clients define goals by asking the miracle question (Hoyt, 2008): Suppose that one night there is a miracle, and while you are sleeping, the problem that brought you into therapy is solved. How would you know? What would be different? What will you notice the next morning that will tell you that there has been a miracle? The miracle question allows clients to articulate and take ownership of specific and concrete behavioral goals. Solution-focused therapists also acknowledge that the goal-setting process (which they call "goaling") is dynamic and ongoing.

**Techniques and process of therapy.** Rather than exploring the past, the solution-focused approach focuses on the here and now as well as the future. Unlike narrative therapy, solution-focused therapy tends not to integrate sociocultural lenses such as race, religion, and gender, instead positioning itself as transcultural and learning from clients, not about clients. Solution-focused therapists use practices, especially the asking of questions, to facilitate particular kinds of conversations that move couples from problems to solutions.

A typical first session includes four features: asking the couple the miracle question; asking the couple to rate something (hope, motivation, progress) on a scale from 1 to 10; taking a 5- to 10-minute break near the end so that the therapist and the couple can reflect and organize their thoughts; and giving the couple some compliments that set up homework for the coming week (e.g., the therapist may say, "This week, I would like you each to keep track of what the other is doing to make the marriage a little bit better"). Subsequent sessions focus on eliciting the couple's descriptions of what is working differently or better, amplifying and reinforcing those changes, and identifying how to keep the couple moving in the preferred direction.

**Therapist's role and mechanisms of change.** Solution-focused therapists are consultants working to influence the clients' view of the problem in a manner that leads to solutions (Berg & Miller, 1992). The therapist works to create an environment in which the couple can move from their problem-saturated narrative and tap into previously overlooked strengths and competencies.

**Applicability and research evidence.** Solution-focused couple therapy is applicable to a variety of couples but contraindicated in cases of severe mental illness, sociopathy, and situations such as domestic violence in which safety cannot be assured. The approach assumes that all couples are unique

and can be supported to create and maintain motivation for change.

A review of the research literature (Gingerich & Eisengart, 2000) found that all of the research studies reviewed showed moderate to strong empirical support. The studies all found solution-focused couple therapy to be better than no treatment. The studies, however, varied in terms of their methodological rigor, and the authors concluded that the efficacy of solution-focused therapy has preliminary empirical support.

## LANDMARK CONTRIBUTIONS TO COUPLE THERAPY

Couple therapy's origins date back to the 1930s, but there is no discernible residue of contributions to the field that preceded the 1960s. We have arbitrarily, but we believe justifiably, designated 1963 as the central turning point in the evolution of modern couple therapy because of the appearance of Haley's influential article that year. Table 16.1 presents the landmark contributions to the field of couple therapy over the past 50 years. Of interest is the observation that about two thirds of these contributions have been made by psychologists, paralleling the trends in the historical development of couple therapy discussed earlier.

## KEY ACCOMPLISHMENTS

Couple therapy has come a long way since its early peripheral position in the world of mental health and even from its more marginalized position of more recent times. Among its key accomplishment are the following:

- The efficacy of couple therapy is well established in hundreds of randomized controlled trials. Specifically, research has found that 70% of couples show improvement with couple therapy.
- Couple therapy is used for the treatment of both general relationship distress and specific mental disorders.
- Couple therapy has become the dominant practice within the broad field of family therapy.
- Couple therapy is practiced by clinicians in all mental health fields.
- Training in couple therapy is now available in the major mental health professions (e.g., psychology, social work, and counseling), as well as in specialty certification.

## FUTURE DIRECTIONS

One identifiable growing edge in the field of couple therapy involves training couple therapists. Looking at who does couple therapy, the largest international study of psychotherapists (Orlinsky & Ronnestad, 2005) found that 70% of psychotherapists treat couples. This is a remarkable statistic that may give some pause when one considers the limited training in couple therapy in professions other than marriage and family therapy and family psychology. In fact, the lack of couple therapy training may account for why, although couple therapy is highly effective when studied (Shadish & Baldwin, 2005; Snyder, Castellani, & Whisman, 2006), it is among the lowest rated for consumer satisfaction in the *Consumer Reports* study of psychotherapies (Seligman, 1995). That study did not control for therapist training.

Another growing edge in the field relates to culture, which needs to be more broadly addressed in research and in training. Although the decade has seen greater attention to the representativeness of samples in research, couple therapy research remains extensively the study of White heterosexual European and North American couples. There have been thoughtful considerations of culture in relation to couples and even research on couples in specific cultures (Boyd-Franklin, Kelly, & Durham, 2008; Chambers, 2008), yet culture-specific methods have yet to be studied, and few studies have been demographically balanced.

Given the field's inherent interest in the organization and functioning of interpersonal systems, couple therapy perhaps inevitably continues to expand its integrative emphasis. Although there are still discernible conceptual and technical differences among the major schools of therapy (Gurman, 2008), there is clearly a pervasive trend toward the assimilation of disparate methods,

## TABLE 16.1

**50 Years of Landmark Contributions in the Evolution of CT**

| Year | Contributor | Nature of contribution |
|---|---|---|
| 1963 | Jay Haley | "Marriage Therapy" article challenges existing CT principles and laid the foundation for development of strategic therapy. |
| 1964 | Virginia Satir | *Conjoint Family Therapy* is the first book on couple and family therapy in the humanistic tradition. |
| 1965 | Don Jackson | Marital quid pro quo concept defines implicit rules that govern the balance of power in intimate relationships. |
| 1967 | Clifford Sager | *Marriage Contracts and Couple Therapy* was the first book to discuss unconscious aspects of the most common couple interaction patterns. |
| 1967 | Henry Dicks | *Marital Tensions* was the first book on object relations theory and couples. |
| 1973 | Alan Gurman | "The Effects and Effectiveness of Marital Therapy" is the first article to discuss CT outcome research. |
| 1978 | Thomas Paolino and Barbara McCrady | *Marriage and Marital Therapy* is the first book to provide in-depth comparative examination of major models of CT. |
| 1979 | Neil Jacobson and Gayla Margolin | *Marital Therapy: Strategies Based on Social Learning and Behavior Exchange* is the first treatment manual on behavioral couple therapy. |
| 1985 | Alan Gurman and Neil Jacobson | *Clinical Handbook of Couple Therapy*, a seminal CT text, is published (Gurman, 2008; Jacobson & Gurman, 1995). |
| 1989 | David Olson, C. Russell, and Doug Sprenkle | The circumplex model of marital and family systems is developed. |
| 1990 | Virginia Goldner et al. | "Love and Violence" article is among the first to present a feminist analysis of intimate partner violence. |
| 1990 | Richard Chasin, Henry Grunebaum, and Margaret Herzig | *One Couple Four Realities* presents four perspectives from demonstration interviews with the same couple at Cambridge Hospital conference. |
| 1994 | Mark Karpel | *Evaluating Couples* is the first book on comprehensive clinical assessment with couples. |
| 1996 | Neil Jacobson and Andrew Christensen | *Integrative Couple Therapy: Promoting Acceptance and Change* presents major revisions of behavioral couple therapy. |
| 1996 | Susan Johnson | *The Practice of Emotionally Focused Marital Therapy* is the first book to describe the attachment theory model of CT (cf. Greenberg & Johnson, 1988). |
| 1996 | Joan Laird and Robert-Jay Green | *Lesbians and Gays in Couples and Families* is one of first books to address couple and family therapy with same-sex couples. |
| 1999 | John Gottman | *The Marriage Clinic* sets forth major findings from a prominent couple interaction research program. |
| 2002 | Alan Gurman and Peter Fraenkel | "The History of Couple Therapy" article provides comprehensive and in-depth review of field's clinical and conceptual evolution. |
| 2002 | Norman Epstein and Donald Baucom | *Enhanced Cognitive Behavioral Couple Therapy* is the first book about treatment of individual psychological disorders in CT. |
| 2003 | Douglas Snyder and Mark Whisman | *Treating Difficult Couples* provides broad coverage of CT and individual psychopathology and medical problems. |
| 2004 | Andrew Christensen et al. | Initial report of largest randomized controlled trial in the CT field is published. |
| 2004 | Michelle Scheinkman Mona Fishbane | "Vulnerability Cycle" article presents influential assessment model for mapping problematic couple patterns and planning treatment. |
| 2006 | Alan Fruzzetti | *High-Conflict Couples* presents use of dialectical behavior therapy principles in working with affectively dysregulated couples. |
| 2009 | Mudita Rastogi and Volker Thomas | *Multicultural Couple Therapy* is an early book addressing CT and varied cultural diversity. |
| 2009 | Douglas Sprenkle, Sean Davis, and Jay Lebow | *Common Factors in Couple and Family Therapy* is the first book on factors in all couple (and family) therapies that affect outcome. |
| 2009 | Carmen Knudson-Martin and Anne Mahoney | *Couples, Gender, and Power* discusses gendered power and inequality in couples and clinical methods to address these issues. |
| 2013 | Mona Fishbane | *Loving With the Brain in Mind* discusses relevance of modern neuroscience research to practice of CT. |

*Note*. CT = couple therapy.

prescriptive matching of problems and interventions, and an increasing awareness of the role of therapeutic common factors, including therapist factors and the therapeutic alliance, that transcend differences among schools.

In addition to this evolving integrationism among couple therapies, the field has recently been and is likely to continue to be actively pursuing the integration of clinically relevant knowledge from a variety of other fields and perspectives. For example, at the macrosystemic level, feminism and multiculturalism (Rastogi & Thomas, 2009) have enriched the practice of couple therapy by expanding therapists' awareness of how societal beliefs about gender, power, and intimacy influence both relational expectations and therapeutic processes (Knudson-Martin & Mahoney, 2009).

Research in areas such as developmental attachment theory (Cassidy & Shaver, 1999; Whiffen, 2003), healthy versus unhealthy couple interactional patterns (Gottman, 1994), and the role of individual psychological disorders in couple conflict (Snyder, Schneider, & Castellani, 2003) has increasingly informed both theory development and clinical practice. Clinically relevant data from the burgeoning field of affective neuroscience and interpersonal neurobiology (Fishbane, 2007) have deepened understanding of how the human brain is wired through close relationships, how relationships affect brain functioning, and how various clinical methods can evoke the neuroplastic potential of the adult brain while simultaneously expanding couples' options and flexibility for emotionally safe and collaborative connections. Such research has already influenced the clinical practices of couple therapists of many theoretical orientations (Gurman, 2010).



## References


Ackerman, N. W. (1970). Family psychotherapy today. *Family Process*, *9*, 123–126. http://dx.doi.org/10.1111/j.1545-5300.1970.00123.x

Baucom, D. H., Epstein, N., LaTaillade, J. J., & Kirby, J. S. (2008). Cognitive–behavioral couple therapy. In A. S. Gurman (Ed.), *Clinical handbook of couple therapy* (4th ed., pp. 31–72). New York, NY: Guilford Press.

Baucom, D. H., Shoham, V., Mueser, K. T., Daiuto, A. D., & Stickle, T. R. (1998). Empirically supported couple and family interventions for marital distress and adult mental health problems. *Journal of Consulting and Clinical Psychology*, *66*, 53–88. http://dx.doi.org/10.1037/0022-006X.66.1.53

Beach, S. R. H., Dreifuss, J. A., Franklin, K. J., Kamen, C., & Gabriel, B. (2008). Couple therapy and the treatment of depression. In A. S. Gurman (Ed.), *Clinical handbook of couple therapy* (4th ed., pp. 545–566). New York, NY: Guilford Press.

Beach, S. R. H., & O'Leary, K. D. (1992). Treating depression in the context of marital discord: Outcome and predictors of response of marital therapy versus cognitive therapy. *Behavior Therapy*, *23*, 507–528. http://dx.doi.org/10.1016/S0005-7894(05)80219-9

Beels, C. C., & Ferber, A. (1969). Family therapy: A view. *Family Process*, *8*, 280–318. http://dx.doi.org/10.1111/j.1545-5300.1969.00280.x

Berg, I. K., & Miller, S. D. (1992). *Working with the problem drinker: A solution-focused approach*. New York, NY: Norton.

Bowen, M. (1978). *Family therapy in clinical practice*. New York, NY: Jason Aronson.

Bowlby, J. (1988). *A secure base*. New York, NY: Basic Books.

Boyd-Franklin, N., Kelly, S., & Durham, J. (2008). African American couples in therapy. In A. S. Gurman (Ed.), *Clinical handbook of couple therapy* (4th ed., pp. 681–697). New York, NY: Guilford Press.

Breunlin, D. C., Pinsof, W. M., Russell, W. P., & Lebow, J. (2011). Integrative problem-centered metaframeworks therapy I: Core concepts and hypothesizing. *Family Process*, *50*, 293–313. http://dx.doi.org/10.1111/j.1545-5300.2011.01362.x

Cassidy, J., & Shaver, P. R. (Eds.). (1999). *Handbook of attachment: Theory, research, and clinical applications*. New York, NY: Guilford Press.

Chambers, A. L. (2008). Premarital counseling with middle class African Americans: The forgotten group. In M. Rastogi & V. Thomas (Eds.), *Multicultural couple therapy* (pp. 217–233). Thousand Oaks, CA: Sage.

Chambers, A. L. (2012). A systemically infused, integrative model for conceptualizing couples' problems: The four session evaluation. *Couple and Family Psychology: Research and Practice*, *1*, 31–47. http://dx.doi.org/10.1037/a0027505

Christensen, A. (2010). A unified protocol for couple therapy. In K. Hahlweg, M. Grawe-Gerber, & D. H. Baucom (Eds.), *Enhancing couples: The shape of couple therapy to come* (pp. 33–46). Gottingen, Germany: Hogrefe.

Christensen, A., Atkins, D. C., Berns, S., Wheeler, J., Baucom, D. H., & Simpson, L. E. (2004).

Traditional versus integrative behavioral couple therapy for significantly and chronically distressed married couples. *Journal of Consulting and Clinical Psychology*, *72*, 176–191.

Cloutier, P. F., Manion, I. G., Walker, J. G., & Johnson, S. M. (2002). Emotionally focused interventions for couples with chronically ill children: A 2-year follow-up. *Journal of Marital and Family Therapy*, *28*, 391–398. http://dx.doi.org/10.1111/j.1752-0606.2002.tb00364.x

DeJong, P., & Berg, I. K. (1997). *Interviewing for solutions*. Pacific Grove, CA: Brooks/Cole.

De Shazer, S., & Dolan, Y. (2007). *More than miracles: The state of the art of solution-focused brief therapy*. Binghamton, NY: Haworth Press.

Dicks, H. V. (1967). *Marital tensions*. New York, NY: Basic Books.

Dimidjian, S., Martell, C. R., & Christensen, A. (2008). Integrative behavioral couple therapy. In A. S. Gurman (Ed.), *Clinical handbook of couple therapy* (4th ed., pp. 73–103). New York, NY: Guilford Press.

Doherty, W. J., & Simmons, D. S. (1996). Clinical practice patterns of marriage and family therapists: A national survey of therapists and their clients. *Journal of Marital and Family Therapy*, *22*, 9–25. http://dx.doi.org/10.1111/j.1752-0606.1996.tb00183.x

Fals-Stewart, W., Birchler, G. R., & O'Farrell, T. J. (1999). Drug-abusing patients and their intimate partners: Dyadic adjustment, relationship stability, and substance use. *Journal of Abnormal Psychology*, *108*, 11–23. http://dx.doi.org/10.1037/0021-843X.108.1.11

Fals-Stewart, W., O'Farrell, T. J., Birchler, G. R., & Lam, W. (2009). Behavioral couples therapy for alcoholism and drug abuse. In J. H. Bray & M. Stanton (Eds.), *The Wiley–Blackwell handbook of family psychology* (pp. 388–401). http://dx.doi.org/10.1002/9781444310238.ch26

Fishbane, M. (2013). *Loving with the brain in mind: Neurobiology and couple therapy*. New York, NY: Norton.

Fishbane, M. D. (2007). Wired to connect: Neuroscience, relationships, and therapy. *Family Process*, *46*, 395–412. http://dx.doi.org/10.1111/j.1545-5300.2007.00219.x

Foucault, M. (1982). The subject and power. *Critical Inquiry*, *8*, 777–795. http://dx.doi.org/10.1086/448181

Fraenkel, P., Markman, H., & Stanley, S. (1997). The prevention approach to relationship problems. *Sexual and Marital Therapy*, *12*, 249–258. http://dx.doi.org/10.1080/02674659708408168

Framo, J. L. (1965). Rationale and techniques of intensive family therapy. In I. Boszormenyi-Nagy & J. L. Framo (Eds.), *Intensive family therapy: Theoretical and practical aspects* (pp. 143–212). New York, NY: Brunner/Mazel.

Framo, J. L. (1981). The integration of marital therapy with sessions with family of origin. In A. S. Gurman & D. P. Kniskern (Eds.). *Handbook of family therapy* (pp. 133–158). New York, NY: Brunner/Mazel.

Freedman, J., & Coombs, G. (2008) Narrative couple therapy. In A. S. Gurman (Ed.), *Clinical handbook of couple therapy* (4th ed., pp. 229–258). New York, NY: Guilford Press.

Fruzzetti, A. E., & Fantozzi, B. (2008). Couples therapy and the treatment of borderline personality and related disorders. In A. S. Gurman (Ed.), *Clinical handbook of couple therapy* (4th ed., pp. 567–590). New York, NY: Guilford Press.

Geertz, C. (1973). *The interpretation of cultures: Selected essays*. New York, NY: Basic Books.

Gingerich, W. J., & Eisengart, S. (2000). Solution-focused brief therapy: A review of the outcome research. *Family Process*, *39*, 477–498. http://dx.doi.org/10.1111/j.1545-5300.2000.39408.x

Gottman, J. M. (1994). *What predicts divorce? The relationship between marital processes and marital outcomes*. Hillsdale, NJ: Erlbaum.

Gottman, J. M. (1999). *The marriage clinic: A scientifically based marital therapy*. New York, NY: Norton.

Greenberg, L., Warwar, S., & Malcolm, W. (2010). Emotion-focused couples therapy and the facilitation of forgiveness. *Journal of Marital and Family Therapy*, *36*, 28–42. http://dx.doi.org/10.1111/j.1752-0606.2009.00185.x

Greenberg, L. S., & Johnson, S. M. (1988). *Emotionally focused couple therapy*. New York, NY: Guilford Press.

Gurman, A. S. (1978). Contemporary marital therapies: A critique and comparative analysis of psychoanalytic, behavioral and systems theory approaches. In T. J. Paolino & B. McCrady (Eds.), *Marriage and marital therapy* (pp. 445–566). New York, NY: Brunner/Mazel.

Gurman, A. S. (2008). Integrative couple therapy: A depth-behavioral approach. In A. S. Gurman (Ed.), *Clinical handbook of couple therapy* (4th ed., pp. 383–428). New York, NY: Guilford Press.

Gurman, A. S. (Ed.). (2010). *Clinical casebook of couple therapy*. New York, NY: Guilford Press.

Gurman, A. S. (2013). Behavioral couple therapy: Building a secure base for therapeutic integration. *Family Process*, *52*, 115–138. http://dx.doi.org/10.1111/famp.12014

Gurman, A. S., & Burton, M. (2014). Individual therapy for couple problems: Perspectives and pitfalls.

*Journal of Marital and Family Therapy*, *40*, 470–483. http://dx.doi.org/10.1111/jmft.12061

Gurman, A. S., & Fraenkel, P. (2002). The history of couple therapy: A millennial review. *Family Process*, *41*, 199–260. http://dx.doi.org/10.1111/j.1545-5300.2002.41204.x

Haaga, D. A., McCrady, B., & Lebow, J. (2006). Integrative principles for treating substance use disorders. *Journal of Clinical Psychology*, *62*, 675–684. http://dx.doi.org/10.1002/jclp.20257

Haley, J. (1963). Marriage therapy. *Archives of General Psychiatry*, *8*, 213–234. http://dx.doi.org/10.1001/archpsyc.1963.01720090001001

Hoyt, M. F. (2008). Solution-focused couple therapy. In A. S. Gurman (Ed.), *Clinical handbook of couple therapy* (4th ed., pp. 259–295). New York, NY: Guilford Press.

Jackson, D. D. (1959). Family interaction, family homeostasis and some implications for conjoint family psychotherapy. In J. Masserman (Ed.), *Individual and family dynamics* (pp. 122–141). New York, NY: Grune & Stratton.

Jackson, D. D. (1965). Family rules: The marital quid pro quo. *Archives of General Psychiatry*, *12*, 589–594. http://dx.doi.org/10.1001/archpsyc.1965.01720360061010

Jacobson, N. S., & Christensen, A. (1996). *Integrative couple therapy: Promoting acceptance and change*. New York, NY: Norton.

Jacobson, N. S., & Gurman, A. S. (Eds.). (1995). *Clinical handbook of couple therapy* (2nd ed.). New York, NY: Guilford Press.

Jacobson, N. S., & Margolin, G. (1979). *Marital therapy: Strategies based on social learning and behavior exchange principles*. New York, NY: Brunner/Mazel.

Johnson, S. (1986). Bonds or bargains: Relationship paradigms and their significance for marital therapy. *Journal of Marital and Family Therapy*, *12*, 259–267. http://dx.doi.org/10.1111/j.1752-0606.1986.tb00652.x

Johnson, S. M. (2004). *Creating connection: The practice of emotionally focused marital therapy* (2nd ed.). New York, NY: Brunner/Routledge.

Johnson, S. M. (2008). Emotionally focused couple therapy. In A. S. Gurman (Ed.), *Clinical handbook of couple therapy* (4th ed., pp. 107–137). http://dx.doi.org/10.1176/appi.books.9781585623648.gg20

Johnson, S. M., Hunsley, J., Greenberg, L., & Schindler, D. (1999). Emotionally focused couples therapy: Status and challenges. *Clinical Psychology: Science and Practice*, *6*, 67–79. http://dx.doi.org/10.1093/clipsy.6.1.67

Knudson-Martin, C., & Mahoney, A. R. (2009). *Couples, gender, and power: Creating change in intimate relationships*. New York, NY: Springer.

LaTaillade, J. J., Epstein, N. B., & Werlinich, C. A. (2006). Conjoint treatment of intimate partner violence: A cognitive behavioral approach. *Journal of Cognitive Psychotherapy*, *20*, 393–410. http://dx.doi.org/10.1891/jcpiq-v20i4a005

Lebow, J. L., Chambers, A. L., Christensen, A., & Johnson, S. M. (2012). Research on the treatment of couple distress. *Journal of Marital and Family Therapy*, *38*, 145–168. http://dx.doi.org/10.1111/j.1752-0606.2011.00249.x

Manus, G. I. (1966). Marriage counseling: A technique in search of a theory. *Journal of Marriage and the Family*, *28*, 449–453. http://dx.doi.org/10.2307/349542

McCrady, B. S. (2012). Treating alcohol problems with couple therapy. *Journal of Clinical Psychology*, *68*, 514–525. http://dx.doi.org/10.1002/jclp.21854

Mittelmann, B. (1948). The concurrent analysis of married couples. *Psychoanalytic Quarterly*, *17*, 182–197.

Monson, C. M., & Fredman, S. J. (2012). *Cognitive–behavioral conjoint therapy for PTSD: Harnessing the healing power of relationships*. New York, NY: Guilford Press.

Nichols, M. P. (1987). *The self in the system*. New York, NY: Brunner/Mazel.

Nichols, M. P., & Schwartz, R. C. (1998). *Family therapy: Concepts and methods*. Boston, MA: Allyn & Bacon.

Norcross, J. C., & Karpiak, C. P. (2012). Clinical psychologists in the 2010s: Fifty years of the APA Division of Clinical Psychology. *Clinical Psychology: Science and Practice*, *19*, 1–12. http://dx.doi.org/10.1111/j.1468-2850.2012.01269.x

O'Farrell, T. J., & Fals-Stewart, W. (2003). Alcohol abuse. *Journal of Marital and Family Therapy*, *29*, 121–146. http://dx.doi.org/10.1111/j.1752-0606.2003.tb00387.x

O'Farrell, T. J., Murphy, C. M., Stephan, S. H., Fals-Stewart, W., & Murphy, M. (2004). Partner violence before and after couples-based alcoholism treatment for male alcoholic patients: The role of treatment involvement and abstinence. *Journal of Consulting and Clinical Psychology*, *72*, 202–217. http://dx.doi.org/10.1037/0022-006X.72.2.202

Orlinsky, D. E., & Ronnestad, M. H. (2005). *How psychotherapists develop: A study of therapeutic work and professional growth*. http://dx.doi.org/10.1037/11157-000

Paolino, T. J., & McCrady, B. (Eds.). (1978). *Marriage and marital therapy*. New York, NY: Brunner/Mazel.

Pinsof, W. M. (2002). Introduction to the special issue on marriage in the 20th century in Western civilization: Trends, research, therapy, and perspectives. *Family Process*, *41*, 133–134. http://dx.doi.org/10.1111/j.1545-5300.2002.41201.x

Rastogi, M., & Thomas, V. (Eds.). (2009). *Multicultural couple therapy*. Los Angeles, CA: Sage.

Rausch, H. L., Barry, W. A., Hertel, R. K., & Swain, M. A. (1974). *Communication, conflict and marriage*. San Francisco, CA: Jossey-Bass.

Rotunda, R. J., O'Farrell, T. J., Murphy, M., & Babey, S. H. (2008). Behavioral couples therapy for comorbid substance use disorders and combat-related posttraumatic stress disorder among male veterans: An initial evaluation. *Addictive Behaviors*, *33*, 180–187. http://dx.doi.org/10.1016/j.addbeh.2007.06.001

Ryle, G. (1990). Thinking and reflecting. In *Collected papers* (Vol. 2, pp. 465–496). London, England: Hutchinson. (Original work published 1971)

Sager, C. J. (1966). The development of marriage therapy: An historical review. *American Journal of Orthopsychiatry*, *36*, 458–467. http://dx.doi.org/10.1111/j.1939-0025.1966.tb02389.x

Sager, C. J. (1967). Transference in conjoint treatment of married couples. *Archives of General Psychiatry*, *16*, 185–193. http://dx.doi.org/10.1001/archpsyc.1967.01730200053008

Satir, V. (1964). *Conjoint family therapy*. Palo Alto, CA: Science and Behavior Books.

Scharff, J. S., & Scharff, D. E. (2008). Object relations couple therapy. In A. S. Gurman (Ed.), *Clinical handbook of couple therapy* (4th ed., pp. 167–195). New York, NY: Guilford Press.

Scheinkman, M., & Fishbane, M. D. (2004). The vulnerability cycle: Working with impasses in couple therapy. *Family Process*, *43*, 279–299. http://dx.doi.org/10.1111/j.1545-5300.2004.00023.x

Seligman, M. E. P. (1995). The effectiveness of psychotherapy. The *Consumer Reports* study. *American Psychologist*, *50*, 965–974. http://dx.doi.org/10.1037/0003-066X.50.12.965

Shadish, W. R., & Baldwin, S. A. (2005). Effects of behavioral marital therapy: A meta-analysis of randomized controlled trials. *Journal of Consulting and Clinical Psychology*, *73*, 6–14. http://dx.doi.org/10.1037/0022-006X.73.1.6

Shoham, V., Rohrbaugh, M., & Patterson, J. (1995). Problem- and solution-focused couple therapies: The MRI and Milwaukee models. In N. S. Jacobson & A. S. Gurman (Eds.), *Clinical handbook of couple therapy* (2nd ed., pp. 142–163). New York, NY: Guilford Press.

Skynner, A. C. R. (1976). *Systems of family and marital psychotherapy*. Oxford, England: Brunner/Mazel.

Skynner, A. C. R. (1980). Recent developments in marital therapy. *Journal of Family Therapy*, *2*, 271–296. http://dx.doi.org/10.1046/j.1467-6427.1980.00532.x

Snyder, D. K., Baucom, D. H., & Gordon, K. C. (2008). An integrative approach to treating infidelity. *Family Journal*, *16*, 300–307. http://dx.doi.org/10.1177/1066480708323200

Snyder, D. K., Castellani, A. M., & Whisman, M. A. (2006). Current status and future directions in couple therapy. *Annual Review of Psychology*, *57*, 317–344. http://dx.doi.org/10.1146/annurev.psych.56.091103.070154

Snyder, D. K., & Mitchell, A. E. (2008). Affective–reconstructive couple therapy: A pluralistic, developmental approach. In A. S. Gurman (Ed.), *Clinical handbook of couple therapy* (4th ed., pp. 353–382). New York, NY: Guilford Press.

Snyder, D. K., Schneider, W. J., & Castellani, A. M. (2003). Tailoring couple therapy to individual differences: A conceptual approach. In D. K. Snyder & M. A. Whisman (Eds.), *Treating difficult couples: Helping clients with coexisting mental and relationship disorders* (pp. 27–51). New York, NY: Guilford Press.

Snyder, D. K., & Whisman, M. A. (Eds.). (2003). *Treating difficult couples: Helping clients with coexisting mental and relationship disorders*. New York, NY: Guilford Press.

Snyder, D. K., & Wills, R. M. (1989). Behavioral versus insight-oriented marital therapy: Effects on individual and interspousal functioning. *Journal of Consulting and Clinical Psychology*, *57*, 39–46. http://dx.doi.org/10.1037/0022-006X.57.1.39

Sprenkle, D. H., Davis, S. D., & Lebow, J. L. (2009). *Common factors in couple and family therapy: The overlooked foundation for effective practice*. New York, NY: Guilford Press.

Stith, S. M., Rosen, K. H., & McCollum, E. E. (2003). Effectiveness of couples treatment for spouse abuse. *Journal of Marital and Family Therapy*, *29*, 407–426. http://dx.doi.org/10.1111/j.1752-0606.2003.tb01215.x

Stuart, R. B. (1969). Operant-interpersonal treatment for marital discord. *Journal of Consulting and Clinical Psychology*, *33*, 675–682. http://dx.doi.org/10.1037/h0028475

Swindle, R., Jr., Heller, K., Pescosolido, B., & Kikuzawa, S. (2000). Responses to nervous breakdowns in America over a 40-year period: Mental health policy implications. *American Psychologist*, *55*, 740–749. http://dx.doi.org/10.1037/0003-066X.55.7.740

Whiffen, V. E. (2003). What attachment theory can offer marital and family therapists. In S. M. Johnson & V. E. Whiffen (Eds.), *Attachment processes in couple and family therapy* (389–398). New York, NY: Guilford Press.

CHAPTER 17

# FAMILY THERAPY

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Family therapy, once viewed as a radical departure from the focus on the individual, is now widely practiced in clinical psychology as well as in other mental health disciplines. Indeed, family interventions are used to treat myriad difficulties and are the leading treatments for a number of different presenting problems and disorders. Moreover, these approaches have accumulated considerable research support. After defining family therapy, we review the history and key accomplishments of the approach; the main principles, methods, and interventions; and research investigating these models. In addition, major accomplishments, limitations, and future directions are discussed.

## DESCRIPTION AND DEFINITION

What is family therapy? One way to define family therapy is to focus on who is seen in treatment. Using this head-count definition, family therapy occurs when one or more family members are seen in together in therapy (Lebow & Gurman, 1995). Thus, for example, therapy involving a parent and a child or a grandmother, daughter, and step-grandson would fall under the umbrella of family therapy, whereas therapy involving one individual or unrelated individuals in a group would not. On the basis of this definition, family therapy most often includes therapy in which family members are seen simultaneously (i.e., conjoint family therapy) but may also include therapy in which family members are seen separately (such as when parents are seen separately from children; that is, concurrent treatment; Lebow & Gurman, 1995).

Although it is parsimonious, many find this head-count definition insufficient. Instead, researchers and family therapists have argued that the critical factor in defining family therapy is not who is in the room but whether the therapeutic focus is on the family system (Lebow & Gurman, 1995). For most today, family therapy is defined as any psychotherapeutic endeavor that explicitly focuses on altering the interactions between or among family members and seeks to improve the functioning of the family as a unit, its subsystems, the functioning of individual family member, or all of these (Gurman, Kniskern, & Pinsof, 1986). Thus, family therapy includes any treatment in which the primary process of change is altering the family system. On the basis of this definition, systemically focused therapy with one person (e.g., Bowen therapy) would be considered family therapy.

Couple therapy is most often considered a subset of family therapy because couple and family relationships share many of same qualities, including attachment, problem solving, communication, and conflict resolution. Moreover, the focus of couple therapy is most often on changing the couple subsystem and thus would be considered family therapy on the basis of the definition given above (Lebow & Gurman, 1995). However, some have argued that couple therapy should be considered a separate entity, given that it may focus on different issues (e.g., sexuality), involve a distinct set of therapeutic skills, and may result in one partner terminating the

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relationship (Alexander, Holtzworth-Munroe, & Jameson, 1994). Because couple therapy is reviewed in Chapter 16 of this volume, we do not review that work here, even though we believe that its similarities to family therapy (suggesting it is best viewed as a subset of it) far outnumber the differences.

## PRINCIPLES AND APPLICATIONS

The most important principle of family therapy is the emphasis of family process in lieu of individual functioning. Guided by general systems theory (von Bertalanffy, 1968), families are conceptualized as exerting a crucial influence on shaping and maintaining individual patterns of behavior. Family therapists envision the whole as being greater than the sum of its individual parts and thus to understand any one part, such as the individual or the marital subsystem, it is necessary to understand the relation of that part to the whole system (e.g., the family; see Volume 2, Chapter 8, this handbook). As a result, within each system (e.g., family), there are mutually influencing subsystems, such as couple or parent–child, that augment each other, such as the system as a whole is greater than the sum of its subsystems. In addition, systems are seen as open with a continuous bidirectional exchange with those outside the system (individuals, families, or other systems).

Family therapists emphasize context. Behavior is also typically understood as serving a function in the context in which the behavior was developed. A classic illustration of this principle cited by Paul Watzlawick et al. (1974) lies in observing that is a man quacking like a duck. At first, without understanding the context of the behavior, it looks eccentric or psychotic. However, when the observer discovers that the man is Konrad Lorenz, a scientist engaged in experiments about imprinting, and placing the behavior in context, it makes sense—it serves a particular function. Understanding behavior in the appropriate context to ascertain its function within a particular system is a founding pillar of family therapy. In the early broad applications of this principle, even the most severe psychopathology was seen as a behavior that made sense within a very pathological family process. As such, family members exhibiting psychopathology or problematic behaviors (i.e., the "identified patients") signaled a problem with the family system (Haley, 1973).

Thus, to ameliorate the difficulties of those who were regarded as the identified patients, interventions targeting the entire family system were seen as critical and those targeting biological or individual factors, even in the case of severe psychopathology, were dismissed (Haley, 1963). More recently, such radical notions of identified patients who carried the problems of the family have been supplanted by more nuanced views of family dynamics that allow more room for the importance of individual mind and personality in family formulations. This evolution is based on the considerable research demonstrating the real impairments associated with psychopathology as well as the role of biological factors in the etiology of psychopathology and the emergence of such problems even in what are otherwise normal families.

Family therapy also highlights a 21st-century view of circular causality, in which recursive patterns of mutual interaction and bidirectional influence are posited (vs. exclusively linear views of causality in which one action causes a reaction). The essence here is an understanding that if one person's behavior affects that of another (e.g., mother responding to a fearful child), it is also important to understand the ways in which the behavior of second person affects the first and a process of mutual influence (e.g., the child's expression of sadness leads to the mother's avoidance of the child's emotion, the mother's avoidance leads the child to increase the intensity of the negative emotion, which further increases the mother's avoidance).

As family therapy has evolved, some have noted the limitations of fully circular notions of causality (Dell, 1986; Goldner, 1985), pointing to the potential negative consequences in some contexts of viewing responsibility as fully shared and equal. For example, in the case of family violence, individual responsibility and linear causality need to be emphasized to prevent the erroneous viewpoint that perpetrators and victims have equal responsibility for violence (McGoldrick, Anderson, & Walsh, 1991).

More recently, there has been general agreement that both linear and circular causal pathways have a place in the understanding of families.

Much of family therapy is also guided by the principle of equifinality, which posits that there are many developmental pathways to the current state of a system and it is that state, rather than the developmental pathway that led to it, that is of importance. Much of the focus of early family therapy was not on the ways in which the current family system developed (e.g., history, individual motivation), but the current state or configuration of the family system. Again, here evolution over time has made for more of a both–and viewpoint in which there is a place for a focus on the present and exploration of the past.

Family therapy has also drawn from the field of cybernetics—the science of communication and control in man and machine (e.g., Weiner, 1961). According to cybernetics, the system is viewed as self-correcting, continually influenced by feedback, and thus can maintain a steady state or pursue goals. A cybernetics perspective emphasizes the importance of feedback, both positive (input that increases deviations from the steady state) and negative (input that reduces deviations from the steady state). Early in family therapy, the integration of general systems theory and cybernetics led to the then widely circulated notion that human systems (i.e., families as well as others) were basically homeostatic or moving toward the reduction of change. Because of this, early family therapies underscored the need for potent dramatic intervention strategies that could overcome homeostasis. More recently, an increased understanding of human systems has led to a greater emphasis on morphogenesis (the natural force moving a system toward change), as compared with homeostasis. This emphasis has very different implications for the practice of family therapy. Specifically, it has led to a shared belief that powerful strategic interventions are not needed. Instead, therapists' goals have more typically become to facilitate a series of small changes that in turn lead to a series of changes throughout the family system, which continue to build over time.

More recent models of family therapy have incorporated research about individuals and individual development within a systematic framework. However, at the core of family therapy is the family system with its mutually influencing parts as well as systemic conceptualizations of human behavior. Although at one time radical, today this focus has accumulated considerable research support and is viewed as one of the great insights into understanding human behavior.

## A BRIEF HISTORY

To understand the development of family therapy, it is essential to briefly review its history. In the first half of the 20th century, when individual psychoanalysis was the zeitgeist, the focus was on the relationship between a single individual and therapist. Family therapy was originally seen as an extension of individual therapy. The focus was not on changing the family (sub)systems but on understanding and altering individuals' patterns of behaviors. As such, relationship difficulties were targeted via individual therapy, because changing each individual behavior was seen as the way to resolve issues underlying relational difficulties. Couple therapy was originally developed to target marital relationship difficulties, but even when couples met in conjoint sessions, the focus was on changing the patterns of each individual. In fact, couple therapy was not well regarded and was rarely referred to as psychotherapy (Gurman & Fraenkel, 2002). During this time, treatment strategies, such as those that evolved into communication skills training, were developed, but such strategies were mostly seen as secondary to the more important work that concentrated on internal process.

During World War II, the increased need for mental health treatment led to experimentation with new methods; one area of exploration was with families, leading to the birth of family therapy. Originally developed in work with families in which one person suffered from severe psychopathology, such as schizophrenia, family therapy became increasingly prominent in the 1950s and 1960s. The originators of the field (e.g., Nathan Ackerman, Ivan Boszormenyi-Nagy, Murray Bowen, James Framo, Jay Haley, Donald Jackson, Salvador Minuchin, Virginia Satir, Carl Whitaker, Lyman Wynne)

underscored the importance of the family system and argued against the dominating individual-based framework. Their work spanned a wide array of interventions, spawning the development of various schools of family therapy.

Subsequently, from the 1960s to the 1970s, several of these first-generation family therapists developed specific theories of family systems. These pioneers of family therapy drew on general systems theory and cybernetics, underscoring the circular nature of causality in which individuals' behavior is dependent on, and mutually influences, the behavior of other individuals and subsystems. This meant that the behavior of those manifesting problems or psychopathology (i.e., identified patients) was seen as developing as a result of problematic systemic family processes; thus, the family became the appropriate treatment context. The varied backgrounds of this first generation of family therapists (e.g., psychoanalysis, anthropology, engineering, communication) led to the development of novel ways of conceptualizing and approaching the treatment of mental health. For instance, Haley (1985) popularized paradoxical interventions in which therapists made suggestions that opposed their goals to elicit psychological reactance and a reverse effect. Other therapists focused on changing families' maladaptive patterns of communication, inspired by anthropology and communication science (e.g., Bateson, 1972; Lidz et al., 1957; Wynne & Singer, 1963). These pioneers of family therapy emphasized systemic concepts with fervor and were highly critical of traditional individual-based methods, which were seen as inefficient (Haley, 1985).

The 1970s and 1980s saw the emergence of different schools of family therapy, some of which incorporated concepts from, and others of which completely rejected most aspects of, individual therapy. Those that incorporated these concepts were largely family transformations of psychoanalytic (Ackerman, 1966), experiential (Whitaker, 1992), and behavioral (Baucom & Epstein, 1990) methods of individual therapy. Those that rejected these concepts focused exclusively on the system, emphasizing family structure (Minuchin, 1974), family homeostasis (Watzlawick, 1978), and intergenerational processes (Boszormenyi-Nagy & Spark, 1973; Bowen, 1978). In these models, the notion of a powerful therapist or "wizard" developed, with therapists performing some version of verbal judo. It was in this era that family therapy gained popularity and acceptance, entering the mainstream of clinical practice.

Subsequently, some of these dominant schools of family therapy were the subject of criticism. Some criticized the exclusive focus on the family as the cause of difficulties and the mechanism of change. As such, some advocated for a redefinition of systemic therapy to include broader social systems in addition to the family (Wynne, McDaniel, & Weber, 1988) and a greater focus on individual personality, which led to the emergence of integrative viewpoints that include the level of the individual (Lebow, 2003), family, and larger social system (Breunlin & MacKune-Karrer, 2002). Other critiques of early family therapy centered on its focus on pathology, leading to new vantage points that emphasize family resilience (Walsh, 2003) over the notion that families are resistant to change (i.e., manifesting homeostasis, the tendency of systems to return to a previous balanced problematic state). Another significant development has been an increased emphasis on therapist–client collaboration (Anderson, 2003) and the personal construction of a narrative (White & Epston, 1989), substantially replacing an earlier notion of the therapist as powerful enactor of change. A final major critique of early family therapy centered on its inclusion of gender-based stereotypes and lack of attention to cultural differences, leading to the development of more egalitarian family therapy (Goldner, 1985; Hare-Mustin, 1992) and adaptations of family therapy for different cultural contexts (Boyd-Franklin, 2003; McGoldrick, 2001; McGoldrick & Hardy, 2008).

Research on families and family therapy also provided evidence that has spurred refinement of theories and interventions. One example is the rejection of the double-bind theory (Bateson et al., 1956) because research has not provided evidence that families produce schizophrenia by simultaneously calling for two contrary ways of being (Goldstein et al., 1989). Instead, research on expressed emotion (EE; high levels of criticism and overinvolvement) has indicated that risk of

recidivism, symptomatology, and dysfunction are higher for individuals with bipolar disorder, schizophrenia, and major depression (Miklowitz, 2004) who reside in high-EE families (vs. low-EE families). This research has spurred the development of integrative psychoeducational interventions that aim to reduce recidivism by targeting EE.

Today, family therapy has established itself as a mature field with research-based interventions targeting relational and individual difficulties within families (Sexton et al., 2011). The field continues to develop in novel concepts, assessment methods, treatment methods, and prevention strategies.



## METHODS AND INTERVENTIONS

### Structural Family Therapy Methods

Salvador Minuchin (1974) developed structural family therapy, which focuses on altering the family structure or the operational patterns through which people relate to one another to carry out functions. Interventions address problems in three primary dimensions of structure: boundaries, alliances, and power. Boundaries include rules that regulate the amount and quality of contact among family members (i.e., who participates and how they participate). The strength of family boundaries varies along a spectrum from rigid to very permeable. Families who have rigid boundaries are disengaged: They are disconnected and act as though they have little to do with each other. In contrast, families who have very permeable boundaries are enmeshed: Their lack of boundaries leads family members to intrude into functions that are the domain of other family members (i.e., violations of function boundaries). Interventions aim to help families to move away from the extremes of disengagement and enmeshment and instead develop flexible boundaries.

Second, interventions aim to replace dysfunctional alliances with functional alliances. Alliances are defined as the joining or opposition of one member of a system to another in carrying out an operation. Alliances may be dysfunctional when fixed or unchanging (stable coalitions) or when they are cross-generational. One example of a dysfunctional alliance is triangulation, which occurs when two family members align with a third member to resolve a process between the original pair (i.e., two parents and a child; Bowen, 1978). Thus, interventions attempt to foster flexible functional alliances by, for example, strengthening the alliance between the parents with one another.

Third, interventions aim to target dysfunctional power distributions. Power represents the relative influence of each family member on the outcome of family activities. When functionally distributed, power resides primarily in the older generation (i.e., executive parental coalition), but in a way that allows all family members to retain some influence. Alternatively, one member or alliance may hold power, or it may be lacking. Thus, interventions attempt to facilitate the development of a functional power distribution.

At the core of structural family therapy is a homeostatic vision of systems. Thus, to change family structure and thereby develop a more functional family structure, therapists attempt to create powerful in-session experiences called *enactments*, in which therapists prompt family members' typical patterns of relating to each other in session (e.g., primary parent–child coalition) with their associated difficult emotional experiences and then try to encourage alternative, more functional ways of relating to each other (e.g., a parental coalition). Enactments aim to restructure the family at moments of crisis and, in doing so, block those opposing forces moving the family toward homeostasis.

Even though the formal practice of structural family therapy as an entity has declined, the structural approach and its methods continue to be highly influential. The importance of boundaries, alliances, and power within family systems is widely accepted, and several of the most effective evidence-based family interventions are based on structural theory and methods. However, some aspects of structural theory, such as the black box model of the individual and the gender-based assumptions regarding the roles of male and female family members, have received substantial criticism. In response and as an evolution of his work, Minuchin (1996) developed a more gender-aware version of the approach that recognizes the importance of family history.

## Strategic Approaches

Strategic approaches, the most purely systemic of the family therapies, aim to change the family system in a brief, efficient, and focused manner. Because change is conceptualized as discontinuous, wherein the family system develops a categorically different way of functioning, therapy ends promptly after this change has occurred (Watzlawick et al., 1974). Given the focus on efficient change, interventions emphasize altering cycles of feedback in the family rather than facilitating insight about the nature of those cycles. Strategic approaches share several intervention strategies. One method highlights the use of a team of observers behind one-way mirrors who offer commentary or directives to the therapist and the family. Another method uses paradoxical interventions in which directives are given that seem to steer the family in the opposite direction from what is desired with the goal of moving them away from that opposing goal.

**Mental Research Institute model.** The Mental Research Institute or Palo Alto model (Watzlawick et al., 1974) was based on a combination of general systems theory, the study of communication, and cybernetics. In this model, family problems are viewed as inevitable and mostly resolved without therapy. Families with problems are seen as often becoming stuck in "more of the same" or repeated unsuccessful family problem-solving efforts that are unlikely to change behavior and may serve to exacerbate problems. Therapy begins by identifying the ways in which problems are maintained by the family system and the rules underlying these behaviors. The goal of treatment is to change these rules or to produce second-order change through interventions such as reframing. In this model, therapy is brief and focused, and the therapist maintains a cool, detached stance to prevent long-term attachment and facilitate termination.

The Mental Research Institute model, although no longer frequently practiced, remains highly influential in the field of family therapy. Several of its core concepts and methods (more of the same, first- and second-order change, viewing families as capable of resolving their difficulties) have been widely accepted in a variety of approaches. Moreover, the use of reframing is an essential part of most family therapy (Alexander & Sexton, 2002).

**Haley's problem-solving therapy.** Jay Haley's (1987) problem-solving therapy combines the strategic paradoxical interventions with the structural family goal of changing family structure, particularly power balances. Problem-solving therapy focuses on understanding and working with the function of behaviors within the system. Several of the intervention strategies Haley used were based on the hypnotic work of Erickson (Haley, 1973) and attempted to facilitate suggestibility and openness to change. For example, in the pretend technique, the therapist asks the parents to pretend to help their children who pretend to be symptomatic.

Haley (1987) has received substantial criticism for his absolute adherence to some of the earliest systemic conceptualizations of family therapy, particularly regarding his views on identified patients. Haley maintained the belief that the root of psychopathology was exclusively a dysfunctional social system, not the result of biology or individual psychopathology, and that identified patients carried symptoms as a result of their function within the family system. Although once seen as a welcome contrast to biological and psychoanalytic formulations, his ideas regarding psychopathology now appear rigid given research highlighting the role of biological and psychological factors in the etiology of psychopathology as well as highly effective family-based psychoeducational treatments that align with these empirical data.

**Milan systemic therapy.** In Milan, Italy, Palazzoli et al. (1977) and their colleagues (Boscolo et al., 1987) developed several different strategic approaches. The classic version (Palazzoli et al., 1977) involves monthly sessions with a therapist team, with one therapist in the room with the family and the others behind a one-way mirror. The team develops a treatment conceptualization that is continuously modified over the course of therapy. During session breaks, the team develops a strategic message that will be given to the family by the therapist in the room, which most often involves positive connotation, prescribing a therapeutic ritual, or both. In positive connotation, dysfunctional

behaviors are reframed in a more positive light, often by highlighting the function of the behavior within the family system. To achieve this and decrease resistance to change, each family member develops a more positive view of his or her own behavior. In this early version of Milan therapy, the therapist remained neutral and therapists used irony and confusion to exaggerate or question family patterns. Other interventions attempted to increase awareness of families' ability to influence and change family patterns and thereby resolve family difficulties; for example, parents alternate who is in control on odd and even days.

Several variants of Milan therapy were subsequently developed. In the most widely disseminated variation created by Boscolo and Cecchin (Boscolo et al., 1987; Cecchin, 1987), the key method was the use of circular questions rather than therapist directives. Circular questions are queries used to raise awareness of differences within the family that may elucidate repetitive family patterns. Through circular questioning, the family is invited to discuss how the present situation and the family's behavior developed and the nature of the systemic patterns that prevent the family from resolving their difficulties. For example, therapists may highlight differences in the perception of relationships ("Who is closer?"), differences before and after an event ("Were you more depressed before or after the birth of the baby?"), and hypothetical differences ("If you had not married, how would your life be different?"). In this variant, the therapist and family collaborate to work on shared goals and a stance of curiosity is seen as one of the most essential ingredients in facilitating change.

The Milan interventions continue to be highly influential, particularly for promoting therapist curiosity and use of circular questions. However, these methods are rarely formally practiced today, nor have they been subject to empirical investigation.

## Solution-Focused Methods

The cornerstone of solution-focused methods is the assumption that clients want to change; thus, interventions aim to initiate families' own processes of problem resolution by introducing new ways of thinking about and approaching difficulties (Achenbach, 2001; Berg & Miller, 1992; de Shazer, 1985, 1988; O'Hanlon, Gilligan, & Price, 1993; Weiner-Davis, 1987). As such, all interventions attempt to encourage clients to think in terms of solutions (vs. problems) and their ability to resolve difficulties (vs. their difficulties resolving them). For example, interventions include increasing awareness of exceptions or times when problems have been absent, increasing clients' awareness of smaller changes to build larger ones, and asking clients to observe things in their lives they would like to continue rather than change. In a similar spirit, de Shazer and other solution-focused therapists used the miracle question: "Suppose one night, while you were asleep, there was a miracle and this problem was solved. How would you know? What would be different?"

Despite little research investigating their effectiveness, solution-focused methods have been widely influential and continue to be practiced. The most influential aspects of these methods have been the emphasis on positive and simple direct solutions. However, this approach has been criticized for the repetitive use of a small set of interventions (e.g., the miracle question) and a simplistic conceptualization of problem development and resolution.

## Cognitive–Behavioral Methods

Given that thoughts and behavior are conceptualized as crucial to functioning in cognitive–behavioral theory, these interventions aim to directly alter patterns of thinking and behavior. Cognitive–behavioral family interventions have been used across diverse presenting problems and forms of psychopathology, but they have most frequently been used in family therapy in the context of child and adolescent behavior problems, particularly for conduct disorder and delinquency.

Within a behavioral paradigm, classical and operant conditioning are the central mechanisms of change. In cognitive–behavioral family therapy, operant conditioning is seen as crucial, particularly in behavioral parent training for child problems, such as conduct disorder. This approach also incorporates social learning theory by emphasizing social reinforcers, because humans are seen as inevitably

affected by reinforcers, especially social ones, and learning directly from experiences that reinforce or punish and through observation (i.e., modeling). Another central method of this approach is skills training to provide knowledge and experiences that promote appropriate social behaviors.

This approach also draws on social exchange theory, which posits that individuals strive to maximize their outcomes to increase rewards received and decrease the costs (Thibaut & Kelley, 1959). As a result, behavior from one person is viewed as being met with a reciprocal behavior from another, such that positive behavior leads to positive behavior whereas punishment leads to punishment. For example, parents and children may develop mutually supportive or mutually coercive social exchanges, emitting positive or punishing behaviors, respectively, to the other. Problematic behaviors are conceptualized to be the result of skill deficits, which are addressed with skills training. In addition, problematic behaviors may be the result of the establishment of coercive exchange. To address these exchanges, interventions aim to increase clients' awareness of exchange patterns, negotiating satisfying exchanges and developing methods for arriving at satisfying exchanges.

Also at the base of this approach are cognitive methods, which strive to directly challenge dysfunctional or irrational thought processes. In a Socratic process, the thoughts and ideas underlying problematic feeling and behavior are examined, emphasizing and increasing awareness of the connection among thoughts, feelings, and behaviors (Beck, 1976). For example, cognitive interventions attempt to increase awareness of and change common cognitive distortions, such as black-and-white thinking or overgeneralization. Homework is often used to monitor and assess beliefs and cognitions as well as to reach behavioral treatment goals (Epstein & Baucom, 2002).

Early cognitive–behavioral family therapy interventions focused on changing behavior, with little integration of systemic methods. For instance, behavioral family therapists simply worked with parents to facilitate the development of more effective parenting practices with the goal of altering their children's behavior. More recently, cognitive–behavioral and systemic methods have been integrated (Christensen & Jacobson, 2000). For example, the Oregon social learning approach (Patterson & Chamberlain, 1994) attempts to change the reciprocal and mutually influencing coercive patterns that often occur in the context of conduct disorder. Interventions address systemic interactions in addition to teaching parents skills.

Initially, cognitive–behavioral family therapy for child problems mostly intervened at the level of the parents, and much of these methods remain centered on working primarily with parents. In behavioral parent training (Bank, Patterson, & Reid, 1987; Kazdin, 2008), the emphasis is on reinforcement as the primary change mechanism. Given that parents control the reinforcers, therapists work with the parents to change how they use these reinforcers.

Treatment begins with an assessment phase designed to elucidate cognitive and behavioral patterns and their connection to problematic behaviors. This assessment is followed by a functional analysis of the problematic behavior and the conceptualization of a treatment plan that outlines the skills and changes in behavioral contingencies that are needed to eliminate the problematic behaviors. Next, varied interventions are used depending on the nature and the extent of the problematic behaviors. When the problematic behavior occurs in one domain, specific contingencies targeting the problematic behavior are developed. When problematic behaviors occur across multiple domains, comprehensive contingency programs are developed (e.g., token economies and point systems). In these programs, children earn and lose credit for positive and problematic behaviors, respectively, and rewards are received for overall performance. Across all programs, positive reinforcement is prioritized over punishment in facilitating behavioral change, and establishing control and developing caring behaviors are priorities.

Behavioral parent training for youths with more severe difficulties builds on methods of parent training but incorporates additional interventions, particularly for dealing with interactions of parents and children. For example, Patterson and Chamberlain (1994) developed strategies for overcoming resistance, including relying on indirect strategies

to decrease reactance rather than direct ones. In the Oregon social learning approach of Patterson, Reid, and Eddy (2002), the focus expanded to include the influence of peers and other relevant systems in addition to focusing on the youths' behavior and intervening with their parents'.

Cognitive–behavioral methods have grown in importance over the years and now represent a substantial segment of family therapy. These methods have the great strength of being highly anchored in evidence for their efficacy. However, they have been criticized for insufficient attention to the meaning of behavior and to the thorny problem of what to do if families do not follow the directives. More recent formulations such as the Oregon social learning approach have been responsive to these criticisms.

## Psychoeducational Methods

The foundation of psychoeducational approaches is the conceptualization that that major forms of psychopathology, such as bipolar disorder, schizophrenia, and major depression, significantly impair functioning and affect family dynamics and that families can reduce the impact of these problems. Thus, psychoeducational interventions seek to establish a collaborative alliance with families and provide families with knowledge about these disorders, the associated impairment, and the family patterns that may be most useful in their amelioration and prevention. In addition, the person with the disorder and the family learn how to improve their collaboration, and the therapist works with the family to develop new skills. Psychoeducational approaches include individual, group, and family formats, and intervention strategies are tailored to the specific form of psychopathology and often combined with psychopharmacology.

Variations of psychoeducation methods have been developed for the treatment of specific disorders. For example, Falloon and Anderson developed methods for families with a member with schizophrenia (Falloon, 1988; Hogarty et al., 1991). Both involved pharmacological treatment and providing education and skills training focused on the empirical finding that individuals with schizophrenia have higher relapse rates when family members are high in criticism and emotional overinvolvement (i.e., EE). The Anderson group at Western Psychiatric Group (Hogarty et al., 1991) sought to reduce or maintain low levels of EE through interventions targeting problematic aspects of family structure, using a minimalist approach in sessions that included the family member with schizophrenia. Families also participated in full-day survival skills workshops in which current research knowledge about schizophrenia was presented with the aim of increasing families' knowledge about the disorder and level of social support and preventing the negative interactions that mental health providers sometimes have with families of individuals with serious psychopathology. In the Falloon group's approach (Falloon, 1988), interventions also aimed to reduce EE, but behavioral skills training was equally as important.

Both models reported substantial decreases in relapse rates and symptom levels in clinical trials. On the basis of these interventions, Miklowitz (2007) developed a similar approach to targeting EE, family-focused therapy for bipolar disorder, which has also accumulated substantial evidence demonstrating its efficacy and effectiveness. Family psychoeducational methods have been used in many other domains, such as in families with serious physical health problems, and also have shown to have a considerable impact on functioning and morbidity in these contexts (McDaniel & Speice, 2001).

## Bowen Therapy and Intergenerational Methods

Bowen family systems therapy (Bowen, 1978) integrated systemic approaches with a focus on intergenerational processes. Bowen methods focus on the level of self-differentiation (i.e., the ability to distinguish between emotions and cognitions) because it is seen as the foundation of psychological and systemic health. As such, interventions attempt to promote individuals' differentiation from pathological family processes so that they are less likely to succumb to the pathology-inducing aspects of the family system. In addition, methods focus on intergenerational processes. Specifically, methods aim to interrupt the transmission of an undifferentiated

family ego mass of emotions and beliefs within families through a family projection process across generations. Additionally, methods work to increase awareness of the impact of such family factors as birth order and engagement in triangles (in which the interaction of a dyad is affected by a third party), which are seen detrimental to individual development.

Bowen family systems therapy typically occurs with only one client in focus at a time. Family interactions are examined in and out of session to increase clients' awareness of family history, family processes, and their experiences during these processes to facilitate the development of new ways of coping within the family system. In session, individuals explore their family relationships through conversations with the therapist. Out of session, clients are encouraged to examine their relationships with their family of origin and to act differently in those relationships. A central goal in this therapy is differentiation of self from past and present family patterns and management of anxiety regarding family interactions and issues. Common methods include the use of genograms, or diagrams of the multigenerational family systems of individuals, which are used to increase awareness of family history and processes, develop treatment goals, and identify targets for exploration. In addition, individuals may contact living relatives, and efforts are made to learn about deceased family and experience the feelings toward these individuals. Although Bowen therapy once had a considerable following, there are now fewer practitioners of this approach. There has also been little empirical investigation of the impact of this approach.

Several other related approaches also focus on examining the intergenerational process. For example, Imber-Black (1991) established an approach that uses methods to develop family rituals that serve a cathartic function for coping with the emotional turmoil resulting from multigenerational legacies. In another approach, called the contextual approach, interventions focus on clients balancing the ledger carried over from the family of origin (what has been given and received by each family member; Boszormenyi-Nagy & Spark, 1973). Although specific multigenerational therapies are now less often practiced than earlier, many of the methods used in these approaches have migrated into typical family therapy practice.

## Psychodynamic Methods

Some early treatments merged systems and psychodynamic methods (e.g., Ackerman, 1970; Framo, Weber, & Levine, 2003; Sager, 1967), and more recent formulations have placed object relations at the center of family treatment (e.g., J. S. Scharff & Bagnini, 2002). Psychodynamic family approaches share many characteristics and interventions. First, they emphasize the active dynamic internal process of individuals, underscoring the central importance of unconscious mental processes and the instrumental role of early experience in influencing subsequent experiences. Second, these interventions highlight the importance of maintaining the frame of treatment or the formal arrangements of treatment, such as frequency, time, and session length. For example, an appropriate frame is seen as essential to the development of a holding environment, in which therapists tolerate clients' anxieties and tensions and provide empathy for their clients' emotional experiences (D. E. Scharff & Scharff, 1987). Third, transference, or clients' displacement or projection onto others of feelings, impulses, defenses, conflicts, and fantasies from important past relationships, are seen as the royal road to understanding the unconscious. In psychodynamic family therapy, transferences and projections are observed in relation to other family members, particularly partners, as well as in relation to the therapist. Fourth, countertransference, or the sum of all the therapist's feelings toward the client, is seen as a key source of information about the client. Projective identification, in which the therapist may feel or behave similarly to the manner in which others have behaved toward or felt about the client, is seen as particularly informative in facilitating awareness of family processes and experiences. Finally, in psychodynamic family therapy, interpretations are used to give meaning to behavior by shedding light on underlying unconscious processes. Interpretations are also seen as key to understanding and processing resistance to change, which interferes with the change process.

Family-of-origin sessions for adults have been one special variation on psychodynamic family treatment (Framo, 1992). In these sessions, individuals meet with their own family of origin to facilitate greater understanding of and work through unresolved family-of-origin issues.

Although purely psychodynamic family treatment is becoming increasingly rare, many aspects of psychoanalytic principles and strategies, including the importance of the therapeutic alliance, interpretation, and resistance, permeate integrative models of couple and family therapy models. Although influential in their concepts, psychodynamic therapies have rarely been empirically evaluated.

## Experiential Approaches

The core of experiential approaches is the importance of the felt experience of clients and, as such, it is the emotional moments that occur in session that are emphasized and viewed as essential in the change process. Prominent family experiential approaches have been developed by Whitaker (Whitaker & Bumberry, 1988) and Satir (1988). Despite their common focus on clients' in-session emotional experiences, these approaches use different intervention strategies. Whitaker used varied techniques with the goal of eliminating emotional deadness, ranging from providing a provocative commentary on the family's life and conflicts to physically wrestling with clients. Satir developed family sculptures in which family members were moved around to depict relationships in the family and trust building. Whitaker's and Satir's methods were highly influential in shedding light on importance of the person of the therapist and the need to maintain liveliness and authenticity in the therapy. This influence continues to be felt, even though practice of these approaches is now limited.

## Poststructural Therapies

At the foundation of narrative and other poststructural therapies is the notion that life is largely constructed through the stories people hold about their lives (Gergen, 1991). Most family narrative approaches are based on social constructivism, which posits that knowing is socially constructed though language and discourse and depends on the context of the observer. As such, methods focus on collaboratively reconstructing life narratives and stories of accomplishment to replace problem-oriented narratives. Social constructivism also emphasizes that voices of the less powerful and privileged must be heard as well as those in the dominant culture. Consistent with this, the narrative method often stresses the freeing of repressed voices (rather than simply opening discourse) and the promotion of social justice when reconstructing one's life narrative. For instance, narrative approaches propose that the narrative needs to be as much about overcoming societal oppression as about family process (e.g., White & Epston, 1989).

Although the various poststructural approaches share core ideas, these approaches vary considerably. For example, Michael White's methods (White & Epston, 1989) focus on externalizing problems or seeing them as separate from the individuals involved, as well as increasing awareness of the positive outcomes achieved by individuals when problems are overcome. Goolishian and Anderson (1992) highlighted the notion that therapists and clients are equal conversation partners, replacing the idea of the expert therapist. Narrative models are widely practiced. Even beyond those who identify as narrative therapists, many family therapists have been greatly influenced by these methods, working in a treatment frame that emphasizes a coequal collaborative conversational style and accentuating the importance of client's voice in helping clients to revise their life narratives. However, these therapies have been the subject of few empirical evaluations.

## Integrative Methods

Integrative models merge the raw material of the different approaches at three distinct levels: theory, strategy, and intervention. These approaches have been widely disseminated (Gurman, 2002; Liddle et al., 2005; Pinsof, 1995) and have accrued a considerable literature (Breunlin et al., 2011; Lebow, 2006, 2014). There is considerable variation in the content of integrative interventions.

For example, some approaches offer highly structured therapeutic timelines and ingredients, for

example, multidimensional family therapy (Liddle et al., 2005), whereas others emphasize each therapist's building of a personal method (Lebow, 2003). Other models, such as Breunlin et al.'s (2011) integrative problem-centered metaframeworks or Gurman's (2002) integrative marital therapy, offer a balance, flexibly prescribing methods.

Many integrative models merge behavioral concepts of learning, a systemic understanding of the family process, and individual psychodynamics. For example, in integrative problem-centered therapy (Pinsof, 1995), behavioral and biological interventions are used first, followed by cognitive and emotion-based interventions, and then object relations and self-psychological exploration strategies as needed. In a somewhat different approach, Fraenkel (2009) conceptualized his approach in terms of a therapeutic palette including similar ingredients to be drawn from as needed.

Integrative interventions have also been developed to address specific presenting problems and specific populations, including people who have experienced physical abuse (Goldner et al., 1990) or child sexual abuse (Sheinberg, True, & Fraenkel, 1994); families with physical illness (Rolland, 1994; Wood, 1993; L. M. Wright & Leahey, 1994); depression (Addis & Jacobson, 1991); sex therapy (Kaplan, 1974); families with young children (Wachtel, 2004); and alcohol use disorder (Steinglass, 1992). Several approaches target adolescent delinquency and chemical dependency, including multidimensional family therapy (MDFT; Liddle et al., 2001), functional family therapy (FFT; Alexander & Sexton, 2002), multisystemic therapy (Henggeler et al., 1998), and brief strategic family therapy (Szapocznik & Williams, 2000).

MDFT (Liddle et al., 2005), developed for the treatment of adolescent substance abuse, combines components of structural and strategic family therapy, individual developmental psychology, cognitive–behavioral therapy, and traditional education-oriented substance abuse counseling. In this approach, adolescent drug abuse is seen as a multidimensional phenomenon, and change is thus conceptualized as multidetermined and multifaceted. MDFT interventions are individualized, phasic, and flexible. Some interventions target the individual adolescent (e.g., communication skills training, interpersonal problem solving, emotion regulation skills; Liddle, 1999), and others target the parents (enhancing parent–child connection, parenting strategies). Sessions with both parents and children are included with the goal of altering family interaction patterns, and other interventions are directed to other family members and relevant external social systems. Cultural adaptations of this approach have been developed (Jackson-Gilfort et al., 2001; Liddle, Jackson-Gilfort, & Marvel, 2006).

FFT was developed to treat adolescent delinquency and has been extended as an intervention prevention approach to address a wide array of adolescent problems, such as substance abuse, conduct disorder, mental health concerns, and related family problems (Alexander & Sexton, 2002). The goal of FFT is to understand the function of the problematic behavior in the family system. FFT is a short-term treatment consisting of three treatment phases. In the engagement and motivation phase, alliance building, reducing negativity and blame, and developing a shared family focus of the presenting problems are the focus. In the behavior change phase, skills are directly taught (e.g., communication, parenting, and problem solving) to make individualized positive changes. In last phase, generalization, the focus is on the maintenance and extension of the positive changes developed within the family to other systems.

Multisystemic therapy is designed to address problems affecting youths, including violent criminal behavior, substance abuse, sexual offending, and psychiatric emergencies (Henggeler et al., 1998). This approach merges an individual developmental perspective with concepts from structural and behavioral family therapy. The multiple interconnected systems in adolescents' lives are emphasized and, as such, multisystemic therapy works with adolescents, their families, and all relevant systems (e.g., peers, school, neighborhood, community agencies). This time-limited intensive treatment often occurs in families' homes, with the goal of increasing engagement and reducing dropout. Interventions strive to develop skills and achievement in multiple systems by increasing monitoring by caregivers, decreasing involvement with delinquent and

drug-using peers, promoting school performance, and using cognitive–behavioral therapy strategies for ameliorating anxiety and depression (see Henggeler, Sheidow, & Lee, 2009).

Brief strategic family therapy (Szapocznik & Williams, 2000) was developed in Latino communities, and versions for other cultural contexts, such as in Black–African American families, have subsequently been formulated (Szapocznik, Muir, & Schwartz, 2013; Szapocznik & Williams, 2000). Brief strategic family therapy integrates structural and strategic theory and intervention strategies with the goal of changing the systemic interactions that are associated with the adolescents' behavioral problems. It is a short-term, present-focused treatment based on three central principles—system, structure, and strategy. Treatment occurs in clinical and home settings. All interventions are idiographic, problem focused, and based on a well-developed case conceptualization and treatment plan. Examples include proactive joining efforts, diagnosis and restructuring of family interactional patterns, reframing, and working with boundaries and alliances.

Today, most family therapists practice in an integrative or eclectic way, drawing on the many useful methods that have been developed within the specific approaches to family therapy. Although practitioners of specific orientations remain, even those who identify with a specific approach are likely to use an integrative approach or at least draw from other methods in addition to their core orientation.

## RESEARCH EVIDENCE AND LANDMARK CONTRIBUTIONS

A growing body of research has supported the efficacy of family therapy (for recent reviews, see Baldwin et al., 2012; Carr, 2014a, 2014b; Heatherington et al., 2015; Lebow, 2014; Meis et al., 2013; Snyder & Halford, 2012). Moreover, family therapies produce clinically significant changes in approximately 40% to 70% of those who receive treatment (Lebow et al., 2012; Shadish & Baldwin, 2003).

Overall, research has suggested that family interventions produce clinically significant change across a number of different approaches and has not indicated that one approach is more effective than the others (e.g., Shadish & Baldwin, 2003). Similarly, compared with other treatment modalities, such as individual-based treatment, family therapies appear to be equally effective and may be more effective in some cases (e.g., Baldwin et al., 2012; Meis et al., 2013; Shadish & Baldwin, 2003). Notably, evidence has also shown that family interventions are superior to individual-based treatments when longer follow-up periods are considered, suggesting that these treatments may be superior in maintaining treatment gains (e.g., Couturier, Kimber, & Szatmari, 2013; von Sydow et al., 2013).

In terms of cognitive–behavioral family-based interventions, parent management training (Kazdin, 2008) for conduct-related problems has substantial support, in both the Kazdin (2008) and the Oregon models. Overall, research has suggested that parent management training significantly improves youth behavior across many domains, reduces youth conduct-related problems to nonclinical levels, and has a positive impact on other aspects of the family system (Kazdin, 2010).

Integrative family approaches have also garnered impressive bodies of research, particularly in the treatment of youths with behavior problems. These models include brief strategic family therapy (Szapocznik & Williams, 2000), multisystemic therapy (Henggeler et al., 1998), FFT (Sexton & Alexander, 2005), and MDFT (Austin, Macgowan, & Wagner, 2005). Recent meta-analyses of these approaches have concluded that these treatments are superior to other approaches for childhood externalizing problems, producing long-lasting change in a variety of domains, and that one approach is not superior than the others, particularly in the treatment of youths with behavior problems (Baldwin et al., 2012; von Sydow et al., 2013).

Psychoeducational treatments also have extensive support. Family-focused treatment for adolescents and adults with bipolar disorder has demonstrated efficacy in many randomized controlled trials. For example, in a randomized controlled trial of adults with bipolar disorder, those who received family-focused therapy showed greater reduction in mood disorder symptoms and

lower relapse rates than individuals who received crisis management (Miklowitz, 2007). Similarly, in a 2-year randomized controlled trial of adolescents with bipolar disorder, adolescents who received family-focused therapy showed reductions on several indexes of depression (e.g., shorter times to recovery, less time in episodes, lower severity) compared with adolescents who received medication and three sessions of family psychoeducation. An interesting finding is that family EE moderated the impact of FFT on the 2-year symptom trajectory of adolescent bipolar disorders, with high-EE families demonstrating greater response than adolescents with low-EE families, suggesting that treatment may disentangle the longitudinal link between family stress and mood dysregulation (Miklowitz, 2004). Notably, a 15-site community trial of family-focused therapy suggested that this intervention can be exported to community settings in which clinicians have little previous exposure to manual-based interventions (Miklowitz, 2007). Recent efforts have also expanded generalizability, showing that FFT also improves family functioning among families at high risk for the development of psychosis (O'Brien et al., 2014).

Psychoeducational treatments for people with schizophrenia also have an extensive base of research support (Harvey & O'Hanlon, 2013). Meta-analytic reviews have indicated that psychoeducational family interventions significantly reduce relapse and hospitalization rates among individuals with schizophrenia (Pitschel-Walz et al., 2001) and are more effective at reducing relapse rates and noncompliance and increasing medication compliance than cognitive–behavioral therapy, social skills training, and cognitive remediation (Pilling et al., 2002). In addition, psychoeducational family interventions reduce perceived family burden and costs to society; improve family knowledge about schizophrenia, compliance, and quality of life; and reduce EE (Pitschel-Walz et al., 2001).

## KEY ACCOMPLISHMENTS

1. Family therapy has focused psychologists and psychotherapy on the importance of systemic patterns in families. For generations, to think about treatment was simply to focus on the individual. Family therapy has radically broadened this horizon to the family and even beyond to the larger system.
2. Family therapy has drawn on a solid base of relationship science (Lebow, 2014) and theoretical models to create a set of efficacious methods for addressing relational difficulties. These methods have emerged in efficacy studies as the most effective means for addressing relational difficulties and have also shown promise in real-world effectiveness studies.
3. Family therapy has been shown to have value in the treatment of individual psychopathology. This is especially the case in the context of mental disorders in which there are devastating effects for family as well for the individuals with the disorder and in which how family responds plays a key role in whether they cope or do not cope with the illness. For example, research on the impact of EE in families and efforts to ameliorate it have had vital implications for the treatment of schizophrenia and bipolar disorder (e.g., Harvey & O'Hanlon, 2013).
4. Family therapy has promoted the assessment of family relational factors that matter a great deal in individual as well as in system functioning. This has led to the development of many state-of-the-art methods for assessing family functioning, including questionnaires, interviews, and observational coding systems (Lebow & Stroud, 2012). These measures have been instrumental in evaluating the effectiveness of family therapy interventions in clinical trials and are also useful to practicing clinicians.
5. Family therapy has created a unique set of relational-based methods, which are highly impactful in the relationship context. For example, methods such as reframing, skills training, problem solving, changing cognitions and emotions, acceptance, changing family structure, altering triangulation, the genogram, family rituals, and paradoxical directives come from a diverse set of theoretical models and have been shown to have a positive impact on accomplishing goals in family therapy.
6. Family therapy has extended many concepts from the psychology of the individual into the

relational context. Several classic common factors have also accrued support as key predictors of change across varied family therapy approaches, such as the alliance (e.g., Friedlander et al., 2011), attending to stages of change (Lebow, 2014), and providing feedback (e.g., Pinsof & Chambers, 2009).

7. Family therapy has been a context in which culture, gender, and sexual orientation came into focus sooner than in other areas of psychotherapy. Today, most family therapy methods emphasize an understanding of gender, adaptation to client culture, and full equal regard for all family forms. Several specific adaptations for treatments have been targeted to particular cultural groups, such as models for working with African Americans developed by Boyd-Franklin (2003) and for U.S. Latinos by Falicov (2014) and Szapocznik and Williams (2000). Moreover, several treatments, such as in MDFT, also include treatment adaptations based on the specific culture of the families involved. Yet other approaches, such as the narrative approaches based in social constructivism, embed efforts to increase understanding of the destructive aspects of the dominant culture's beliefs and concepts of social justice into their work with families (White & Epston, 1989).
8. Family therapy presents a cost-effective means for service delivery because several individuals are treated in a single session. Research has indicated that family therapies are highly cost effective, reducing the health care costs of all family members who participated in therapy in the year after therapy, even individuals who were not the focus of treatment (e.g., Crane, 2011)
9. Family therapy has promoted a more flexible view of family, which has migrated to much of the larger society in the Western world. Original formulations of successful families—defined by two-parent, heterosexual nuclear families—have been replaced by recognition of the variety of family forms, including, for example, families with lesbian, gay, bisexual, transgender, and queer parents, step-families, families in which there is one parent living with children, and cultural variations on family structure. Accompanying this has been an understanding that family functioning needs to be evaluated in the context of the particular family form and family culture.

## LIMITATIONS AND CONTRAINDICATIONS

In spite of many accomplishments in the field of family therapy over its relatively short history, these approaches also have limitations and contraindications.

### Limitations

Moving beyond the unbridled optimism of the first generation of family therapists, we clearly must acknowledge today that family therapy does have limitations. Some represent developmental challenges for the field, remaining readily amenable to being mitigated with further exploration (e.g., research evidence available for specific treatments), whereas others are intrinsic limitations of this form of practice (e.g., acceptability among certain client populations and funders).

**Workforce.** Family therapy is now widely practiced, but it is not a part of the practice of the majority of psychologists and other mental health practitioners. This means that the need for family therapy service often goes unrecognized and that many clients who might optimally undergo family therapy wind up in some other form of treatment, if any. Clearly, there is a need for the expansion of the family therapy workforce. This is especially the case for the highly effective evidence-based methods that offer services in client homes.

**Client availability and preference.** Family therapy is a highly effective set of therapies. However, it is also a set of therapies that are much different than individual therapies and may not fit well with some clients' vantage points on treatment. Although for some it is preferable and natural to work in the family context, for others the sharing of personal thoughts and feelings may be very foreign and threatening. Furthermore, assembling families at the same time and place is not an easy task. Much family therapy is done after ordinary work hours when families can be assembled; these times are often inconvenient for therapists. Given such accessibility

issues, some of the most effective family therapies, such as MDFT, are largely conducted in clients' homes, presenting further logistical problems for therapists. All this added work has considerable payoff, but therapists and families must be prepared to deal with inconvenience and the complexities that evolve from therapies in which multiple clients participate.

**Attention to ethnicity and culture.** Culture influences family treatment in a variety of ways, including, for example, the optimal ways for forming alliances, deciding on treatment goals, and the impact of specific therapeutic strategies. Many in the field have continued to highlight the need for further attention to culture in the context of many family therapies, drawing awareness to the continuing challenge of adapting practice to various cultural contexts (Boyd-Franklin, 2003; McGoldrick, 2001; McGoldrick & Hardy, 2008). Despite the numerous examples of the integration of culture into treatment approaches, this area remains in need of further exploration and development, given the widening range of cultures in which family therapy is now practiced as well as the increasing diversity of families.

**Outcome research of treatments.** Although we have highlighted research supporting many family therapies, some approaches have very little support but continue to be widely practiced. For example, little outcome research exists for object relations, narrative, solution-focused, and strategic approaches, as well as for family therapy's impact on specific problems, such as child abuse, anxiety, and personality disorders (e.g., Carr, 2014a, 2014b; Lebow et al., 2012; Meis et al., 2013). This list is not meant to be exhaustive but to highlight a limitation in the field today.

It is important to highlight the need to continue to evaluate treatments in real-world settings because this represents a large limitation in the field. Patient samples are frequently not representative of the general population. For example, J. Wright et al. (2007) rated couple therapy outcome studies on clinical representativeness as only fair. Moreover, many have noted how exclusion criteria in the selection of participants for clinical trials can substantially reduce the generalizability of findings (Rogge et al., 2006), and others have highlighted the need to clearly describe exclusion criteria in outcome studies so that generalizability can be evaluated (Meis et al., 2013). Clearly, more studies are needed that evaluate the effectiveness of evidence-based interventions in community settings with real patients and real therapists, along with all of the barriers of providing therapy in uncontrolled settings.

## Contraindications

Although family therapy is effective for a wide array of problems, there are also situations in which it may not be safe, effective, or feasible. For example, in cases in which there is physical or emotional danger in bringing individuals together, such as in cases of family violence or high conflict, it may be unsafe to conduct joint sessions. However, family therapy may still have utility even in these situations given the right preparation or format, such as seeing a mother and children in a family in which the father has been abusive or each of two divorced parents and their children separately.

Family therapy may be contraindicated when there are not family members nearby with whom to engage in treatment, which is all too often the case in today's mobile world (here videoconferencing family therapy holds promise to lessen this problem, presuming licensing challenges can be transcended). Furthermore, although everyone typically has some family somewhere, those people may not be particularly germane to the experience of the individual experiencing a problem. Whereas in the early days of family therapy the mantra was to always find family for therapy, for most family therapists today there is room for therapies focused on family, as well as those focused on individuals, when family is not available or relevant to the problem or solution.

When one client holds a major secret that he or she is unwilling to share with the family, such as an extramarital affair, the family context may also prove problematic because the core information needed on which to base the therapy is not available. Family therapy may also not be possible when there are scheduling difficulties that make family meetings impossible or when family members are unwilling to participate in treatment. In many cases, family

therapy would clearly be the preferred mode of treatment, but it is simply not possible to assemble the family because of practical difficulties or the low acceptability of this format on the part of some family members.

Finally, family therapies require considerably different skill sets than individual therapies. Training in family therapy is often limited even in excellent clinical training programs. Although family therapies are often the most effective methods for intervening with problems, especially for conjoint problems such as relational distress, all methods of therapy presume a competent well-trained therapist. As such, these methods are not likely to be successfully carried out without training and experience with family therapy.

## FUTURE DIRECTIONS

In looking to the future of family therapy, a number of clear directions for advancement emerge. These have to do with the expansion of availability of couple and family therapy, and the integration of its core systemic vision and its methods into the broader health care and mental health care marketplace.

### Expansion of Access to Family Therapy

Family therapy is a rapidly expanding modality. As more evidence-based treatments accrue and more clients are able to avail themselves of those treatments because of greater practitioner accessibility, the frequency of practice will increase enormously. This expansion is further fueled by the movement toward methods that work with different family members in different meetings and thus do not demand as much in the way of demand on all family members. Moreover, incorporating new approaches to technology, such as conducting sessions in which some family members appear via Skype, will help to overcome some of the barriers inherent in getting family members involved in treatment.

### Integrative Practice

Movement is clearly toward a more integrative vision of family therapy that builds on common factors and shared intervention strategies that cross specific theories. There is far more attention now to building a core set of family therapy skills and moving away from practitioners skilled in only one family therapy approach.

### Less Radical Boundaries With Individual Practice

Family therapy began as a radically different form of therapy, rejecting most of what was known in other forms of individual and group therapy. Clearly, in the future, the trend for family therapy to be a treatment modality that blends with other treatments rather than stands in radical opposition to them will continue. Practitioners clearly need conjoint treatment skills, but many therapists can be expected to acquire these skills as well as skills in treating individuals.

### Treatment of Comorbid Individual and Relational Problems

The importance of relational difficulties and their widespread co-occurrence with individual psychopathology are now widely recognized (Whisman, 2007). The role of family therapy is already well established in the treatment of a number of individual psychopathological problems. Its role as an effective format for treatment of relational difficulties, which co-occur with individual difficulties and sometimes underlie those difficulties, and of other individual psychopathology can be expected to grow. So too will the importance of treating relational difficulties themselves, for which family therapy is clearly the treatment of choice.

### Evidence-Based Treatments

An expansion in evidence-based treatments will also clearly continue and is especially likely to occur for hard-to-treat problems and difficult-to-reach populations. We have already seen the development of therapies that treat in their homes families who would not be open to other therapies. Given the impact of such treatments on outcome, they are expected to proliferate.

### More Family Psychologists and Training Programs

Given all of these developments and the clear need, it is also likely that the specialty of family psychology will radically expand, as will the number of

clinical psychologists who specialize in family therapy. In tandem will be the expansion of training in family therapy in graduate and postgraduate psychology programs.

## Dissemination of Outcome Research

Family therapists and family researchers have recently begun to dialogue meaningfully, suggesting that the notable gap between research and practice may narrow. However, dissemination of research findings to clinicians remains a priority to further narrow the science–practice gap. At the same time, it is important to continue to improve body of research examining interventions, such as by evaluating the effectiveness of treatments in producing clinically significant and meaningful changes in real-world settings with diverse populations, so that research findings are useful to practicing therapists (e.g., Sexton et al., 2011). Moreover, to narrow this gap empirically based models must be accessible to clinicians (e.g., cost of materials and training; Baldwin et al., 2012) and students must receive training in conducting evidence-based treatments (Carr, 2014a, 2014b).

## Continual Development and Refinement of Models and Interventions

The field needs to continue to develop and refine treatment strategies. Process research examining key moments in therapy, mechanisms of change, moderators of change, and the patterns through which change unfolds is likely to be very helpful in enabling such refinements.

Another way to continue to advance the field is through evaluating and testing the underlying principles of change that cut across the different approaches. Integrative approaches and methods, such as those based on common factors or transtheoretical principles of change (Breunlin et al., 2011) and methods that incorporate ongoing assessment of progress into treatment (Pinsof et al., 2009) look to be especially promising for improving treatment effectiveness and acceptability.

## References


Achenbach, T. M. (2001). What are norms and why do we need valid ones? *Clinical Psychology: Science and Practice*, *8*, 446–450. http://dx.doi.org/10.1093/clipsy.8.4.446

Ackerman, N. W. (1966). *Treating the troubled family*. New York, NY: Basic Books.

Ackerman, N. W. (1970). *Family therapy in transition*. New York, NY: Little, Brown.

Addis, M. E., & Jacobson, N. S. (1991). Integration of cognitive therapy and behavioral marital therapy for depression. *Journal of Psychotherapy Integration*, *4*, 249–264.

Alexander, J. F., Holtzworth-Munroe, A., & Jameson, P. B. (1994). The process and outcome of marital and family therapy: Research review and evaluation. In A. E. Bergin & S. L. Garfield (Eds.), *Handbook of psychotherapy and behavior change* (4th ed., pp. 595–630). New York, NY: Wiley.

Alexander, J. F., & Sexton, T. L. (2002). Functional family therapy: A model for treating high-risk, acting-out youth. In F. W. Kaslow & J. L. Lebow (Ed.), *Comprehensive handbook of psychotherapy: Vol. 4. Integrative/eclectic* (pp. 111–132). New York, NY: Wiley.

Anderson, H. (2003). Postmodern social construction therapies. In T. L. Sexton, G. R. Weeks, & M. S. Robbins (Eds.), *Handbook of family therapy: The science and practice of working with families and couples* (pp. 125–146). New York, NY: Brunner-Routledge.

Austin, A. M., Macgowan, M. J., & Wagner, E. F. (2005). Effective family-based interventions for adolescents with substance use problems: A systematic review. *Research on Social Work Practice*, *15*, 67–83. http://dx.doi.org/10.1177/1049731504271606

Baldwin, S. A., Christian, S., Berkeljon, A., & Shadish, W. R. (2012). The effects of family therapies for adolescent delinquency and substance abuse: A meta-analysis. *Journal of Marital and Family Therapy*, *38*, 281–304. http://dx.doi.org/10.1111/j.1752-0606.2011.00248.x

Bank, L., Patterson, G. R., & Reid, J. B. (1987). Delinquency prevention through training parents in family management. *Behavior Analyst*, *10*, 75–82.

Bateson, G. (1972). *Steps to an ecology of mind: Collected essays in anthropology, psychiatry, evolution, and epistemology*. Chicago, IL: University of Chicago Press.

Bateson, G., Jackson, D. D., Haley, J., & Weakland, J. (1956). Toward a theory of schizophrenia. *Behavioral Science*, *1*, 251–264. http://dx.doi.org/10.1002/bs.3830010402

Baucom, D. H., & Epstein, N. (1990). *Cognitive–behavioral marital therapy*. Levittown, PA: Brunner/Mazel.

Beck, A. T. (1976). *Cognitive therapy and the emotional disorders*. New York, NY: International Universities Press.

Berg, I. K., & Miller, S. D. (1992). *Working with the problem drinker: A solution-focused approach*. New York, NY: Norton.

Boscolo, L., Cecchin, G., Hoffman, L., & Penn, P. (1987). *Milan systemic family therapy: Conversations in theory and practice*. New York, NY: Basic Books.

Boszormenyi-Nagy, I., & Spark, G. M. (1973). *Invisible loyalties: Reciprocity in intergenerational family therapy*. New York, NY: Harper & Row.

Bowen, M. (1978). *Family therapy in clinical practice*. Oxford, England: Jason Aronson.

Boyd-Franklin, N. (2003). *Black families in therapy: Understanding the African American experience* (2nd ed.). New York, NY: Guilford Press.

Breunlin, D. C., & MacKune-Karrer, B. (2002). Metaframeworks. In F. W. Kaslow (Ed.), *Comprehensive handbook of psychotherapy: Vol. 5. Integrative/eclectic* (pp. 367–385). New York, NY: Wiley.

Breunlin, D. C., Pinsof, W., Lebow, J., & Russell, W. P. (2011). Integrative problem-centered metaframeworks therapy I: Core concepts and hypothesizing. *Family Process*, *50*, 293–313. http://dx.doi.org/10.1111/j.1545-5300.2011.01362.x

Carr, A. (2014a). The evidence base for couple therapy, family therapy and systemic interventions for adult-focused problems. *Journal of Family Therapy*, *36*, 158–194. http://dx.doi.org/10.1111/1467-6427.12033

Carr, A. (2014b). The evidence base for family therapy and systemic interventions for child-focused problems. *Journal of Family Therapy*, *36*, 107–157. http://dx.doi.org/10.1111/1467-6427.12032

Cecchin, G. (1987). Hypothesizing, circularity, and neutrality revisited: An invitation to curiosity. *Family Process*, *26*, 405–413. http://dx.doi.org/10.1111/j.1545-5300.1987.00405.x

Christensen, A., & Jacobson, N. S. (2000). *Reconcilable differences*. New York, NY: Guilford Press.

Couturier, J., Kimber, M., & Szatmari, P. (2013). Efficacy of family-based treatment for adolescents with eating disorders: A systematic review and meta-analysis. *International Journal of Eating Disorders*, *46*, 3–11. http://dx.doi.org/10.1002/eat.22042

Crane, D. R. (2011). Does family therapy reduce health care costs for more than the identified patient? *Clinical Child Psychology and Psychiatry*, *16*, 3–4. http://dx.doi.org/10.1177/1359104510397607

Dell, P. F. (1986). In defense of "lineal causality." *Family Process*, *25*, 513–525. http://dx.doi.org/10.1111/j.1545-5300.1986.00513.x

de Shazer, S. (1985). *Keys to solution in brief therapy*. New York, NY: Norton.

de Shazer, S. (1988). *Clues: Investigating solutions in brief therapy*. New York, NY: Norton.

Epstein, N. B., & Baucom, D. H. (2002). *Enhanced cognitive–behavioral therapy for couples: A contextual approach*. http://dx.doi.org/10.1037/10481-000

Falicov, C. J. (2014). *Latino families in therapy* (2nd ed.). New York, NY: Guilford Press.

Falloon, I. R. H. (1988). *Handbook of behavioral family therapy*. New York, NY: Guilford Press.

Fraenkel, P. (2009). The therapeutic palette: A guide to choice points in integrative couple therapy. *Clinical Social Work Journal*, *37*, 234–247. http://dx.doi.org/10.1007/s10615-009-0207-3

Framo, J. L. (1992). *Family-of-origin therapy: An intergenerational approach*. New York, NY: Routledge.

Framo, J. L., Weber, T. T., & Levine, F. B. (2003). *Coming home again: A family-of-origin consultation*. New York, NY: Brunner-Routledge.

Friedlander, M. L., Escudero, V., Heatherington, L., & Diamond, G. M. (2011). Alliance in couple and family therapy. *Psychotherapy*, *48*, 25–33. http://dx.doi.org/10.1037/a0022060

Gergen, K. J. (1991). *The saturated self: Dilemmas of identity in contemporary life*. New York, NY: Basic Books.

Goldner, V. (1985). Feminism and family therapy. *Family Process*, *24*, 31–47. http://dx.doi.org/10.1111/j.1545-5300.1985.00031.x

Goldner, V., Penn, P., Sheinberg, M., & Walker, G. (1990). Love and violence: Gender paradoxes in volatile attachments. *Family Process*, *29*, 343–364. http://dx.doi.org/10.1111/j.1545-5300.1990.00343.x

Goldstein, M. J., Miklowitz, D. J., Strachan, A. M., Doane, J. A., Nuechterlein, K. H., & Feingold, D. (1989). Patterns of expressed emotion and patient coping styles that characterise the families of recent onset schizophrenics. *British Journal of Psychiatry Supplement*, (5), 107–111.

Goolishian, H., & Anderson, H. (1992). From family to systemic therapy and beyond In A. Z. Schwartzberg (Ed.), *International annals of adolescent psychiatry: Vol. 2. Psychosis and psychotic functioning* (pp. 160–173). Chicago, IL: University of Chicago Press.

Gurman, A. S. (2002). Brief integrative marital therapy: A depth-behavioral approach. In A. S. Gurman & N. S. Jacobson (Eds.), *Clinical handbook of couple therapy* (3rd ed., pp. 180–220). New York, NY: Guilford Press.

Gurman, A. S., & Fraenkel, P. (2002). The history of couple therapy: A millennial review. *Family Process*,

*41*, 199–260. http://dx.doi.org/10.1111/j.1545-5300.2002.41204.x

Gurman, A. S., Kniskern, D. P., & Pinsof, W. M. (1986). Research on the process and outcome of marital and family therapy. In S. L. Garfield & A. E. Bergin (Eds.), *Handbook of psychotherapy and behavior change* (pp. 565–624). New York, NY: Wiley.

Haley, J. (1963). *Strategies of psychotherapy*. http://dx.doi.org/10.1037/14324-000

Haley, J. (1973). *Uncommon therapy: The psychiatric techniques of Milton H. Erickson*. New York, NY: Norton.

Haley, J. (1985). Conversations with Erickson. *Family Therapy Networker*, *9*(2), 30–35.

Haley, J. (1987). *Problem-solving therapy*. San Francisco, CA: Jossey-Bass.

Hare-Mustin, R. T. (1992). Family change and gender differences: Implications for theory and practice. In J. S. Bohan (Ed.), *Seldom seen, rarely heard: Women's place in psychology* (pp. 355–370). Boulder, CO: Westview Press.

Harvey, C., & O'Hanlon, B. (2013). Family psychoeducation for people with schizophrenia and other psychotic disorders and their families. *Australian and New Zealand Journal of Psychiatry*, *47*, 516–520. http://dx.doi.org/10.1177/0004867413476754

Heatherington, L., Friedlander, M. L., Diamond, G. M., Escudero, V., & Pinsof, W. M. (2015). 25 years of systemic therapies research: Progress and promise. *Psychotherapy Research*, *25*, 348–364. http://dx.doi.org/10.1080/10503307.2014.983208

Henggeler, S. W., Schoenwald, S. K., Borduin, C. M., Rowland, M. D., & Cunningham, P. B. (1998). *Multisystemic treatment of antisocial behavior in children and adolescents*. New York, NY: Guilford Press.

Henggeler, S. W., Sheidow, A. J., & Lee, T. (2009). Multisystemic therapy. In J. H. Bray & M. Stanton (Eds.), *The Wiley–Blackwell handbook of family psychology* (pp. 370–387). http://dx.doi.org/10.1002/9781444310238.ch25

Hogarty, G. E., Anderson, C. M., Reiss, D. J., Kornblith, S. J., Greenwald, D. P., Ulrich, R. F., & Carter, M. (1991). Family psychoeducation, social skills training, and maintenance chemotherapy in the aftercare treatment of schizophrenia: II. Two-year effects of a controlled study on relapse and adjustment. *Archives of General Psychiatry*, *48*, 340–347. http://dx.doi.org/10.1001/archpsyc.1991.01810280056008

Imber-Black, E. (1991). Rituals and the healing process. In F. Walsh & M. McGoldrick (Eds.), *Living beyond loss: Death in the family* (pp. 207–223). New York, NY: Norton.

Jackson-Gilfort, A., Liddle, H. A., Tejeda, M. J., & Dakof, G. A. (2001). Facilitating engagement of African American male adolescents in family therapy: A cultural theme process study. *Journal of Black Psychology*, *27*, 321–340.

Kaplan, H. S. (1974). *The new sex therapy: Active treatment of sexual dysfunctions*. New York, NY: Routledge.

Kazdin, A. E. (2008). *Parent management training: Treatment for oppositional, aggressive, and antisocial behaviour in children and adolescents*. New York, NY: Oxford University Press.

Kazdin, A. E. (2010). Problem-solving skills training and parent management training for oppositional defiant disorder and conduct disorder. In J. R. Weisz & A. E. Kazdin (Eds.), *Evidence-based psychotherapies for children and adolescents* (2nd ed., pp. 211–226). New York, NY: Guilford Press.

Lebow, J. (2003). Integrative approaches to couple and family therapy. *Handbook of family therapy: The science and practice of working with families and couples* (pp. 201–225). New York, NY: Routledge.

Lebow, J. (2006). *Research for the psychotherapist: From science to practice*. New York, NY: Routledge.

Lebow, J. (2014). *Couple and family therapy: An integrative map of the territory*. http://dx.doi.org/10.1037/14255-000

Lebow, J., & Gurman, A. S. (1995). Research assessing couple and family therapy. *Annual Review of Psychology*, *46*, 27–57. http://dx.doi.org/10.1146/annurev.ps.46.020195.000331

Lebow, J., & Stroud, C. B. (2012). Assessment of effective couple and family functioning: Prevailing models and instruments. In F. Walsh (Ed.), *Normal family processes: Growing diversity and complexity* (4th ed., pp. 501–528). New York, NY: Guilford Press.

Lebow, J. L., Chambers, A. L., Christensen, A., & Johnson, S. M. (2012). Research on the treatment of couple distress. *Journal of Marital and Family Therapy*, *38*, 145–168. http://dx.doi.org/10.1111/j.1752-0606.2011.00249.x

Liddle, H. A. (1999). Theory development in a family-based therapy for adolescent drug abuse. *Journal of Clinical Child Psychology*, *28*, 521–532. http://dx.doi.org/10.1207/S15374424JCCP2804_12

Liddle, H. A., Dakof, G. A., Parker, K., Diamond, G. S., Barrett, K., & Tejeda, M. (2001). Multidimensional family therapy for adolescent drug abuse: Results of a randomized clinical trial. *American Journal of Drug and Alcohol Abuse*, *27*, 651–688. http://dx.doi.org/10.1081/ADA-100107661

Liddle, H. A., Jackson-Gilfort, A., & Marvel, F. A. (2006). An empirically supported and culturally specific engagement and intervention strategy for African

American adolescent males. *American Journal of Orthopsychiatry*, *76*, 215–225. http://dx.doi.org/10.1037/0002-9432.75.2.215

Liddle, H. A., Rodriguez, R. A., Dakof, G. A., Kanzki, E., & Marvel, F. A. (2005). Multidimensional family therapy: A science-based treatment for adolescent drug abuse. In J. L. Lebow (Ed.), *Handbook of clinical family therapy* (pp. 128–163). New York, NY: Wiley.

Lidz, T., Cornelison, A. R., Fleck, S., & Terry, D. (1957). The intrafamilial environment of the schizophrenic patient. I. The father. *Psychiatry*, *20*, 329–342.

McDaniel, S. H., & Speice, J. (2001). What family psychology has to offer women's health: The examples of conversion, somatization, infertility treatment, and genetic testing. *Professional Psychology: Research and Practice*, *32*, 44–51. http://dx.doi.org/10.1037/0735-7028.32.1.44

McGoldrick, M. (Ed.). (1998). *Re-visioning family therapy: Race, culture, and gender in clinical practice*. New York, NY: Guilford Press.

McGoldrick, M. (2001). Re-visioning family therapy: Race, culture, and gender in clinical practice. *Family Therapy*, *28*, 116–117.

McGoldrick, M., Anderson, C., & Walsh, F. (Eds.). (1991). *Women in families: A framework for family therapy*. New York, NY: Norton.

McGoldrick, M., & Hardy, K. V. (2008). *Re-visioning family therapy: Race, culture, and gender in clinical practice* (2nd ed.). New York, NY: Guilford Press.

Meis, L. A., Griffin, J. M., Greer, N., Jensen, A. C., Macdonald, R., Carlyle, M., . . . Wilt, T. J. (2013). Couple and family involvement in adult mental health treatment: A systematic review. *Clinical Psychology Review*, *33*, 275–286. http://dx.doi.org/10.1016/j.cpr.2012.12.003

Miklowitz, D. J. (2004). The role of family systems in severe and recurrent psychiatric disorders: A developmental psychopathology view. *Development and Psychopathology*, *16*, 667–688. http://dx.doi.org/10.1017/S0954579404004729

Miklowitz, D. J. (2007). The role of the family in the course and treatment of bipolar disorder. *Current Directions in Psychological Science*, *16*, 192–196.

Minuchin, S. (1974). *Family and family therapy*. Cambridge, MA: Harvard University Press.

Minuchin, S. (1996). Interview. *Family Therapy Networker*, *20*(1), 50–57.

O'Brien, M. P., Miklowitz, D. J., Candan, K. A., Marshall, C., Domingues, I., Walsh, B. C., . . . Cannon, T. D. (2014). A randomized trial of family focused therapy with populations at clinical high risk for psychosis: Effects on interactional behavior. *Journal of Consulting and Clinical Psychology*, *82*, 90–101. http://dx.doi.org/10.1037/a0034667

O'Hanlon, W. H., Gilligan, S., & Price, R. (1993). Possibility therapy. In S. Gilligan & R. Price (Eds.), *Therapeutic conversations* (pp. 3–17). New York, NY: Norton.

Palazzoli, M. S., Boscolo, L., Cecchin, G. F., & Prata, G. (1977). Family rituals: A powerful tool in family therapy. *Family Process*, *16*, 445–453. http://dx.doi.org/10.1111/j.1545-5300.1977.00445.x

Patterson, G. R., & Chamberlain, P. (1994). A functional analysis of resistance during parent training therapy. *Clinical Psychology: Science and Practice*, *1*, 53–70. http://dx.doi.org/10.1111/j.1468-2850.1994.tb00006.x

Patterson, G. R., Reid, J. B., & Eddy, J. (2002). A brief history of the Oregon model. In J. B. Reid, G. R. Patterson, & J. Snyder (Eds.), *Antisocial behavior in children and adolescents: A developmental analysis and model for intervention* (pp. 3–20). http://dx.doi.org/10.1037/10468-001

Pilling, S., Bebbington, P. P., Kuipers, E. E., Garety, P. P., Geddes, J. J., Orbach, G. G., & Morgan, C. C. (2002). Psychological treatments in schizophrenia: I. Meta-analysis of family intervention and cognitive behaviour therapy. *Psychological Medicine: A Journal of Research in Psychiatry and the Allied Sciences*, *32*, 163–182.

Pinsof, W. M. (1995). *Integrative problem-centered therapy: A synthesis of family, individual, and biological therapies*. New York, NY: Basic Books.

Pinsof, W. M., & Chambers, A. L. (2009). Empirically informed systemic psychotherapy: Tracking client change and therapist behavior during therapy. In J. H. Bray & M. Stanton (Eds.), *The Wiley–Blackwell handbook of family psychology* (pp. 431–446). http://dx.doi.org/10.1002/9781444310238.ch29

Pinsof, W. M., Zinbarg, R. E., Lebow, J. L., Knobloch-Fedders, L. M., Durbin, E., Chambers, A., . . . Friedman, G. (2009). Laying the foundation for progress research in family, couple, and individual therapy: The development and psychometric features of the initial systemic therapy inventory of change. *Psychotherapy Research*, *19*, 143–156. http://dx.doi.org/10.1080/10503300802669973

Pitschel-Walz, G., Leucht, S., Bäuml, J., Kissling, W., & Engel, R. R. (2001). The effect of family interventions on relapse and rehospitalization in schizophrenia—A meta-analysis. *Schizophrenia Bulletin*, *27*, 73–92. http://dx.doi.org/10.1093/oxfordjournals.schbul.a006861

Rogge, R. D., Cobb, R. J., Story, L. B., Johnson, M. D., Lawrence, E. E., Rothman, A. D., & Bradbury, T. N. (2006). Recruitment and selection of couples for intervention research: Achieving developmental

homogeneity at the cost of demographic diversity. *Journal of Consulting and Clinical Psychology*, *74*, 777–784. http://dx.doi.org/10.1037/0022-006X.74.4.777

Rolland, J. S. (1994). In sickness and in health: The impact of illness on couples' relationships. *Journal of Marital and Family Therapy*, *20*, 327–347. http://dx.doi.org/10.1111/j.1752-0606.1994.tb00125.x

Sager, C. J. (1967). Transference in conjoint treatment of married couples. *Archives of General Psychiatry*, *16*, 185–193. http://dx.doi.org/10.1001/archpsyc.1967.01730200053008

Satir, V. (1988). *The new peoplemaking*. Mountain View, CA: Science and Behavior Books.

Scharff, D. E., & Scharff, J. S. (1987). *Object relations family therapy*. Northvale, NJ: Jason Aronson.

Scharff, J. S., & Bagnini, C. (2002). Object relations couple therapy. In A. S. Gurman & N. S. Jacobson (Eds.), *Clinical handbook of couple therapy* (pp. 59–85). New York, NY: Guilford Press.

Sexton, T., Gordon, K. C., Gurman, A., Lebow, J., Holtzworth-Munroe, A., & Johnson, S. (2011). Guidelines for classifying evidence-based treatments in couple and family therapy. *Family Process*, *50*, 377–392. http://dx.doi.org/10.1111/j.1545-5300.2011.01363.x

Sexton, T. L., & Alexander, J. F. (2005). Functional family therapy for externalizing disorders in adolescents. In J. L. Lebow (Ed.), *Handbook of clinical family therapy* (pp. 164–191). Hoboken, NJ: Wiley.

Shadish, W. R., & Baldwin, S. A. (2003). Meta-analysis of MFT interventions. *Journal of Marital and Family Therapy*, *29*, 547–570. http://dx.doi.org/10.1111/j.1752-0606.2003.tb01694.x

Sheinberg, M., True, F., & Fraenkel, P. (1994). Treating the sexually abused child: A recursive, multimodal program. *Family Process*, *33*, 263–276. http://dx.doi.org/10.1111/j.1545-5300.1994.00263.x

Snyder, D. K., & Halford, W. K. (2012). Evidence-based couple therapy: Current status and future directions. *Journal of Family Therapy*, *34*, 229–249. http://dx.doi.org/10.1111/j.1467-6427.2012.00599.x

Steinglass, P. (1992). Family systems approaches to the alcoholic family: Research findings and their clinical applications. In S. Saitoh, P. Steinglass, & M. A. Schuckit (Eds.), *Alcoholism and the family* (reprint ed., pp. 155–171). New York, NY: Routledge.

Szapocznik, J., Muir, J. A., & Schwartz, S. J. (2013). Brief strategic family therapy for adolescent drug abuse: Treatment and implementation. In P. M. Miller, S. A. Ball, M. E. Bates, A. W. Blume, K. M. Kampman, D. J. Kavanagh, . . . De Witte, P. (Eds.), *Interventions for addiction: Comprehensive addictive behaviors and disorders* (Vol. 3, pp. 97–108). http://dx.doi.org/10.1016/B978-0-12-398338-1.00011-7

Szapocznik, J., & Williams, R. A. (2000). Brief strategic family therapy: Twenty-five years of interplay among theory, research and practice in adolescent behavior problems and drug abuse. *Clinical Child and Family Psychology Review*, *3*, 117–134. http://dx.doi.org/10.1023/A:1009512719808

Thibaut, J. W., & Kelley, H. H. (1959). *The social psychology of groups*. New York, NY: Wiley.

von Bertalanffy, I. (1968). *General systems theory*. New York, NY: Braziller.

von Sydow, K., Retzlaff, R., Beher, S., Haun, M. W., & Schweitzer, J. (2013). The efficacy of systemic therapy for childhood and adolescent externalizing disorders: A systematic review of 47 RCT. *Family Process*, *52*, 576–618. http://dx.doi.org/10.1111/famp.12047

Wachtel, E. F. (2004). *Treating troubled children and their families*. New York, NY: Guilford Press.

Walsh, F. (2003). Family resilience: A framework for clinical practice. *Family Process*, *42*, 1–18. http://dx.doi.org/10.1111/j.1545-5300.2003.00001.x

Watzlawick, P. (1978). *The language of change: Elements of therapeutic communication*. New York, NY: Basic Books.

Watzlawick, P., Weakland, J. H., & Fisch, R. (1974). *Change: Principles of problem formation and problem resolution*. New York, NY: Norton.

Weiner, N. (1961). *Cybernetics: Or control and communication in animal and machine*. Cambridge, MA: MIT Press.

Weiner-Davis, M. (1987). Confessions of an unabashed marriage saver. *Family Therapy Networker*, *11*(1), 53–56.

Whisman, M. A. (2007). Marital distress and *DSM–IV* psychiatric disorders in a population-based national survey. *Journal of Abnormal Psychology*, *116*, 638–643. http://dx.doi.org/10.1037/0021-843X.116.3.638

Whitaker, C. A. (1992). Symbolic experiential family therapy: Model and methodology. In J. K. Zeig (Ed.), *The evolution of psychotherapy: The second conference* (pp. 13–23). New York, NY: Routledge.

Whitaker, C. A., & Bumberry, W. M. (1988). *Dancing with the family: A symbolic-experiential approach*. New York, NY: Routledge.

White, M., & Epston, D. (1989). *Literate means to therapeutic ends*. Adelaide, Australia: Dulwich Centre Publications.

Wood, B. L. (1993). Beyond the "psychosomatic family": A biobehavioral family model of pediatric illness. *Family Process*, *32*, 261–278. http://dx.doi.org/10.1111/j.1545-5300.1993.00261.x

Wright, J., Sabourin, S., Mondor, J., McDuff, P., & Mamodhoussen, S. (2007). The clinical representativeness of couple therapy outcome research. *Family Process*, *46*, 301–316. http://dx.doi.org/10.1111/j.1545-5300.2007.00213.x

Wright, L. M., & Leahey, M. (1994). Calgary family intervention model: One way to think about change. *Journal of Marital and Family Therapy*, *20*, 381–395. http://dx.doi.org/10.1111/j.1752-0606.1994.tb00128.x

Wynne, L. C., McDaniel, S. H., & Weber, T. T. (1988). Family therapy, family consultation, and systematic consultation. *Terapia Familiare*, *27*, 43–57.

Wynne, L. C., & Singer, M. T. (1963). Thought disorder and family relations of schizophrenics. II. A classification of forms thinking. *Archives of General Psychiatry*, *9*, 199–206. http://dx.doi.org/10.1001/archpsyc.1963.01720150009002

CHAPTER 18

# PSYCHOPHARMACOLOGICAL THERAPY

*Morgan T. Sammons*



The use of exogenous chemical agents to induce altered mood states has a history that is perhaps as long as human civilization itself. Indeed, some have speculated that humans transformed from hunter–gatherer to agrarian societies because it takes a village to brew a beer, in that the growing, harvesting, and fermenting of grain into alcohol required an organized, communal, and more sedentary lifestyle (Roueché, 1960). The written record has provided evidence that plant-derived chemicals have been in use for medicinal purposes for thousands of years. Potent combinations of alcohol, cannabis, and opium were used in Asia as operative anesthetics at least four millennia ago (Hamilton & Baskett, 2000). Opium has been used as a euphoriant, pain reliever, and sedative since at least the 9th century BCE (Brownstein, 1993), and opium continues to form the basis of much modern pharmacology, but usually in the form of derivatives such as morphine. Early healers also used mind-altering substances in attempts to relieve the suffering of those in the grip of psychosis, mania, or melancholy, but in those times the treatment of mental disorders was largely the province of religion.

By the 16th century, however, psychopharmacology had been more or less assigned to the domain of science rather than religion. Robert Burton's (1628/1927) 17th-century classic *The Anatomy of Melancholy* separated "unlawful" treatments for depression such as charms, spells, religious invocation, and witchcraft from "lawful" treatments. These treatments encompassed highly sensible suggestions for diet, exercise, moderation in alcohol intake, and talk therapy ("confessing to a friend"). A detailed herbal pharmacology was well recognized, consisting generally of various purgatives. The use of psychotropics such as belladonna alkaloids and opium were common (an interesting fact is that the currently used antidepressant herbal remedy, St. John's Wort [*hypericum perforatum*], was acknowledged but for its treatment of joint maladies, not depression). There are tantalizing references to the use of some ingested metals as treatments for mood disorders.

What is recognized today as psychopharmacology has a less certain history. Anyone familiar with the modern pharmacopoeia will recognize five basic classes of plant-based therapeutic agents that continue, with some variation, to form the basis of much modern drug treatment: the opiates, belladonna alkaloids, salicylates (from which aspirin and other nonsteroidal anti-inflammatory agents are derived), cannabinoids, and plant-based stimulants such as ephedrine and cocaine.

In this chapter, I summarize pharmacological therapy as a treatment for mental disorders. The chapter begins with a definition of the topic and a synopsis of its modern history. I then discuss three principal classes of pharmacological interventions—the antidepressants, antipsychotics, and anxiolytics. After this brief survey, I conclude with thoughts on the future direction of pharmacological practice.

## DEFINITION

Psychopharmacological therapy can be defined as the deliberate introduction of exogenous chemical

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agents to ameliorate the symptoms of mental distress. The psychopharmacology of modern science consists almost entirely of synthetic compounds. These compounds are the focus of this chapter because they comprise the bulk of current Western treatment.

As the brief history above attests, however, a long-standing herbal pharmacopoeia must be acknowledged. Such agents include potential antidepressants and anxiolytics, such as kava (*piper methysticum*), widely ingested as a folk remedy and intoxicant in the South Pacific. A few well-conducted reviews have found few differences in efficacy between herbal agents and synthetic antidepressants (Linde, Berner, & Kriston, 2008). In Southeast Asia, the plants and minerals of ayurvedic tradition also have a recognized history, and, as noted above, alcohol probably remains the most endemic psychotropic known.

This chapter, however, focuses only on agents used for therapeutic purposes, not as euphoriants or intoxicants. In addition, the distinction between an illicit agent and a sanctioned one is arbitrary. Psychotropics previously endorsed as medications may be outlawed, such as cannabis, and then reincorporated into medical practice. Drugs once considered inherently dangerous, such as some methamphetamine compounds (Ecstasy) are now being investigated for clinical use. I focus on those agents with a currently sanctioned clinical use.

## HISTORICAL SKETCH

It is difficult to provide an accurate chronology of systematic investigation of psychotropics in the premodern era. The abundant written and folklorical record attests to humans' abiding curiosity in the psychogenic effects of ingested substances from the perspective of shamans, herbalists, and physicians. In the modern era, however, five major eras in drug development can be identified with three major precepts that unify each era.

### Three Precepts

Three overarching precepts describing psychopharmacological development are important in understanding the subject matter in historical perspective (Sammons, 2011). First, as drugs in a specific class are refined, they generally become less toxic and less lethal in overdose, but their overall efficacy stays the same. The trajectory of anxiolytic development from the bromides to the barbiturates and thence to the benzodiazepines provides an example. As sedative agents, barbiturates are as effective as benzodiazepines, but are far more lethal in overdose, particularly in combination with alcohol. Likewise, newer antidepressants such as fluoxetine (Prozac) are no more effective than their earlier counterparts, the tricyclic antidepressants (TCAs), but are far less lethal in overdose (on average, a 10- to 14-day supply of a TCA provided a lethal overdose). This has led to their adoption by nonpsychiatric prescribers, largely primary care physicians.

Second, newer drugs often lack the problematic side effects of earlier agents. For example, butyrophenone phenothiazine antipsychotics, such as haloperidol (Haldol) were far less sedating than earlier phenothiazines like chlorpromazine (Thorazine) but again were no more effective as antipsychotics than earlier agents. This improves their overall tolerability and acceptability.

Third, molecular tweaking of drugs in any psychotropic drug class often leads to ease of dosing administration and thereby greater patient acceptance. By altering the molecular structure of a drug, its half-life (the amount of time it takes for 50% of an administered dose to be eliminated from the body) can be changed. This enables the manufacture of drugs that, for example, provide sedation for predictably shorter or longer periods of time, and allows dosing schedules to be simplified so that once-daily dosing is possible.

Many things, therefore, can be done to alter a drug's toxicity, metabolism, and dosing, all factors that may make drugs safer and better tolerated. The one thing that does not change is the drug's overall effectiveness. With remarkably few exceptions, new drugs are no more effective than the first drug used to treat a particular disorder. A major exception, considered later in this chapter, is the special case of second-generation antipsychotics (SGAs), which are neither more effective than earlier antipsychotics nor safer or better tolerated.

## Five Eras

Although the beginning of modern psychopharmacology tends to be dated to the 1950s, a decade in which the first antipsychotic, benzodiazepine anxiolytic, and monoamine oxidase inhibitors (MAOIs) and TCAs were introduced, almost a century earlier new developments in chemistry (principally coal-tar derivatives used in the textiles industry and other industrial applications of chemistry) were being systematically used in mental health treatment (Ban, 2001), an era that some have called the alkaloids era (López-Muñoz, Ucha-Udabe, & Alamo, 2005).

One of the most urgent needs in the 19th-century asylum was effective sedation (Healy, 2002). Earlier in the 19th century, the sedative properties of some metallic salts called bromides (usually potassium) were recognized. In the 1860s, they began to be used to manage psychosis and related disorders (Lugassy & Nelson, 2009), augmenting the limited plant-based pharmacology of the time, which largely consisted of various preparations of cannabis and opium (Snelders, Kaplan, & Pieters, 2006).

The bromides were toxic and often fatal in overdose. Their use resulted in a condition known as bromism, characterized by dermatological changes, gastrointestinal distress, renal problems, slurred speech, ataxia, impaired neuromuscular coordination, and a worsening of psychological symptoms, symptoms that occur today with excessive doses of the related metallic ion, lithium. Nevertheless, they were widely and enthusiastically used, and 70 years later were still described as valuable, if somewhat overused, sedatives and antiepileptic agents (Goodman & Gilman, 1941). Around this time, another metal, lithium, was introduced as a sedative, but it fell out of favor relatively quickly and did not make a clinical reappearance in mental health for another century. In 1869, what some have characterized as the first synthetic drug, chloral hydrate, was first used clinically (Jones, 2011). Also highly toxic and subject to abuse, chloral hydrate was an alcohol derivative that was rapidly adopted as a sedative.

The history of modern psychopharmacological development in Western medicine can be subdivided into five main eras. It is probably accurate to date the first generation of modern psychopharmacology to the mid- to late 1800s, with the clinical introduction of sedatives such as bromides, chloral hydrate, and lithium. The first of the successor agents to the bromides, the barbiturates, were actually synthesized in the mid-1860s but did not come into use in practice until 1903 when the first barbiturate (Veronal) was marketed clinically (López-Muñoz et al., 2005). A period of relative quiescence followed, although the first amphetamine (Benzedrine) was synthesized in the late 1920s, first as a nasal decongestant and later marketed as an antidepressant. Amphetamine remains, of course, one of the most widely prescribed drugs in the world, indicated now for the treatment of attention deficit/hyperactivity disorder.

The second era in modern psychopharmacology is well known and has often been called the dawn of the modern psychopharmacological era. This, of course, described the numerous advances in chemistry and medicine that led to the introduction of modern antipsychotics, antidepressants (the MAOIs and TCAs), and benzodiazepine sedatives. The antimanic properties of lithium were rediscovered by John Cade in 1949 (it was used in the 1950s in cardiology as a salt substitute with often disastrous results and was not approved for mental disorders until 1970; Shorter, 2009). The first specific antipsychotic, chlorpromazine (Thorazine) was introduced in Europe in the early 1950s and in North America in 1954. The butyrophenone antipsychotic haloperidol, which as Haldol would come to dominate the antipsychotic market for several decades, was in European use in the 1950s, but was not approved by the U.S. Food and Drug Administration (FDA) for use in the United States until 1967.

Reserpine, a derivative of a plant long recognized in India for its medicinal properties, *rauwolfia serpentina* (snakeroot), which destroyed intracellular storage vesicles of catecholamine neurotransmitters, was introduced into Western medicine as a sedative and treatment for hypertension (Feldman, Meyer, & Quenzer, 1997) in 1954. Although its use in mental health was brief because of severe side effects of hypotension and depression, it is significant in that it was the first drug that specifically acted on catecholamine neurotransmission (Oates & Brown, 2001). Reserpine was soon followed by the

first MAOI antidepressant (iproniazid; Marsilid) and the first TCA (imipramine; Tofranil) in 1957. A modified barbiturate called meprobamate (Miltown, Equanil), also introduced in 1957, became the first mass-marketed anxiolytic drug and was probably the first psychotropic agent to capture the attention of the U.S. public; its characterization as a miracle cure for mild or psychoneurotic depression ("Medicine: Happiness by Prescription," 1957) presaged the hyperbole that would surround the introduction of the first serotonin reuptake inhibitor (SRI), fluoxetine (Prozac) 30 years later. The first benzodiazepine, chlordiazepoxide (Librium) was introduced in 1960. Many of these drugs or close variants are still in current use.

The next era in modern psychopharmacology was characterized by "in-class" drug development and the introduction of large numbers of TCAs, phenothiazine antipsychotics, and benzodiazepines. During this period, which extended from the early 1960s until the mid-1980s, variations on previously patented molecules (e.g., "secondary amine" tricyclics, 3-hydroxylated benzodiazepines) produced some therapeutic advances in terms of relative potency, side effect tolerability, and shorter or longer durations of action, but few genuinely novel therapeutic agents were introduced. One exception was trazodone (Desyrel), an antidepressant unrelated to the tricyclics, approved in the United States in 1982.

Beginning in 1987, the fourth era of modern psychopharmacology began with the introduction of the first so-called selective serotonin reuptake inhibitor, fluoxetine. Although the term *selective serotonin reuptake inhibitor* or, to be more accurate, serotonin reuptake inhibitor (SRI; the term used in this chapter), is a misnomer (to varying degrees fluoxetine, like all antidepressants, inhibits the reuptake of all monoaminergic neurotransmitters, including dopamine, norepinephrine, and acetylcholine and has numerous other effects), fluoxetine, being safer and more easily tolerated than earlier drugs, represented a significant advance in pharmacological treatment of depression. Thus the "antidepressant era" (Healy, 1997) was launched. Antidepressants became among the most widely prescribed drug of any class, and between 1987 and 1997 the percentage of patients who received an antidepressant, usually an SRI, almost doubled, whereas treatment with psychotherapy began to decline (Olfson et al., 2002). I cover antidepressants in greater depth later in this chapter.

The fourth wave of modern psychopharmacology also encompassed the introduction, in 1994, of the first of the atypical antipsychotic agents, or SGAs, into the U.S. market. Risperidone (Risperdal) was given the nomenclature of "atypical antipsychotic" in that its mechanism of action did not involve the same degree of blockade of the postsynaptic dopamine receptor as did earlier antipsychotics. For some time, SGAs were marketed as being far safer alternatives than earlier antipsychotics in that their use was thought to avoid the most feared long-term side effect of antipsychotics, tardive dyskinesia. Antipsychotics that did not have this risk associated with their use would be an obvious boon, but it soon became apparent that the SGAs were also associated with tardive dyskinesia and related neuromuscular problems associated with earlier antipsychotic use.

The fifth and current era of modern psychopharmacology is largely characterized by four factors: (a) an increasing acceptance of the limitations of pharmacological interventions as a treatment for mental disorders; (b) declining costs of psychotropics as more of the fourth-generation agents lose patent protection and become generic agents; (c) as a consequence of loss of patent protection, reduction in the aggressive marketing by pharmaceutical manufacturers of psychotropics and a concomitant decline in the overall prescription rate of such medications; and (d) stasis in development of new psychotropic agents, with many large pharmaceutical firms exiting the psychiatric drug market in favor of more lucrative areas (e.g., LaMattina, 2013).

## PSYCHOPHARMACOLOGICAL INTERVENTIONS AND THEIR RESEARCH EVIDENCE

In this section, I review three of the most widely used classes of psychotropic medications: antidepressants, antipsychotics, and anxiolytics. The evidence supporting their use is globally presented, and

limitations to current pharmacological treatments are addressed.

## Antidepressants

As the brief history above attests, the first drug specifically marketed as an antidepressant was a psychostimulant, Benzedrine. In 1936, Myerson described Benzedrine at a meeting of the American Psychological Association as a treatment for morning hangovers, low moods, and a new disorder afflicting housewives called *anhedonia*. It was quickly observed that its stimulant properties were effective against the new disorder of anhedonia but not more severe depression. Its marketing to treat "mild" depression may represent the first attempt by major pharmaceutical companies to publicize a new disease state for which they had developed a treatment (Rasmussen, 2008).

After this relatively unsuccessful attempt, no specific antidepressants were introduced until the MAOIs and TCAs of the 1950s, and from the 1950s until the mid-1980s no entirely new compounds were introduced with the exception of trazodone. Because trazodone was less lethal in overdose than the tricyclics, it rapidly became widely prescribed, but it had its own problematic side effects, notably unwanted daytime sedation. When fluoxetine was introduced, trazodone's use as an antidepressant, as with many of the TCAs, was quickly supplanted. It remains in use today largely as an alternative to the benzodiazepines for nighttime sedation. A close chemical cousin of trazodone, nefazodone (Serzone), was approved for depression in 2002, but it too was associated with unwanted sedation and weight gain and did not garner a large market share.

Fluoxetine and the other SRIs are no more effective as antidepressants than the TCAs that preceded them, but fluoxetine was, by orders of magnitude, far safer in overdose than the TCAs. In contrast to the TCAs, if fluoxetine is the only drug taken in an overdose, death rarely ensues. Fluoxetine also does not have the problematic anticholinergic side effects of the TCAs (sedation, blurred vision, tremor, constipation, and mental lethargy, among others) and does not require the complicated dosing regimens of the TCAs. The starting dose of fluoxetine is usually close to the therapeutic dose, and it can be taken once daily. Its relative safety and ease of administration also led to major shifts in prescribing patterns for antidepressants and other psychotropics. Before fluoxetine, prescription of antidepressants was largely left to psychiatry, but the introduction of much safer drugs soon led to what remains the current practice in psychopharmacology—that the vast majority of such agents are prescribed not by psychiatrists but by primary care providers and other nonpsychiatric physicians.

As with meprobamate 30 years before, fluoxetine was heralded as a wonder drug. Breathless reportage in the popular press about the life-altering benefits of Prozac abounded. The psychiatrist Peter Kramer published a best-selling book, *Listening to Prozac* (Kramer, 1993), in which he described the effects of fluoxetine less as an antidepressant than as a drug that could fundamentally and positively alter the user's personality structure. Prozac's sales soon eclipsed $1 billion, making it one of the first blockbuster drugs (drugs with sales of more than $1 billion). Four other SRIs were introduced in quick succession. Sertraline (Zoloft), paroxetine (Paxil), nefazodone, and citalopram (Celexa) were indicated for either depression or panic disorder (Serzone has been withdrawn from the market because of its association with liver dysfunction). Another potent SRI, fluvoxamine, was approved in 1994 not for depression but for the treatment of obsessive–compulsive disorder (in 1997, this approval was extended to children), although it is also an effective antidepressant and is used as such in many other countries. The SRIs are, in general, the mainstay of pharmacological treatment of obsessive–compulsive disorder, although not all carry this indication.

Although the SRIs dominated the antidepressant market in the 1980s and 1990s, several antidepressants of different classes were introduced. Bupropion (Wellbutrin) was indicated for depression in 1986 but was quickly withdrawn when it was associated with seizures. It was reintroduced in lower dose form in 1989. Since then, bupropion has been indicated for a number of conditions. It was approved for smoking cessation as Zyban in 1997 and received another patented indication for depression as Aplenzin in 2008. Bupropion has a molecular structure closely resembling that of amphetamines, and it is

relatively unique among antidepressants for being very stimulating, to the point that to avoid insomnia nighttime doses are not recommended. It is also less associated with weight gain than most other antidepressants. It has a maximum recommended dose of 450 milligrams daily because of its association with seizures and is contraindicated in patients with a history of seizure.

In 1998, after the astonishing success of the SRIs, the first drugs of a new class, the mixed-function agents (MFAs) or serotonin and norepinephrine reuptake inhibitors (SNRIs), venlafaxine, was introduced. Venlafaxine (Effexor) was indicated for depression, but it did not become an agent of choice because of difficulties in administration (it required twice daily dosing) and side effects including nausea. An extended-release preparation of venlafaxine was approved in 1997 for depression and in 1999 for panic disorder; this preparation is far more easily tolerated, although a maximum daily dose of 375 milligrams is recommended because of associations with elevated blood pressure. As the name of the class suggests, the SNRIs showed activity in blocking the reuptake of norepinephrine and serotonin in the presynaptic neuron. Because the SRIs also block other monoamine neurotransmitters, the relative advantage of this profile was, and remains, clinically uncertain.

Also in the late 1990s, mirtazapine (Remeron) was introduced for depression. Because of its supposed more specific effects at blocking serotonin neurotransmission, mirtazapine was classified as a noradrenergic and specific serotonergic antidepressant rather than as an SRI (Schatzberg, 2009); however, its overall efficacy does not differ from that of other antidepressants. A new indication was granted to Remeron in 2001 for an orally disintegrating tablet; such tablets are thought to ease administration, particularly with nonadherent patients.

Also around this time, variants on earlier SRI molecules were marketed. A molecular variant of citalopram, escitalopram (Lexapro; 1998), was touted as being more potent than earlier drugs. It does require a lower dose than its close cousin citalopram but clinically has no other advantages. The manufacturers of fluoxetine expanded its market share by getting an indication for treatment of premenstrual dysphoric disorder (Sarafem). Paroxetine was introduced in a controlled release form (Paxil CR). The early 2000s saw the introduction of two other MFAs, including desvenlafaxine, a metabolite of venlafaxine (Pristiq). Duloxetine (Cymbalta) was also introduced. Some older drugs were repackaged as antidepressants, including selegeline, a MAOI previously used to control Parkinsonian symptoms, introduced as EmSam, a transdermally administered antidepressant. The serotonin antagonist and reuptake inhibitor trazodone was introduced again in 2008 as a new antidepressant called Oleptro. In 2011, another SNRI, vilazodone (Viibyrd) was approved for depression. Levomilnacipran, an SRI that had been used for some time in Europe, achieved an indication in the United States for depression as Fetzima in 2013. Also in 2013, the most recently introduced antidepressant, vortioxetine (Brintillex) was approved by the FDA.

Approximately 40 antidepressants of various classes are now available for use in the United States. Most of these are indicated for use in adults only, and many but not all have indications for anxiety, panic, obsessive–compulsive disorder, and other disorders. If one drug in a class is effective for both anxiety and depression, it follows that others will have the same degree of effectiveness, and despite the difference in molecular structure and drug class, all of these drugs, with few exceptions, do not differ in terms of their effectiveness as antidepressants, from the earliest MAOI to the latest MFA. The maxim that one antidepressant is in general as effective as the next has yet to be disproven.

The clinical choice of drug then rests not on comparative efficacy, but on patient characteristics, tolerability, individual response, and medicolegal risk management. The latter is an important clinical concern, in that some drugs, such as the MAOIs, have well-documented, dangerous interactions with other drugs, such as meperidine (Demerol) and many foodstuffs (the "cheese effect," leading to the risk of hypertensive crises when ingested with aged cheeses and other cured or enzymatically produced foods containing the amino acid tyramine). Recently, the prescription of SRIs and SNRIs to pregnant women has been a focus of legal action. Sertraline is now the subject of a class-action

lawsuit on the basis of consumer complaints that its association with skeletal defects and a serious lung condition (persistent pulmonary hypertension of the newborn) had not been disclosed to women who took the drug while pregnant. It is unlikely that this association is limited to sertraline, and all SRIs and SNRIs should be prescribed with great caution, if at all, during pregnancy.

Although I have stated that no antidepressant outperforms another, a recent meta-analysis comparing efficacy of newer antidepressants has provided a somewhat contrary view (Cipriani et al., 2009), albeit one that has attracted a great deal of critical attention. The Cipriani et al. (2009) study is important in that it examined two dimensions of antidepressant use—their overall efficacy as well as how well tolerated they were by patients—and has been used to form recommendations for clinical practice (Kennedy & Rizvi, 2009). Cipriani et al. reviewed 117 controlled trials and concluded that clinically important differences existed between newer antidepressants in terms of patient acceptability and effectiveness. Escitalopram and sertraline were deemed to possess the best mix of tolerability and efficacy. Several MFAs (mirtazapine and venlafaxine) were significantly more efficacious than other antidepressants such as duloxetine and fluoxetine, but these drugs were not as well tolerated as escitalopram, sertraline, bupropion, and citalopram. It is important to recall, however, that although two drugs did emerge as more effective and better tolerated, all drugs examined performed within a fairly narrow range of efficacy and tolerability, with only a few outliers (e.g., the poorly performing reboxetine), so it is impossible to definitively rank antidepressants on the basis of the study, particularly in light of persistent findings of strong performance of placebo comparators (Linde et al., 2015; Sugarman et al., 2014). The finding that MFAs performed overall less well than SRIs is interesting, but it is at variance with other studies finding equivalency or superiority of MFAs (e.g., Harada et al., 2015). In addition to the methodological concerns raised about the Cipriani et al. study (Del Re et al., 2013), other evidence-based practice guidelines such as those published by the United Kingdom's Ministry of Health (the National Institute for Health and Care Excellence [2015] guidelines) have not found a significant difference among SRI-type antidepressants in terms of clinical outcome; these guidelines recommended that generic SRIs have a tolerable risk profile and are most cost efficacious.

**Antidepressant efficacy and the placebo effect.** Almost at the same time as Prozac was being introduced, clinical researchers began to call attention to a troubling aspect of antidepressant treatment. In large controlled clinical trials or meta-analyses of studies comparing antidepressants with placebo agents, it began to be apparent that the performance of active antidepressants was only slightly superior. In 1989, two psychologists published a book chapter that, although largely unheralded at the time, would have a significant influence on how mental health professionals view antidepressants. In this chapter, Greenberg and Fisher (1989) noted that many studies did not reveal a significant difference between antidepressants and placebos, and they questioned attitudes that would come to dominate mental health in the 1990s (the National Institute of Mental Health's "decade of the brain") regarding the promise of purely biological cures for depression and other mental disorders.

A well-publicized meta-analysis (Kirsch & Sapirstein, 1998) suggested that active drugs contributed only around 25% of the total response to a medication and that the remaining 75% could be ascribed to either placebo or nonspecific effects. Although this study's methodology and conclusions were widely criticized in the psychiatric literature, it is now well established that placebo responses are endemic in studies of mental health drugs, and although most drugs produce intended, beneficial, and measurable effects (Naudet et al., 2013), their relative efficacy compared with placebo is not as great as once presumed (e.g., Gaudiano & Herbert, 2005; Linde et al., 2015). Kirsch and Sapirstein (1998) reported that antidepressants performed only slightly better than placebos in most studies and that results of trials in which antidepressants did not perform well were routinely suppressed. Despite early criticism, it is now commonplace to compare the efficacy of antidepressants and other psychotropics against placebo.

In addition to the placebo aspect of antidepressant prescribing, the issue of nonspecificity has also developed into a significant area of research with clinical considerations not only for antidepressants but for all classes of psychotropics. Those who argue that the beneficial effects of psychotropics are due to nonspecific effects believe that their usefulness is not due to any particular action on a specific neurotransmitter or neuronal system but rather to the production of a global sense of well-being (Moncrieff & Cohen, 2009). Proponents of the nonspecificity school have pointed out that a final common mechanism of action of psychotropics has yet to be identified; that, indeed, the assumption that common mental illnesses such as depression are based on brain dysfunction is largely bereft of compelling evidence (Middleton & Moncrieff, 2011; Moncrieff & Cohen, 2009); and, therefore, it is futile to attempt to ascribe a drug's effectiveness on, say, the reuptake of serotonin, activity on glutamate neurotransmission, or any other neurobiological mechanism. This argument has gained critical respect and has perhaps played a role, along with a more sanguine attitude toward the efficacy of antidepressants and a reduction in aggressive marketing associated with loss of patent protection, in recent declines in prescription of antidepressants.

How should the placebo effect inform clinical practice? As noted, studies comparing a placebo with an active antidepressant have generally found the active medication to result in superior outcomes (Naudet et al., 2013). In patients with mild to moderate depression, benefits of antidepressants over placebo tend to be small or nonexistent, but with more severe depression, active drugs tend to show benefits over placebo (Fournier et al., 2010). Because these findings are rather well established, it seems that the best clinical strategy, particularly in patients who have not been exposed to antidepressants in the past, is to reserve their use for moderate or severe depression. A course of psychotherapy or psychoeducation should first be attempted in those with milder depression, presuming the patient is accepting of this approach. Because the acute symptoms of adjustment disorder can resemble more severe depression, accurate history taking is essential in treatment planning. For patients who have previously taken antidepressants, history taking is also important. If faced with multiple, relapsing episodes, the patient might be counseled to resume an antidepressant and to continue on this medication well after the more severe symptoms have remitted. If moderately or severely depressed patients have not been provided psychotherapy, it should be added to the treatment plan.

**Combinations of antidepressants and psychotherapy.** The data on the effectiveness of combined treatments is unfortunately still not definitive. Most recent studies, however, have indicated that such treatments are better than unimodal treatments, that patients prefer them to unimodal treatments, and that the effects of treatment are more persistent when using combined modalities. For example a meta-analysis of 16 studies (involving a total of 852 patients) reported that sufficient evidence now exists to support the use of combined treatments over unimodal treatments for depression—and that active medication, rather than placebo, contributed to improvement (Cuijpers et al., 2010). A recent meta-analytic investigation of psychological interventions to prevent recurrence of depression examined the results of 25 trials and found that preventive interventions were more effective than both treatment as usual or pharmacology, although previously successful treatment, not surprisingly, predicted fewer relapses (Biesheivel-Leliefeld et al., 2015). This is in keeping with previous studies and meta-analyses demonstrating that the addition of psychotherapy to other treatment regimens reduces risk of relapse and that combining medication with psychotherapy leads to quicker symptom remission (Manber et al., 2008).

Also supporting combined treatments is the finding that other aspects of treatment improve with combination therapy, such as adherence to medication regimens. Some researchers, however, have reported that although combined treatment outcomes are superior in most types of depression, adherence did not differ from pharmacotherapy alone (de Maat et al., 2007).

Complicating the discussion of combined treatment is the fact that little literature guides the decision as to which patients might do better with

medication or with psychotherapy. Frank et al. (2011) found no definitive patient factors that predicted superior response to either medication or psychotherapy but suggested that patients who had a higher need for medical reassurance did better with interpersonal psychotherapy and those who had lower scores on a scale of psychomotor activation responded more rapidly to medication.

In conclusion, available evidence in management of depression cannot yield definitive clinical guidance as to superiority of one treatment over another. No one antidepressant outperforms any other, nor, absent a history of previous response or other exclusionary factors such as pregnancy, are there good rubrics to determine how any particular patient will respond to an antidepressant. Evidence supports the use of combined treatments. Although this evidence is not yet definitive, it is sufficiently robust to recommend that any patient initiating treatment with an antidepressant should also be offered psychotherapy.

## Antipsychotics

The introduction of chlorpromazine (Thorazine) radically altered dominant mental health treatment in the United States and elsewhere. Not only did chlorpromazine offer needed sedation for agitated psychotic patients, but it also had a unique feature that earlier sedatives lacked. The distinguishing characteristic and largest clinical advantage of these new drugs was that they promoted a sense of indifference to psychotic symptoms (Healy, 1989). Patients continued to experience psychotic symptoms, such as auditory hallucinations and paranoid delusions, but they were no longer as troubled by these symptoms as they had been and accordingly were less agitated and reactive. This was not only of great benefit to patients, particularly those who felt the need to act out on their hallucinations and delusions, but it made behavioral management a far easier task. The introduction of effective antipsychotics is in part responsible for the wave of deinstitutionalization of psychotic patients that began in the 1950s, although it is erroneous to ascribe deinstitutionalization solely to these drugs. Recognition of long-standing and pervasive abuse of psychiatric inpatients also played a major role, as did changes in funding patterns (Grob, 1992; Yohanna, 2013).

Despite the obvious clinical advantages of antipsychotics, their widespread application since the 1950s has done little to improve overall clinical outcomes for patients with schizophrenia. A landmark study (Hegarty et al., 1994) surveyed outcomes for treatment of schizophrenia in the 100 years before the introduction of the first atypical antipsychotic, risperidone (Risperdal). Although patients treated with antipsychotics fared better than those treated with earlier somatic interventions (e.g., insulin coma, lobotomy), normalized rates of improvement in the early 1990s were little different from those reported 100 years earlier. The one period that did show significantly better overall treatment outcomes occurred between 1956 and 1985, which may have been because in the early years of their use antipsychotics were less aggressively prescribed. Systematic behavioral interventions implemented during the community mental health movement of the time may also have boosted response rates.

Regardless of their shortcomings, chlorpromazine and other early antipsychotics did provide significant treatment advantages and were immediately and widely deployed. From the mid-1950s, the phenothiazine antipsychotics dominated, and numerous variants of chlorpromazine were introduced. The first distinction between low- and high-potency neuroleptics (for the purposes of this chapter, I treat the terms *neuroleptic* and *antipsychotic* synonymously, although it is more correct to use the latter term) occurred during this period, when it became common to measure the potency of an antipsychotic in terms of dose equivalents to chlorpromazine. Fluphenazine (Prolixin, Permitil), a high-potency piperazine phenothiazine, was approved in 1959, and a long-acting injectable form soon followed. Haloperidol, which represented a different class of antipsychotic called the butyrophenone phenothiazines, was introduced in the United States in 1966 as Haldol, although it had been in use in Europe for at least a decade. Haloperidol was a very high-potency drug; 1 milligram of Haldol is equal to approximately 50 milligrams of chlorpromazine (the calculation of dose equivalents is surprisingly complex; for more detailed information refer to Andreasen et al., 2010). Other drugs of this generation still carrying an FDA approval

include thioridazine (Mellaril; now available only generically, it is not recommended because of drug interactions and cardiotoxicity), perphenazine (Trilafon, now available only as generic), thiothixene (Navane), trifluoperazine (Stelazine), loxapine (Loxitane; in 2012 loxapine was approved in an inhaled form for management of schizophrenia or manic agitation as Adasuve), molindone (Moban), and pimozide (Orap, indicated only for Tourette's syndrome).

The first atypical antipsychotic, clozapine (Clozaril), so called because its receptor profile was less selective for dopamine and more selective for serotonergic neurotransmission, had been investigated for use in Europe since the 1960s. It was withdrawn from clinical use there because of its association with a rare but often fatal blood disorder, agranulocytosis. Briefly, agranulocytosis is an autoimmune response that causes rapid depletion of certain types of white blood cells, compromising the immune system and exposing the patient to a high risk of secondary infection, which leads to fatalities in a large proportion of affected patients. After further study, clozapine was indicated for psychosis in the United States in 1989, but with a requirement for frequent laboratory examinations. Clozapine is acknowledged to be perhaps the most effective antipsychotic, but weight gain, agranulocytosis, and other blood disorders limit its use (Meltzer, 1995). Much SGA development since clozapine has been in an attempt to find drugs with clozapine's effectiveness but lacking its pernicious side effects.

Since clozapine's approval for use in the United States in 1989, numerous SGAs have been introduced (the term *second generation* is preferred to *atypical;* the latter term connotes a unique, dopamine-sparing receptor profile, which is inaccurate because these drugs also occupy postsynaptic dopamine receptors). In addition to risperidone (Risperdal), other approved SGAs are quetiapine (Seroquel), ziprasidone (Geodon), aripiprazole (Abilify), paliperidone (Invega), asenapine (Saphris), iloperidone (Fanapt), and lurasidone (Latuda). Clinically and structurally, these drugs resemble each other rather closely, though some, such as quetiapine, may be more sedating than others. The one exception is aripiprazole, which has less dopamine blocking action and is often thought to be less efficacious as an antipsychotic. It is widely promoted as an adjunctive treatment for resistant depression.

Another purported benefit of SGAs is their ability to treat the so-called "negative symptoms" of schizophrenia, including social withdrawal, apathy, and anhedonia, and they were widely promoted as a treatment for such symptoms. Unfortunately, it also became apparent that SGAs were not necessarily effective as a treatment for negative symptoms, although switching to this class may have aided the secondary negative symptoms (Woo et al., 2009) that were induced by excessive doses of earlier antipsychotic agents. It also became clear that the SGAs had a complex and significant set of side effects of their own that did not in the long run render them safer than earlier drugs. These side effects often feature the metabolic syndrome, sedation, dysregulation of serum glucose and serum lipids, and excessive weight gain. Nevertheless, their use was aggressively promoted, and within a decade they had almost entirely supplanted the use of earlier antipsychotics. Within 9 years of the introduction of risperidone, three SGAs (risperidone, olanzapine, and quetiapine) accounted for more than 70% of all antipsychotics prescribed in the United States (Tandon & Jibson, 2003), and by 2008 SGAs represented 86% of the U.S. antipsychotic market (Gallini, Donohue, & Huskamp, 2013). Expenditures for SGAs were more than $18 billion in 2010, with 75% of this amount paid by Medicaid, and off-label uses for conditions other than those indicated by the FDA (e.g., posttraumatic stress disorder, aggressive behavior in adolescents) were common. The absence of data suggesting any clinical advantage over earlier antipsychotics and their widespread off-label use has suggested to many researchers that prescribing patterns were shaped by aggressive pharmaceutical manufacturer marketing rather than clinical need (Hermes, Sernyak, & Rosenheck, 2012). As was also the case for the newer antidepressants, perceptions of enhanced safety and efficacy of the SGAs led to rapid expansion of the antipsychotic market, overall, prescription of antipsychotics increased by 78% between 1998 and 2008 (Gallini et al., 2013).

This trend will likely reverse, at least partially, in the next few years. Because almost all SGAs will go off patent in the next 3 to 5 years, we can predict a similar decline in their prescription, along with a significant decline in costs associated with their use. Given that overall prescription rates decline when aggressive marketing ceases, some authors predict a nationwide reduction in Medicaid expenditures of more than $2.8 billion by 2019 (Slade & Simoni-Wastila, 2015).

A large controlled comparative trial of patients taking either first-generation antipsychotics (FGAs) or SGAs, the Cost Utility of the Latest Antipsychotics in Schizophrenia, examined outcomes in 227 patients randomized to either FGAs or SGAs. At 1-year follow-up, results indicated that the SGA group experienced significantly more cardiovascular, anticholinergic, and sexual side effects in comparison to those taking FGAs. Significant weight gain, although anticipated for the SGA group, did not occur, contrary to the researchers' expectations and other findings (Peluso et al., 2013). No clinical difference in outcome was found between those taking earlier drugs and SGAs, a finding similar to that of other trials, including the Clinical Antipsychotic Trials for Intervention Effectiveness trial.

The Clinical Antipsychotic Trials for Intervention Effectiveness trial (McEvoy et al., 2006) was a large-scale, multicenter, multiphase, ecologically valid (i.e., it studied patients who closely resembled those seen in typical clinical settings) trial that examined outcomes in patients taking a variety of antipsychotics. Findings, unfortunately, revealed that most patients did not respond well to any antipsychotic, and those who failed a first trial were even less likely to respond to a second drug. Of the drugs studied, clozapine resulted in much better outcomes than other drugs, but agranulocytosis and other severe side effects limited its use. There was a trend for olanzapine to perform better than other SGAs in terms of patient adherence, but its use was associated with significant weight gain. The FGA perphenazine performed as well as a number of SGAs (McEvoy et al., 2006).

Another important trial of antipsychotics examined FGA and SGA use in children and adolescents, in whom rates of prescribing for nonindicated disorders have increased dramatically (Sikich et al., 2008). In this trial of 117 children and adolescents, the FGA molindone not only outperformed SGAs but was significantly less associated with weight gain, important because children and adolescents taking olanzapine gained an average of 13 pounds in the 8 weeks of the trial. Findings were obscured, however, by a large dropout rate across all classes of medications and the short duration of the study (Sikich et al., 2008). A large-scale Danish study of 4,532 patients spanning 15 years found no significant differences in outcomes between SGAs and FGAs measured in terms of time to hospitalization and duration of hospitalization (Nielsen et al., 2015). All antipsychotics, regardless of class, have been contraindicated by the FDA for the treatment of agitation in patients with dementia and should not be used for this purpose.

How can one account for the unique chapter in psychopharmacology posed by the SGAs, given the overwhelming data that they are neither more efficacious nor safer than earlier agents? Although it is tempting to ascribe this expensive chapter in U.S. health care solely to pharmaceutical manufacturers' promotion, this cannot explain the entire phenomenon. Aggressive and sometimes illegal drug company marketing, often targeting off-label uses of patented medications, is probably the largest explanatory factor. Since 2009, the U.S. Department of Justice has levied fines of more than $4.14 billion against pharmaceutical firms related to illegal marketing of antipsychotics alone (Groeger, 2014).

Three other factors are likely at play, however. First, earlier antipsychotics were toxic agents, particularly when used in the higher dose ranges that rapidly became the norm. Their use was largely shunned by nonpsychiatric practitioners who did not feel they had the expertise to manage this dangerous class of drug and who were undoubtedly concerned about the malpractice implications of permanent, disfiguring side effects such as tardive dyskinesia. Second, patient acceptance of earlier antipsychotics was poor and nonadherence high because of the intrinsic effects of the drugs as well as inappropriate dosing strategies. Third, FGAs were not terribly successful in managing symptoms of schizophrenia. Prescribers were faced with the

reality of a long-term, debilitating illness that was not well addressed by existing medical treatments. Thus, the stage was set for rapid abandonment of a class of largely unpopular, difficult-to-manage drugs that lacked the efficacy many patients and providers longed for. These factors, coupled with provider frustration when wrestling with a devastating long-term disorder and aggressive marketing, set the stage for a unique episode in modern psychopharmacology, that is, one in which a class of drugs that is neither more safe nor efficacious supplants an earlier class of drugs.

Despite evidence that newer SGAs are no more effective than earlier agents, at this point they almost completely dominate the antipsychotic marketplace. SGAs, as are their predecessors, are available in a variety of oral and injectable forms. Five SGAs—risperidone, paliperidone, olanzapine, ziprasidone, and aripiprazole—are now also available in long-acting or depot injectable forms such that patients who are unable or unwilling to take daily medications can receive an injection every 21 to 28 days; indeed, a recently introduced form of injectable paliperidone (Invega Trinza) purports to allow dosing on a 3-month interval. Some new innovations in drug delivery also include rapidly disintegrating oral tablets. Use of this delivery mechanism may assist in adherence for patients reluctant to take antipsychotic medications because they prevent "cheeking" or holding medications in their mouths and expelling rather than swallowing them, an occasional problem on inpatient services. The SGAs available in rapidly disintegrating tablet or solution form are aripiprazole (Abilify Discomelt), orally disintegrating clozapine (Fazacio) or solution (Versacloz), olanzapine (Zyprexa Zydis), and risperidone (Risperdal M-Tab).

SGAs carry the same short- and long-term side effect risk associated with dopaminergic blockade as did earlier generations of antipsychotics. Tardive dyskinesia has been reported with all classes of antipsychotics, although incidence appears to be lower than in the past. Whether this is due to more conservative dosing strategies or characteristics of the SGAs remains controversial. It is clear, however, that the treatment fads of rapid neuroleptization or megadosing of antipsychotics that were prevalent in the 1980s (Tueth, DeVane, & Evans, 1998) have essentially vanished, and with them some of the more dangerous and debilitating side effects of antipsychotics, including the neuroleptic malignant syndrome and higher incidence of tardive dyskinesia.

Without question, megadosing led to patient aversion to these drugs because high doses almost invariably caused sudden dystonic reactions (muscular rigidity and loss of muscular control) and other unpleasant side effects. It also led to increased frequency of other disorders associated with potent dopamine blocking agents, including the neuroleptic malignant syndrome (a life-threatening emergency because of loss of ability to regulate basic homeostatic functions such body temperature and breakdown of skeletal musculature (rhabdomyalisis) as a result of prolonged muscular rigidity. Because when the SGAS were introduced lower doses were becoming the norm, it was logical to presume that the SGAs were inherently less apt to produce negative side effects, when in reality this was probably associated with more rational dosing strategies. This certainly contributed to their rapid adoption, even though reports of neuroleptic malignant syndrome and tardive dyskinesia associated with them almost immediately appeared in the literature. When SGAs are used in high doses, neuromuscular symptoms and neuroleptic malignant syndrome are known risks (Petersen et al., 2014). Whether the neuroleptic malignant syndrome associated with SGAs differs qualitatively from that seen with FGAs remains unsettled (Nakamura et al., 2012; Trollor et al., 2012), but here again lower dosing strategies are almost certainly implicated in the lower incidence of neuroleptic malignant syndrome.

## Anxiolytics

Anxiety is a part of the human condition. Controlled anxiety is protective; poorly controlled or unchecked anxiety is a component of most mental disorders. Most current psychotropics with the exception of the psychostimulants have anxiolytic properties, and all have been used in one form or another to control manifestations of anxiety. The nomenclature of the 1960s and 1970s suggests that the anxiolytic properties of many drugs were commonly recognized: Antipsychotic drugs were

classified as major tranquilizers and benzodiazepines and barbiturates as minor tranquilizers.

Alcohol, of course, is the anxiolytic *par excellence* and is used in moderation to create a sense of relaxation, euphoria, and mild disinhibition promoting social interaction. The pharmacology of alcohol is complex and not completely understood, but it likely exerts at least part of its anxiolytic effects by promoting the activity of the neurotransmitter gamma aminobutyric acid, or GABA, the most common inhibitory neurotransmitter in brain (glutamate is the most common excitatory neurotransmitter; some anxiolytic agents specifically act to inhibit glutamate activity, but most focus on GABA).

Earlier in this chapter, I discussed the role of opiates and bromides as sedatives, and although these drugs, like alcohol, have pronounced sedative qualities, they also produce a number of other effects such as intoxication or excessive sedation that are undesirable in the clinical management of anxiety disorders. As I have discussed, the first modern, specific barbiturate anxiolytic, Veronal, was introduced in the early 20th century, and the barbiturates in many forms were the mainstay of anxiety therapy until 1960, when the first benzodiazepine, chlordiazepoxide (Librium), was introduced. In keeping with the trajectory of drug development previously outlined, the benzodiazepines were no more effective at reducing anxiety or promoting sleep than the barbiturates but were far less lethal in overdose.

Anxiolytics are useful for an astonishing range of conditions, attesting to the ubiquity of GABA as an inhibitory neurotransmitter. In addition to their use for anxiety disorders such as social anxiety disorder, panic disorder, and generalized anxiety disorder, they are used in surgical anesthesia, to manage seizures associated with epilepsy, in conscious sedation for dental procedures, to augment the clinical response to antidepressants and antipsychotics, and to control acute agitation. One of the enduring and best-described clinical uses of the benzodiazepines is in managing alcohol withdrawal. By preventing seizures and the onset of delirium tremens, the benzodiazepines are an effective tool in a life-threatening condition, and benzodiazepines remain the mainstay of treatment for complicated alcohol withdrawal.

The mechanism of action of barbiturates and benzodiazepines is straightforward. Both act on a specific site on the GABA-A receptor, a part of a transmembrane gated chloride ion channel located on central nervous system neurons. Binding of a benzodiazepine to the benzodiazepine subunit of this receptor complex expands the diameter of the ion channel, allowing more negatively charged chloride ions to flow into the cell and preventing action potentials from forming, thereby inhibiting cellular activity. Barbiturates also work via the GABA-A receptor complex, but on a different subunit. Agonizing this subunit allows the ion channel to remain open for longer periods. Activating either of these subunits, then, potentiates the activity of GABA and increases levels of tonic neural inhibition.

There are six major physiological and psychological consequences of enhanced GABA-ergic activity: relaxation of skeletal (striate) musculature, decreased respiratory drive, sedation, anticonvulsant effects, respiratory depression, and induction of sleep. The so-called GABA receptor agonists (GRAs), a nonbenzodiazepine class of medication indicated only for sleep, also act at another specific site (the omega-1 subunit) on the GABA receptor complex but because of their selective binding at this subunit do no have the same range of effects as other GABA agonists (Trevor & Way, 2012).

A separate GABA-B receptor also exists; it is a metabotropic, or g-protein–mediated, receptor that also inhibits neuronal activity. The GABA-ergic medication baclofen binds to this receptor site and is clinically used as a spasmolytic medication. Investigations are underway to determine whether baclofen has a role in chronic alcoholism (Müller et al., 2014) as well as other mental disorders.

Barbiturates, although they continue to have some use in neurology and anesthesia, have no current use in treating mental disorders. They have been entirely supplanted by the benzodiazepines. Since the introduction of chlordiazepoxide in 1960, a large number of benzodiazepines have been introduced; their relatively unique pharmacological profiles make them more or less suitable for specific mental conditions. Earlier benzodiazepines, such as chlordiazepoxide or diazepam (Valium) had

numerous metabolites, many of which were active, and as a result possessed lengthy and unpredictable half-lives. Chlordiazepoxide was extensively metabolized and had a large number of active metabolites, some with half lives as long as 96 hours, making calculation of its duration of action difficult. Similarly, diazepam has a number of active metabolites (the final active metabolite of diazepam is oxazepam), yielding a duration of action of several days. Although this can be useful in managing chronic conditions or complicated alcohol withdrawal, in general drugs with less hepatic metabolism and more predictable durations of action are preferred. Benzodiazepines that are not metabolized by the liver, such as lorazepam (Ativan), oxazepam (Serax), temazepam (Restoril), and clonazepam (Klonopin) have a more predictable duration of action and may be used when hepatic metabolism is impaired, either by disease or in elderly patients.

Benzodiazepines should generally be avoided in elderly individuals because they tend to be more sensitive to the cognitive and neuromuscular effects of these drugs. Not only do these drugs cause cognitive slowing that can exacerbate existing cognitive deficits, particularly in patients with dementia, but their psychomotor effects can lead to impaired balance and heightened falls risk. Older adults also tend to metabolize drugs more slowly, making the duration of action of hepatically metabolized benzodiazepines uncertain.

In addition to drug half-life, another important consideration with the benzodiazepines is their degree of lipophilicity, because it determines how readily they cross the blood–brain barrier. Highly lipophilic benzodiazepines have a much shorter onset of action, leading to rapid reinforcing effects after a dose. When this is combined with a short duration of action, as in the case of alprazolam (Xanax; one of the most commonly prescribed benzodiazepines), it may lead to a higher abuse potential because of the drug's immediate reinforcing effects and subsequent need for readministration. To avoid this, modifications to the benzodiazepine molecule to produce agents that are less immediately reinforcing because of a longer onset and duration of action, such as clonazepam or lorazepam, represent a pharmacological benefit to many patients.

Many antidepressants, particularly the SRIs, have broad-spectrum efficacy when used against numerous anxiety disorders, such as generalized anxiety, posttraumatic stress disorder, and related conditions. Because these drugs generally lack the risk of dependence associated with the benzodiazepines, they are often recommended as first-line treatment, although benzodiazepines may also be simultaneously indicated. The choice depends on patient presentation, tolerability of one class of agent over another, and long-term risks of dependence. Cognitive–behavioral therapy and other behavioral treatments (e.g., relaxation therapy) are also recommended first-line treatments (Baldwin et al., 2014).

Buspirone is an atypical anxiolytic drug not resembling the benzodiazepines or barbiturates. Introduced as BuSpar in 1986 as an alternative free of the risks of dependence, it is of the azapirone class of agents, and its mechanism of action largely involves agonism of a type of serotonin receptor (the serotonin-1a subreceptor) rather than GABA binding sites. Because of its serotonergic activity, it more closely resembles the SRI class of antidepressants. As with the SRIs and other antidepressants, the effects of buspirone take several weeks to develop, so it is not useful in acute anxiety states. Clinically, it is regarded as a modestly effective anxiolytic that may be of some benefit in patients needing long-term management of anxiety, but most patients prefer benzodiazepines, and buspirone is best used in benzodiazepine-naïve patients. Its overall limited efficacy is offset by its potential use in patients with substance abuse problems, presuming that they are adherent to it.

Insomnia represents another major application of anxiolytic drugs. In general, although benzodiazepines, barbiturates, and GRAs are effective hypnotics, as with any psychotropic clear limitations to their use exist. All are associated with abuse potential (the one specific hypnotic that appears to be free of abuse liability is the melatonin-receptor agonist ramelteon [Rozerem], but its overall efficacy is questionable; Kuriyama, Honda, & Hayashino, 2014). This potential is probably highest for benzodiazepines and barbiturates. The evidence is also clear that although these are effective sleep

inducers, if taken over the long term they do not appreciably improve insomnia—indeed, patients often simply become habituated to the drug and continue to experience sleep problems. In general, nonpharmacological interventions, such as sleep hygiene and cognitive–behavioral therapy, outperform sleeping medications in the longer term (Morin et al., 2009). For this reason it is essential that, when considering the use of GRAs or benzodiazepines for sleep, a comprehensive sleep hygiene regimen is used.

A good clinical rule of thumb is to recommend that sleep medication be taken only intermittently. Recent evidence-based guidelines issued by the British Association for Psychopharmacology have suggest that a trial of cognitive–behavioral therapy be attempted before the prescription of medication, at least for short-term insomnia, and that if medication is considered, it should be appropriately matched to patients (e.g., lower doses for women), tapered as needed, and that combining cognitive–behavioral therapy with tapering likely improves outcome (Wilson et al., 2010).

All of the benzodiazepines are associated with cognitive slowing, may impair psychomotor performance, and are therefore associated with falls risks. Benzodiazepines, barbiturates, and GRAs have significant interactions with alcohol, and this combination should be avoided, it is particularly dangerous with barbiturates because of decreased respiratory drive.

Newer GRAs such as zolpidem work as described earlier at the omega-1 subunit of the GABA receptor complex. This specific binding mechanism gives them the characteristic pharmacological profile of sleep induction without musculoskeletal relaxation. Although they are specific for the omega-1 subunit, their effects are antagonized by the benzodiazepine antagonist flumazenil (Romazicon), which may be used clinically in cases of benzodiazepine or GRA overdose. Also, GRAs at standard doses are selective for the omega-1 subunit but become nonselective at higher doses, with overall effects then largely mimicking those of benzodiazepines.

The GRAs are of a chemical class called imidazopyridines (Feldman et al., 1997). Zolpidem, initially marketed in 1992 as Ambien and now available under a variety of names, was the first of the GRAs to be introduced. Now extraordinarily popular as prescribed sleep aids, a number of other GRAs are now available, including eszopiclone (Lunesta), zopiclone (Imovane), and zaleplon (Sonata); many are now available in controlled release preparations. One preparation of zolpidem, Intermezzo, is designed to be taken should awakening occur later in the sleep cycle. In 2013, after a series of reports of motor vehicle accidents involving GRAs, the FDA added a warning to the label of GRAs that both lowered the recommended dose of most agents (Ambien, Ambien CR, Edluar, and Zolpimist) and warned that morning-after impairment could occur that might make driving and other activities dangerous (FDA, 2013).

GRAs are also considerably more expensive than benzodiazepines because most benzodiazepines are now available in generic form. If a sedative hypnotic drug is contemplated, it is not unreasonable to consider first a less-expensive benzodiazepine with a predictable half-life, such as lorazepam.

Although the GRAs were initially marketed as non–habit-forming versions of benzodiazepines, dependence and abuse of these agents occurs. The GRAs have interactive effects with other sedatives that may have dangerous consequences. GRAs are cross-tolerant with alcohol and are therefore particularly problematic when taken in combination, but even alone, GRAs affect driving behavior in a manner similar to alcohol (Gustavsen et al., 2009). Rare side effects include agitation, amnesia, and more rarely hallucinations (usually visual). GRAs, particularly when taken with alcohol, may result in amnestic episodes and the production of unusual behavior, such as engaging in automatic, often complex behaviors (e.g., driving or eating, for which the patient is subsequently amnestic; Paulke, Wunder, & Toennes, 2015). This awareness should be an element of informed consent for patients taking GRAs. The development of the GRAs demonstrated that effective hypnotics could be formulated that had a limited side effect profile and were specific for sleep rather than for muscular relaxation or anxiolysis.

Since the GRAs were introduced, a new class of agent, also specific for the induction of sleep,

has been in development. Called either single or dual orexin receptor antagonists, these agents target receptors specific for the neuropeptide orexin, which is implicated in sleep induction (Winrow & Renger, 2014). Suvorexant, a dual orexin receptor antagonists introduced in the United States in late 2014 as Belsomra, is the only currently available orexin antagonist. Although its mechanism of action differs from that of the benzodiazepines and GRAs, it does share in common some of the same side effects (daytime somnolence), and its overall clinical resemblance to the GRAs suggest that it too has abuse potential. It is marketed as a Category IV controlled substance. As of this writing, it is too early to tell whether this agent will have a risk–benefit profile different from that of the GRAs.

## LIMITATIONS AND CONTRAINDICATIONS

Although psychotropic drugs are not curative agents, they continue to be used as though they were. Psychotropic drugs help to ameliorate the symptoms of certain mental conditions. They do not, however, address the root causes of such disorders, and their use never results in a cure—simply a reduction in experienced symptoms of the disorder.

In spite of the knowledge that medications provide only partial relief, they are the de facto treatment of choice for mental distress in the United States. Most patients seeking treatment for a mental condition in the United States receive one form of treatment only—medicine—even when studies have demonstrated conclusively that for many mental disorders a combination of medicine and psychopharmacology leads to better clinical outcomes. More than 80% of patients seeking outpatient treatment for depression, for example, get pharmacotherapy and no other form of treatment (Olfson & Marcus, 2009).

Why this situation has persisted is difficult to explain in light of evidence discussed earlier that combined treatments yield better outcomes. In part, the answer is because practice patterns in medicine are resistant to change, as shown in the example of inappropriate dosing of antipsychotics and the wholesale abandonment of earlier antipsychotics for newer agents that have few comparative benefits. Other explanations may lie in the fact that integrated care for most mental disorders is still not commonly available, so prescribers stick with the tools they have at hand (medication) and therapists use behavioral interventions. Professionals equipped to provide both psychotherapy and psychopharmacology will use both these tools in a more balanced way. Thus, the current balkanization of mental health, with treatments divided not by evidence but by guild preference and training, is clearly a factor. Whatever combination of these factors is most explanatory, we are left with a situation in which few people with mental disorders get optimal treatment.

Sixty years after the last major revolution in Western psychopharmacology, researchers, patients, and professionals continue to wrestle with the question of whether these drugs are worth taking. Side effects of psychotropics are ubiquitous, troubling, and occasionally life threatening. We are still far from an understanding of not only whether such drugs work but also precisely how they exert their beneficial effects. Although we understand that most psychotropic drugs exert some beneficial effect in most patients who take them, we still cannot conclusively answer whether the benefits associated with such drugs outweigh their risks and, because all drugs carry some inherent level of risk, whether they should be eschewed in favor of nonpharmacological treatment. We also do not know which patients benefit from them more than another form of treatment, such as psychotherapy. A recent large meta-analysis examining the efficacy of pharmacotherapy and psychotherapy for 21 adult mental disorders showed that both modalities are in general effective, but only modestly so (Huhn et al., 2014). Methodological limitations prevented these authors from making definitive statements about what treatment might be preferred for what condition.

Another limitation in our knowledge is that much of the published literature on psychotropics has been tainted by the influence of drug manufacturers. Quite simply, it is difficult to trust the results of many published drug trials. The psychiatric historian David Healy has estimated that more than 50% of the psychiatric literature is ghostwritten with funding provided by pharmaceutical manufacturers

(Collier, 2009). This problem is endemic in other segments of the medical literature. Since recognition of this problem in the 1990s, some steps have been made to improve transparency of drug company involvement in study design, subject selection, and reporting of outcomes. Government-funded trials must be registered in an open database, sources of authors' funding must be revealed, and raw data must be made available for further investigation.

In spite of efforts by government and medical publishers to rein in industry-funded influences, bias in reporting is still widespread. A recent review found a high degree of noncompliance in registering clinical trials and that most such trials continued to be funded by pharmaceutical manufacturers (Anderson et al., 2015). Consumers as well as providers are targets of drug manufacturers' campaigns. Read and Cain (2013) found that drug company–sponsored websites were significantly more likely to describe mental disorders in biological terms and promote pharmacological treatments. It is impossible to state that the clinical literature provides an unbiased, scientific guide to clinical thinking and practice about psychotropic drugs, and it is equally important to understand that consumers' behavior, as well as clinicians', is influenced by pervasive drug company marketing strategies.

Maund et al. (2014) investigated trial registries and journal publications regarding the benefits and harms of the mixed-function antidepressant duloxetine (Cymbalta and others). They discovered that a great deal of information that would improve clinical practice was routinely withheld from journal articles, the source of most clinicians' knowledge about most drugs and their application. In particular, they found significant publication bias (i.e., the withholding of negative data from publication) and that reporting thresholds applied in trials led to much data on harm not being published in journal articles, including important clinical considerations such as discontinuation side effects and strategies for managing them.

## LANDMARK CONTRIBUTIONS AND MAJOR ACCOMPLISHMENTS

There is good cause to be circumspect in the acceptance of psychotropic drugs, but this should not be viewed as an overly pessimistic conclusion. Much good data exist demonstrating that these drugs are of real benefit. Their application has assisted untold numbers of patients. Despite the drawbacks associated with every known class of medications, to abandon them would cause unthinkable harm to many patients. For example, one reason that antipsychotics are avidly embraced is that they represent a tremendous advance over earlier somatic treatments, including those with demonstrably harmful consequences, such as prefrontal lobotomy, insulin coma therapy, and the like (see Nathan & Sammons, 2015).

The incidence of severe variants of depression or anxiety, such as catatonia or depression with disabling neurovegetative signs has declined, almost certainly because of the ability to intervene with effective psychotropic agents. We have come considerable distance from the use of globally acting, toxic sedatives such as the bromides to the point at which we can administer relatively nontoxic benzodiazepine anxiolytics with well-described durations of action. The greatest advance of the SRIs, as noted, was not that they were more effective than the TCAs in managing depression but that potentially suicidal patients are no longer routinely supplied with lethal doses of medication.

To disavow the use of psychotropics because they are associated with measurable placebo effects would be to ignore the fact that the placebo effect is endemic not only in much of modern medicine but that it is a remarkably consistent factor in the most up-to-date psychotherapies. To disparage psychotropics because they are not curative makes no more sense than to dismiss psychotherapy because it too fails to provide permanent relief.

## FUTURE DIRECTIONS

I have characterized the fifth, and current, era of psychopharmacology as one of stasis, with few new drugs being developed and many drug manufacturers abandoning the mental health marketplace. There are, in fact, a few new developments, but to me it is unlikely that these will represent clinical advances. We have, perhaps, reached the end of the explanatory power of monoamine hypotheses

of depression and psychosis. Inquiry into brain signaling proteins, such as orexin, or drugs such as the antitubercular agent d-cycloserine that has activity on glutaminergic systems at the N-methyl-D-aspartate receptor may provide some new avenues of clinical investigation (Li, Frye, & Shelton, 2012). At the same time, an informed outlook grounded in history advises that any drugs resulting from such investigations are no more likely to be more effective, let alone curative, than any of their predecessors.

Again, however, this should not be interpreted as cause for despair. If curative drugs are not forthcoming, more enlightened applications of psychotropics can instead provide tangible improvements in patient care. Perhaps the most enduring paradox in modern psychopharmacological treatment is that in spite of evidence that therapy with drugs alone is generally less efficacious than combined treatments, the vast majority of patients continue to receive only drug therapy for mental disorders. Recent evidence-based guidelines regarding the use of many psychotropics, however, have often given equal primacy to both psychological and pharmacological treatment, and where evidence exists, combined treatments are recommended (Baldwin et al., 2014; Wilson et al., 2010). The challenge, then, is not to find a cure but to make available optimum combinations of medication and psychotherapy that provide the greatest benefit with the least harm to patients with often disabling disorders.

## References


Anderson, M. L., Chiswell, K., Peterson, E. D., Tasneem, A., Topping, J., & Califf, R. M. (2015). Compliance with results reporting at ClinicalTrials.gov. *New England Journal of Medicine*, *372*, 1031–1039. http://dx.doi.org/10.1056/NEJMsa1409364

Andreasen, N. C., Pressler, M., Nopoulos, P., Miller, D., & Ho, B.-C. (2010). Antipsychotic dose equivalents and dose-years: A standardized method for comparing exposure to different drugs. *Biological Psychiatry*, *67*, 255–262. http://dx.doi.org/10.1016/j.biopsych.2009.08.040

Baldwin, D. S., Anderson, I. M., Nutt, D. J., Allgulander, C., Bandelow, B., den Boer, J. A., . . . Wittchen, H. U. (2014). Evidence-based pharmacological treatment of anxiety disorders, post-traumatic stress disorder and obsessive-compulsive disorder: A revision of the 2005 guidelines from the British Association for Psychopharmacology. *Journal of Psychopharmacology*, *28*, 403–439. http://dx.doi.org/10.1177/0269881114525674

Ban, T. A. (2001). Pharmacotherapy of mental illness—A historical analysis. *Progress in Neuro-Psychopharmacology and Biological Psychiatry*, *25*, 709–727. http://dx.doi.org/10.1016/S0278-5846(01)00160-9

Biesheivel-Leliefeld, K. E., Kok, G. D., Bockting, C. L., Cuijpers, P., Hollon, S. D., van Marwijk, H. W., & Smit, F. (2015). Effectiveness of psychological interventions in preventing recurrence of depressive disorder: Meta-analysis and meta-regression. *Journal of Affective Disorders*, *174*, 400–410. http://dx.doi.org/10.1016/j/jad2014.12.016.

Brownstein, M. J. (1993). A brief history of opiates, opioid peptides, and opioid receptors. *Proceedings of the National Academy of Sciences of the United States of America*, *90*, 5391–5393. http://dx.doi.org/10.1073/pnas.90.12.5391

Burton, R. (1927). *The anatomy of melancholy*. London: Chatto & Windus. (Original work published 1628)

Cipriani, A., Furukawa, T. A., Salanti, G., Geddes, J. R., Higgins, J. P., Churchill, R., . . . Barbui, C. (2009). Comparative efficacy and acceptability of 12 new-generation antidepressants: A multiple-treatments meta-analysis. *Lancet*, *373*, 746–758. http://dx.doi.org/10.1016/S0140-6736(09)60046-5

Collier, R. (2009). Prevalence of ghostwriting spurs calls for transparency. *Canadian Medical Association Journal*, *181*, E161–E162. http://dx.doi.org/10.1503/cmaj.109-3036

Cuijpers, P., van Straten, A., Hollon, S. D., & Andersson, G. (2010). The contribution of active medication to combined treatments of psychotherapy and pharmacotherapy for adult depression: A meta-analysis. *Acta Psychiatrica Scandinavica*, *121*, 415–423. http://dx.doi.org/10.1111/j.1600-0447.2009.01513.x

Del Re, A. C., Spielmans, G. I., Flückiger, C., & Wampold, B. E. (2013). Efficacy of new generation antidepressants: Differences seem illusory. *PLoS ONE*, *8*, e63509. http://dx.doi.org/10.1371/journal.pone.0063509

de Maat, S. M., Dekker, J., Schoevers, R. A., & de Jonghe, F. (2007). Relative efficacy of psychotherapy and combined therapy in the treatment of depression: A meta-analysis. *European Psychiatry*, *22*, 1–8. http://dx.doi.org/10.1016/j.eurpsy.2006.10.008

Feldman, R. S., Meyer, J. S., & Quenzer, L. F. (1997). *Principles of neuropsychopharmacology*. Sunderland, MA: Sinauer Associates.

Fournier, J. C., DeRubeis, R. J., Hollon, S. D., Dimidjian, S., Amsterdam, J. D., Shelton, R. C., & Fawcett, J. (2010). Antidepressant drug effects and depression severity: A patient-level meta-analysis. *JAMA*, *303*, 47–53. http://dx.doi.org/10.1001/jama.2009.1943

Frank, E., Cassano, G. B., Rucci, P., Thompson, W. K., Kraemer, H. C., Fagiolini, A., . . . Forgione, R. N. (2011). Predictors and moderators of time to remission of major depression with interpersonal psychotherapy and SSRI pharmacotherapy. *Psychological Medicine*, *41*, 151–162. http://dx.doi.org/10.1017/S0033291710000553

Gallini, A., Donohue, J. M., & Huskamp, H. A. (2013). Diffusion of antipsychotics in the U.S. and French markets, 1998–2008. *Psychiatric Services*, *64*, 680–687. http://dx.doi.org/10.1176/appi.ps.004662012

Gaudiano, B. A., & Herbert, J. D. (2005). Methodological issues in clinical trials of antidepressant medications: Perspectives from psychotherapy outcome research. *Psychotherapy and Psychosomatics*, *74*, 17–25. http://dx.doi.org/10.1159/000082022

Goodman, L., & Gilman, A. (1941). *The pharmacological basis of therapeutics*. New York, NY: Macmillan.

Greenberg, R. P., & Fisher, S. (1989). Examining antidepressant effectiveness: Findings, ambiguities, and some vexing puzzles. In S. Fisher & R. P. Greenberg (Eds.), *The limits of biological treatment for mental distress: Comparisons with psychotherapy and placebo* (pp. 1–37). Hillsdale, NJ: Erlbaum.

Grob, G. N. (1992). Mental health policy in America: Myths and realities. *Health Affairs*, *11*, 7–22. http://dx.doi.org/10.1377/hlthaff.11.3.7

Groeger, L. (2014). *Big Pharma's big fines*. Retrieved from http://projects.propublica.org/graphics/bigpharma

Gustavsen, I., Al-Sammurraie, M., Mørland, J., & Bramness, J. G. (2009). Impairment related to blood drug concentrations of zopiclone and zolpidem compared to alcohol in apprehended drivers. *Accident Analysis and Prevention*, *41*, 462–466. http://dx.doi.org/10.1016/j.aap.2009.01.011

Hamilton, G. R., & Baskett, T. F. (2000). In the arms of Morpheus: The development of morphine for postoperative pain relief. *Canadian Journal of Anaesthesia*, *47*, 367–374. http://dx.doi.org/10.1007/BF03020955

Harada, E., Schacht, A., Koyama, T., Marangell, L. B., Tsuji, T., & Escobar, R. (2015). Efficacy comparison of duloxetine and SSRIs at doses approved in Japan. *Neuropsychiatric Disease and Treatment*, *11*, 115–123. http://dx.doi.org/10.2147/NDT.S72642

Healy, D. (1989). Neuroleptics and psychic indifference: A review. *Journal of the Royal Society of Medicine*, *82*, 615–619.

Healy, D. (1997). *The antidepressant era*. Boston, MA: Harvard University Press.

Healy, D. (2002). *The creation of psychopharmacology*. Boston, MA: Harvard University Press.

Hegarty, J. D., Baldessarini, R. J., Tohen, M., Waternaux, C., & Oepen, G. (1994). One hundred years of schizophrenia: A meta-analysis of the outcome literature. *American Journal of Psychiatry*, *151*, 1409–1416. http://dx.doi.org/10.1176/ajp.151.10.1409

Hermes, E. D., Sernyak, M., & Rosenheck, R. (2012). Impact of a program encouraging the use of generic antipsychotics. *American Journal of Managed Care*, *18*, e307–e314.

Huhn, M., Tardy, M., Spineli, L. M., Kissling, W., Förstl, H., Pitschel-Walz, G., . . . Leucht, S. (2014). Efficacy of pharmacotherapy and psychotherapy for adult psychiatric disorders: A systematic overview of meta-analyses. *JAMA Psychiatry*, *71*, 706–715. http://dx.doi.org/10.1001/jamapsychiatry.2014.112

Jones, A. W. (2011). Early drug discovery and the rise of pharmaceutical chemistry. *Drug Testing and Analysis*, *3*, 337–344. http://dx.doi.org/10.1002/dta.301

Kennedy, S. H., & Rizvi, S. K. (2009, September). Comparative efficacy of newer antidepressants for major depression: A Canadian perspective. *Canadian Journal of Diagnosis*, 81–86.

Kirsch, I., & Sapirstein, G. (1998). Listening to Prozac but hearing placebo: A meta-analysis of antidepressant medication. *Prevention and Treatment*, *1*, Article 0002a.

Kramer, P. (1993). *Listening to Prozac*. New York, NY: Viking Press.

Kuriyama, A., Honda, M., & Hayashino, Y. (2014). Ramelteon for the treatment of insomnia in adults: A systematic review and meta-analysis. *Sleep Medicine*, *15*, 385–392. http://dx.doi.org/10.1016/j.sleep.2013.11.788

LaMattina, J. (2013). *The dry pipeline for psychiatric drugs doesn't rest on Pharma's shoulders*. Retrieved from http://www.forbes.com/sites/johnlamattina/2013/08/21/the-dry-pipeline-for-psychiatric-drugs-doesnt-rest-on-pharmas-shoulders

Li, X., Frye, M. A., & Shelton, R. C. (2012). Review of pharmacological treatment in mood disorders and future directions for drug development. *Neuropsychopharmacology*, *37*, 77–101. http://dx.doi.org/10.1038/npp.2011.198

Linde, K., Berner, M. M., & Kriston, L. (2008). St. John's wort for major depression. *Cochrane Database of Systematic Reviews*, *2008*, CD000448.

Linde, K., Kriston, L., Rücker, G., Jamil, S., Schumann, I., Meissner, K., . . . Schneider, A. (2015). Efficacy and acceptability of pharmacological treatments for depressive disorders in primary care: Systematic review and network meta-analysis. *Annals of Family Medicine*, *13*, 69–79. http://dx.doi.org/10.1370/afm.1687

López-Muñoz, F., Ucha-Udabe, R., & Alamo, C. (2005). The history of barbiturates a century after their clinical introduction. *Neuropsychiatric Disease and Treatment*, *1*, 329–343.

Lugassy, D., & Nelson, L. (2009). Case files of the medical toxicology fellowship at the New York City poison control: Bromism: Forgotten, but not gone. *Journal of Medical Toxicology*, *5*, 151–157. http://dx.doi.org/10.1007/BF03161228

Manber, R., Kraemer, H. C., Arnow, B. A., Trivedi, M. H., Rush, A. J., Thase, M. E., . . . Keller, M. E. (2008). Faster remission of chronic depression with combined psychotherapy and medication than with each therapy alone. *Journal of Consulting and Clinical Psychology*, *76*, 459–467. http://dx.doi.org/10.1037/0022-006X.76.3.459

Maund, E., Tendal, B., Hrobjartsson, A., Juhl, K., Lundh, A., Schroll, J., & Gøtzsche, P. C. (2014). Benefits and harms in clinical trials of duloxetine for treatment of major depressive disorder: Comparison of clinical study reports, trial registries, and publications. *BMJ*, *348*, g3510. http://dx.doi.org/10.1136/bmj.g3510

McEvoy, J. P., Lieberman, J. A., Stroup, T. S., Davis, S. M., Meltzer, H. Y., Rosenheck, R. A., . . . Hsiao, J. K.; CATIE Investigators. (2006). Effectiveness of clozapine versus olanzapine, quetiapine, and risperidone in patients with chronic schizophrenia who did not respond to prior atypical antipsychotic treatment. *American Journal of Psychiatry*, *163*, 600–610. http://dx.doi.org/10.1176/ajp.2006.163.4.600

Medicine: Happiness by prescription. (1957, March 11). *Time Magazine*. Retrieved from http://www.time.com/time/magazine/article/0,9171,824739,00.html

Meltzer, H. Y. (1995). Atypical antipsychotic drugs. In F. Bloom & D. Kupfer (Eds.), *Psychopharmacology: The fourth generation of progress* (pp. 1277–1286). Baltimore, MD: Williams & Wilkins.

Middleton, H., & Moncrieff, J. (2011). "They won't do any harm and might do some good": Time to think again on the use of antidepressants? *British Journal of General Practice*, *61*, 47–49. http://dx.doi.org/10.3399/bjgp11X548983

Moncrieff, J., & Cohen, D. (2009). How do psychiatric drugs work? *BMJ*, *338*, b1963. http://dx.doi.org/10.1136/bmj.b1963.

Morin, C. M., Vallières, A., Guay, B., Ivers, H., Savard, J., Mérette, C., . . . Baillargeon, L. (2009). Cognitive behavioral therapy, singly and combined with medication, for persistent insomnia: A randomized controlled trial. *JAMA*, *301*, 2005–2015. http://dx.doi.org/10.1001/jama.2009.682

Müller, C. A., Geisel, O., Banas, R., & Heinz, A. (2014). Current pharmacological treatment approaches for alcohol dependence. *Expert Opinion on Pharmacotherapy*, *15*, 471–481. http://dx.doi.org/10.1517/14656566.2014.876008

Nakamura, M., Yasunaga, H., Miyata, H., Shimada, T., Horiguchi, H., & Matsuda, S. (2012). Mortality of neuroleptic malignant syndrome induced by typical and atypical antipsychotic drugs: A propensity-matched analysis from the Japanese Diagnosis Procedure Combination database. *Journal of Clinical Psychiatry*, *73*, 427–430. http://dx.doi.org/10.4088/JCP.10m06791

Nathan, P. E., & Sammons, M. T. (2015). Interventions: Evidence-based treatments. In J. R. Matthews & C. E. Walker (Eds.), *Your practicum in psychology: A guide for maximizing knowledge and competence* (2nd ed., pp. 129–154). http://dx.doi.org/10.1037/14672-007

National Institute for Health and Care Excellence. (2015). *First-choice antidepressant use in adults with depression or generalised anxiety disorder*. Retrieved from https://www.nice.org.uk/advice/ktt8

Naudet, F., Millet, B., Charlier, P., Reymann, J. M., Maria, A. S., & Falissard, B. (2013). Which placebo to cure depression? A thought-provoking meta-analysis. *BMC Medicine*, *11*, 230. http://dx.doi.org/10.1186/1741-7015-11-230

Nielsen, J., Jensen, S. O., Friis, R. B., Valentin, J. B., & Correll, C. U. (2015). Comparative effectiveness of risperidone long-acting injectable vs. first-generation antipsychotic long-acting injectables in schizophrenia: Results from a nationwide, retrospective inception cohort study. *Schizophrenia Bulletin*, *41*, 627–636. http://dx.doi.org/10.1093/schbul/sbu128

Oates, J. A., & Brown, N. J. (2001). Antihypertensive agents and the drug therapy of hypertension. In J. G. Hardman, L. E. Limbird, & A. G. Gilman (Eds.), *Goodman and Gilman's pharmacological basis of therapeutics* (10th ed., pp. 871–900). New York, NY: McGraw-Hill.

Olfson, M., & Marcus, S. C. (2009). National patterns in antidepressant medication treatment. *Archives of General Psychiatry*, *66*, 848–856. http://dx.doi.org/10.1001/archgenpsychiatry.2009.81

Olfson, M., Marcus, S. C., Druss, B., Elinson, L., Tanielian, T., & Pincus, H. A. (2002). National trends in the outpatient treatment of depression. *JAMA*, *287*, 203–209. http://dx.doi.org/10.1001/jama.287.2.203

Paulke, A., Wunder, C., & Toennes, S. W. (2015). Sleep self-intoxication and sleep driving as rare zolpidem-induced complex behaviour. *International Journal of Legal Medicine*, *129*, 85–88. http://dx.doi.org/10.1007/s00414-014-0997-x

Peluso, M. J., Lewis, S. W., Barnes, T. R., & Jones, P. B. (2013). Non-neurological and metabolic side effects in the Cost Utility of the Latest Antipsychotics in Schizophrenia randomised controlled trial (CUtLASS-1). *Schizophrenia Research*, *144*, 80–86. http://dx.doi.org/10.1016/j.schres.2012.12.008

Petersen, A. B., Andersen, S. E., Christensen, M., & Larsen, H. L. (2014). Adverse effects associated with

high-dose olanzapine therapy in patients admitted to inpatient psychiatric care. *Clinical Toxicology*, *52*, 39–43. http://dx.doi.org/10.3109/15563650.2013.862258

Rasmussen, N. (2008). *On speed: The many lives of amphetamine*. New York: New York University Press.

Read, J., & Cain, A. (2013). A literature review and meta-analysis of drug company-funded mental health websites. *Acta Psychiatrica Scandinavica*, *128*, 422–433. http://dx.doi.org/10.1111/acps.12146

Roueché, B. (1960). *Alcohol, its history, folklore, effect on the human body*. New York, NY: Grove Press.

Sammons, M. T. (2011). Pharmacotherapy. In J. C. Norcross, G. R. VandenBos, & D. K. Freedheim (Eds.), *History of psychotherapy* (2nd ed., pp. 516–532). http://dx.doi.org/10.1037/12353-032

Schatzberg, A. F. (2009). Mirtazapine. In A. Schatzberg & C. Nemeroff (Eds.), *Textbook of pvsychopharmacology* (4th ed., pp. 429–437). Washington, DC: American Psychiatric Publishing.

Shorter, E. (2009). The history of lithium therapy. *Bipolar Disorders*, *11*(Suppl. 2), 4–9. http://dx.doi.org/10.1111/j.1399-5618.2009.00706.x

Sikich, L., Frazier, J. A., McClelland, J., Finding, R. L., Vitiello, B., Ritz, L., . . . Lieberman, J. A. (2008). Double-blind comparison of first and second generation antipsychotics in early onset schizophrenia and schizoaffective disorder: Findings from the Treatment of Early Onset Schizophrenia Spectrum Disorders (TEOSS) study. *American Journal of Psychiatry*, *165*, 1420–1431.

Slade, E. P., & Simoni-Wastila, L. (2015). Forecasting Medicaid expenditures for antipsychotic medications. *Psychiatric Services*, *66*, 713–718. http://dx.doi.org/10.1176/appi.ps.201400042

Snelders, S., Kaplan, C., & Pieters, T. (2006). On cannabis, chloral hydrate, and career cycles of psychotropic drugs in medicine. *Bulletin of the History of Medicine*, *80*, 95–114. http://dx.doi.org/10.1353/bhm.2006.0041

Sugarman, M. A., Loree, A. M., Baltes, B. B., Grekin, E. R., & Kirsch, I. (2014). The efficacy of paroxetine and placebo in treating anxiety and depression: A meta-analysis of change on the Hamilton Rating Scales. *PLoS One*, *9*, e106337. http://dx.doi.org/10.1371/journal/pone.0106337

Tandon, R., & Jibson, M. D. (2003). Efficacy of newer generation antipsychotics in the treatment of schizophrenia. *Psychoneuroendocrinology*, *28*(Suppl. 1), 9–26. http://dx.doi.org/10.1016/S0306-4530(02)00110-5

Trevor, A. J., & Way, W. L. (2012). Sedative-hypnotic drugs. In B. Katzung, S. Masters, & A. Trevor (Eds.), *Basic and clinical pharmacology* (12th ed., pp. 373–388). New York, NY: McGraw-Hill.

Trollor, J. N., Chen, X., Chitty, K., & Sachdev, P. S. (2012). Comparison of neuroleptic malignant syndrome induced by first- and second-generation antipsychotics. *British Journal of Psychiatry*, *201*, 52–56. http://dx.doi.org/10.1192/bjp.bp.111.105189

Tueth, M. J., DeVane, L. C., & Evans, D. L. (1998). Treatment of psychiatric emergencies. In A. Schatzberg & C. Nemeroff (Eds.), *Textbook of psychopharmacology* (2nd ed., pp. 917–930). Washington, DC: American Psychiatric Press.

U.S. Food and Drug Administration. (2013). *FDA Drug Safety Communication: FDA approves new label changes and dosing for zolpidem products and a recommendation to avoid driving the day after using Ambien CR*. Retrieved from http://www.fda.gov/Drugs/DrugSafety/ucm352085.htm

Wilson, S. J., Nutt, D. J., Alford, C., Argyropoulos, S. V., Baldwin, D. S., Bateson, A. N., . . . Wade, A. G. (2010). British Association for Psychopharmacology consensus statement on evidence-based treatment of insomnia, parasomnias and circadian rhythm disorders. *Journal of Psychopharmacology*, *24*, 1577–1601. http://dx.doi.org/10.1177/0269881110379307

Winrow, C. J., & Renger, J. J. (2014). Discovery and development of orexin receptor antagonists as therapeutics for insomnia. *British Journal of Pharmacology*, *171*, 283–293. http://dx.doi.org/10.1111/bph.12261

Woo, T. W., Canuso, C. M., Wojcik, J. D., Brunette, M. F., & Green, A. I. (2009). Treatment of schizophrenia. In A. Schatzberg & C. Nemeroff (Eds.), *Textbook of psychopharmacology* (4th ed., pp. 1135–1169). Washington, DC: American Psychiatric Publishing.

Yohanna, D. (2013). Deinstitutionalization of people with mental illness: Causes and consequences. *Virtual Mentor*, *15*, 886–891. http://dx.doi.org/10.1001/virtualmentor.2013.15.10.mhst1-1310

CHAPTER 19

# BIOMEDICAL TREATMENTS

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In recent years, there has been an increased awareness of the limitations of talk therapy in treating those mental disorders with significant biological underpinnings. Several biomedical treatments have been studied and used, including biofeedback, neurotherapy, transcranial magnetic stimulation (TMS), and electroconvulsive therapy (ECT). Biofeedback and neurotherapy are often delivered by or under the direction of clinical psychologists, whereas TMS and ECT usually require medical or other specialized personnel. In this chapter, we review these four biologically based interventions. The aim of the chapter is to familiarize the clinical psychologist with the status of these treatments so as to make appropriate referrals or to seek training to implement the interventions themselves.

## BIOFEEDBACK

### Description and Definition

Over the past several decades, biofeedback has achieved widespread recognition through research, media coverage, and professional referrals (often from physicians). The Association for Applied Psychophysiology and Biofeedback (2011) has described biofeedback as a learning tool that aids in altering dysfunctional physiological activity and improving health. Several feedback measures can be precisely assessed using easy-to-use modern instruments, and the information is transmitted back to the patient. This virtually instantaneous feedback in conjunction with other therapeutic modalities can result in enduring physiological and psychological improvements. Biofeedback can be used as both a primary treatment and a complementary tool combined with other therapies.

### Principles and Applications

Biofeedback has been conceptualized as a form of operant conditioning, a dynamic nonlinear system approach to self-regulation, and a tool for mindful awareness, to name a few (Schwartz, 1987). The field was greatly influenced by Neil Miller's (1969a, 1969b) articles that showed that autonomic functions could be modified with operant conditioning.

Most practitioners use biofeedback for observing and informing the patient of physiological data, often as part of another therapeutic approach. For example, psychologists use it as an aid in desensitization to measure autonomic arousal or teach effective recovery techniques after exposure to an arousing stimulus. Physical therapists might use electromyographic feedback (muscle action potential) to help calm spastic muscle or strengthen a weak or compromised muscle. More recently, a form of cardiorespiratory feedback called *heart rate variability biofeedback* has been used to strengthen homeostatic reflexes in the autonomic nervous system (Gevirtz, 2013). Thus, a long list of applications has been established.

Biofeedback has been successfully applied in the treatment of headache, temporomandibular disorders, Raynaud's disease, hypertension, urinary and fecal incontinence, irritable bowel syndrome, fibromyalgia, tinnitus, and others. More recently,

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attempts have been made to use biofeedback in chronic pain, depression, trauma, and cardiac rehabilitation and for performance enhancement (Gevirtz, 2013).

## Limitations and Contraindications

Few contraindications for biofeedback have been noted. Some clients experience relaxation-induced or paradoxical anxiety in which the attempt at calming physiology makes them more anxious (Schwartz & Andrasik, 2003). As noted, biofeedback is seldom a stand-alone treatment. In this way, it is limited by the practitioner's therapeutic skills, the understanding of the psychophysiology of the specific disorder, and the quality of the physiological signal itself. Of course, as with any treatment, biofeedback will not prove effective for all patients or conditions, but the process itself has few contraindications.

## Methods and Interventions

Biofeedback has been dependent on developments in technology. The earliest uses were versions of galvanic skin response (now usually skin conductance). Relatively simple technology is required for skin conductance measurement. The signal reflects a purely sympathetic nervous system–mediated arousal and has been used as a marker of anxiety. The signal, however, reflects almost any kind of arousal and cannot be considered a specific measure of anxiety (Dawson, Schell, & Filion, 2007). Nonetheless, clinicians often find this measurement useful.

Two other modalities also dominated the early days of biofeedback—electromyographic and thermal feedback. The advent of quality differential amplifiers and filters led to systems that could pick up muscle action potentials from surface skin electrodes down below 1 microvolt (millionth of a volt). This led to a number of interventions designed to (a) reduce voluntary muscle activity dramatically as a relaxation method and (b) retrain muscle activity in stroke, head injury, spinal cord injury, or neurological disorders. The former became a tool of clinical psychologists and the latter of rehabilitation psychologists and other clinicians.

Thermal feedback reflects the level of sympathetically mediated peripheral vasodilation. A thermistor attached to a finger can measure small changes in temperature that reflect the vasoactive processes. Interestingly, however, it has been discovered that some central blood-borne factors come into play when one learns to warm one's hands with biofeedback training (Freedman, 1991). For these and other reasons, temperature training biofeedback has been effectively used for the treatment of hypertension, headaches (especially migraines), and other disorders of high arousal.

More recently, heart rate variability biofeedback, a method that appears to strengthen homeostasis in both branches of the autonomic nervous system, has become popular. It uses signals from beat-by-beat electrocardiographic (or photoplethysmographic pulse, usually from an earlobe or finger site) recordings paired with respiration (and sometimes skin conductance and thermal) signals to help clients slow their breathing rate in order to produce respiratory sinus arrhythmia (heart rate going up during inspiration and down during expiration). It is sometimes joked that this is a new technique that is 2500 years old because it is undoubtedly a part of meditative and yogic traditions (Gevirtz & Lehrer, 2003). This type of biofeedback has become popular and has spawned many inexpensive devices (e.g., Stress Eraser, My Calm Beat, HeartMath products such as EmWave). Most of these devices rely on the heart rate signal alone for the feedback. The client attempts to find a slow breathing rate that maximizes the respiratory sinus arrhythmia and practices at that pace for 20 minutes a day. The more expensive systems use all of these modalities to complement the heart rate signal. Thus, the psychologist might have the client hooked up for heart rate, skin conductance, respiration, temperature, and forehead electromyography while conducting a session. At periods of high arousal or potential dissociation, attention would be shifted to the computer screen to promote return to baseline levels or to speed extinction just after exposure.

## Research Evidence and Landmark Contributions

Assessing the outcome research for biofeedback is tricky because it is usually used as an adjunct to other kinds of therapies. The Association for

Applied Psychophysiology and Biofeedback has summarized efficacy ratings for 34 disorders on its website (http://www.aapb.org). Schwartz and Andrasik's (2003) text includes literature reviews for the disorders covered. An overview of the empirical evidence for heart rate variability biofeedback was recently published (Gevirtz, 2013) that organizes disorders by probable mediators. For example, under autonomic mediators, functional gastrointestinal disorders, chronic pain, fibromyalgia, and asthma are cited because some empirical support has been found for biofeedback with them. Under possible central mechanism mediators, anxiety and depressive disorders are cited.

Overall, the evidence falls into the probably efficacious to efficacious range. Few multisite randomized controlled trials have been funded, so the database is limited, but overall it is promising.

### Key Accomplishments

Biofeedback has progressively made its way into a number of clinical arenas and is now considered mainstream. It appears to be particularly effective in the treatment of functional gastrointestinal disorders, anxiety, and pain. Heart rate variability biofeedback has achieved a great deal of commercial and popular appeal, and the term *biofeedback* has entered the lexicon in Western countries.

## NEUROFEEDBACK TRAINING

### Description and Definition

A more specific form of biofeedback, neurofeedback training (NFT), has been gaining popularity among psychologists in recent years as a result of advances in technology and ease of use. According to the International Society for Neurofeedback and Research (2015), NFT focuses on signals from the central nervous system rather than peripheral sources such as muscle and heart. NFT became prominent with the burgeoning interest in applied neuroscience that characterized the National Institute of Mental Health decade of the brain.

NFT is preceded by an objective assessment of brain activity and psychological status. During training, sensors are placed on the scalp and then connected to sensitive electronics and computer software that detect, amplify, and record specific brain activity. Resulting information is fed back to the client instantaneously with the understanding that changes in the feedback signal indicate whether the trainee's brain activity is within the designated range. On the basis of this feedback, learning, and practitioner guidance, changes in brain patterns occur and are associated with positive changes in physical, emotional, and cognitive states. Often the client is not consciously aware of the mechanisms by which such changes are accomplished although people routinely acquire a "felt sense" of these positive changes and often access these states outside the feedback session.

### Principles and Applications

As was the case for biofeedback, there have been several conceptualizations of the principles behind NFT. Some of the early researchers, based on animal work, believed that NFT work was an extension of operant conditioning. Sterman (1977) in the 1970s showed that a specific electroencephalogram (EEG) frequency over the sensory–motor strip (sensorimotor rhythm [SMR]) could be increased with food reinforcement in rats and cats. He then applied this paradigm to animal models of epileptic seizures and to human epileptic patients and demonstrated a reduction in seizure activity (Sterman, 2000). At the same time, he and other researchers tied the SMR rhythm to attentional processes. This led to the early work using the EEG feedback to reduce the symptoms of attention deficit disorder and attention deficit/hyperactivity disorder (ADD/ADHD; Lubar & Shouse, 1976).

Since these early conceptualizations, many theorists have proposed other models to explain the method. Most use modern neuroscience as a backdrop with the emphasis on neuroplasticity. The most recent approaches focus on enhancing coherence or brain connectivity through feedback training. Actual underlying mechanisms are still largely unknown.

A large number of applications have been claimed by practitioners, and some have been supported by the research. By far the most common and researched application areas are ADD/ADHD and seizure disorders. However, claims have been made

for asthma, anxiety, fibromyalgia, autism, posttraumatic stress disorder, hypertension, Parkinson's, tinnitus, depression, brain injury, addiction, insomnia, and many more.

## Limitations and Contraindications

Few published articles have focused on adverse reactions of NFT. A major limitation is the large number of sessions, often 30 to 50, required to acquire and maintain a meaningful response. The expense and motivation needed for this treatment are limitations even for practitioners in the field. This being said, few claims of negative outcomes have been made. Patients do frequently complain of acute headaches, fatigue, and altered sleep patterns for a day or so after training sessions.

## Methods and Interventions

The methods used in NFT vary but can be divided into four categories: the standard Lubar beta–theta ratio protocol (often with SMR training), quantitative EEG (QEEG) training which includes *Z*-score–based training, slow cortical potential training (SCP; with and without evoked potential assessment), and other protocols based on placements of theoretical interest.

**Standard beta–theta ratio Lubar protocol.** The initial work of Joel Lubar et al. (1991) to treat ADD/ADHD used an electrode placement at Cz on the International EEG 10–20 coordinates. This means that brain activity stemming from central cortical regions is measured with reference to the mastoids or ears. Activity in this measure is broken down into frequency bands known as beta (13–20 Hz), alpha (8–13 Hz), theta (4–8 Hz), and delta (1–4 Hz). On the basis of work showing that individuals with attentional problems have excess slow wave activity and a deficit in beta activity, the protocol is focused on enhancing beta while decreasing theta. The client observes a computerized signal or sound that reflects these frequencies and is instructed or rewarded to change them in the desired direction. This protocol is often accompanied by training to reduce SMR (12- to 14-Hz activity over the motor strip) to produce less motoric activity. This protocol is the closest thing there is to a standard in the field, though it has been less popular recently.

**QEEG-based training.** A QEEG is an assessment technique that uses multiple skull electrodes (usually 19–32) and constructs a "brain map" on the basis of input from each of the frequency bands mentioned above. The NFT training is then targeted at sites that are indicated as too high or too low on the QEEG. The rationale is that standard placements might be missing the abnormal cortical processing and that the QEEG is more efficient. A variant of this approach is to create normative databases so that the client's QEEG can be looked at in terms of *Z*-score deviations from the norm. Several large databases have been created (Pagani et al., 1994; Prichep, 2005).

**Slow cortical potential training.** An alternative approach pioneered in Germany uses feedback from slow cortical drifts reflecting summated activity across wide areas of the brain surface. Thus, a signal can indicate activation or deactivation within a short (8-second) period after a signal. The procedure has been dramatically demonstrated by the work of Birbaumer and colleagues (Kalaydjian et al., 2006; Kübler et al., 2001) with "locked-in" patients who have lost complete motor neuron function. By painstakingly indicating letters of the alphabet, these patients have been able to communicate using this technique. The protocol has also been used for ADD/ADHD to attempt to activate "sleepy brains" and for seizure and migraine headache disorders to deactivate cortical activity that is abnormally hyperactive. Evoked potential assessment is often used to evaluate training progress.

**Other protocols.** A variety of other techniques are used by psychologists in NFT. Some use systematic placement progressions, switching hemispheres and sites as training progresses. Some focus on "coherence" training in which the associations among various sites are processed and fed back. More recently, very slow frequencies have been used as guides (infra slow frequencies as low as 0.01 Hz). For these psychologists, training is assumed to still be an art that can be guided by careful inquiry and observation.

Two of the above protocols have been used for the treatment of seizure disorders. SMR has been used the most widely, but more recent studies have

used SCP protocols. In both cases, the object is to teach the brain to avoid cortical hyperexcitability (as opposed to the ADHD protocols that seek to activate brain activity). In addition, some psychologists have reported using SCP in a manner similar to seizure protocols to deactivate cortical hyperexcitability, thought to be a precursor to a migraine headache. Finally, on the basis of one well-designed but small study, clinicians have been using an SMR protocol to improve sleep. A 10-session protocol of SMR conditioning is used to improve a number of sleep parameters and a measure of declarative learning (Hoedlmoser et al., 2008).

## Research Evidence and Landmark Contributions

The largest number of studies have evaluated NFT for the treatment of ADD/ADHD because conventional treatments offer incomplete benefit for about a third of children with ADHD. Lofthouse, Arnold, and Hurt (2012) reported that

> since 2010, data from eight randomized controlled studies of NFT have been published with overall mean effect sizes (compared with no treatment) of 0.40 (all measures), 0.42 (ADHD measures), 0.56 (inattention), and 0.54 (hyperactivity–impulsivity). Unfortunately, the benefit reported from randomized studies has not been observed in the few small blinded studies conducted. (p. 536)

A recent review by Vollebregt et al. (2014) was more negative:

> No significant treatment effect on any of the neurocognitive variables was found. A systematic review of the current literature also did not find any systematic beneficial effect of EEG-NFT on neurocognitive functioning. Overall, the existing literature and this study fail to support any benefit of NFT on neurocognitive functioning in ADHD, possibly due to small sample sizes and other study limitations. (p. 460)

A recent randomized controlled trial evaluated the efficacy of NFT compared with standard pharmacological intervention in the treatment of ADHD with 23 child participants who either carried out 40 theta–beta training sessions or received methylphenidate. Behavioral rating scales were completed by fathers, mothers, and teachers at pretreatment, posttreatment, and 2- and 6-month naturalistic follow-up. In both groups, similar significant reductions were reported in ADHD functional impairment by parents and in primary ADHD symptoms by parents and teachers. However, significant academic performance improvements were only detected in the NFT group. The results, in total, provided evidence for the efficacy of NFT and enlarged the range of nonpharmacological ADHD interventions (Meisel et al., 2013).

The use of SCP feedback has also produced several well-controlled studies with comparable effect sizes (Strehl et al., 2006). A special issue of *Biological Psychology* with extensive reviews of NFT was published in January 2014. The review of ADHD–ADD concluded that "[theta–beta ratio], SMR and SCP neurofeedback are clinically effective treatment (modules) for children with ADHD and several clinical, neurophysiological and neuroimaging findings support its specificity" (Arns, Heinrich, & Strehl, 2014, p. 108).

On the basis of the variety of evidence, NFT would appear to definitely be more effective than no treatment, but when compared with a credible placebo, the results are encouraging but not definitive. NFT for attentional problems has become popular in North America and Europe.

The issues in evaluating NFT for ADD–ADHD are controversial. Given the variety of protocols mentioned above, it is easy to see where criticisms of evaluating studies can emerge. For seizure disorders, a series of studies on NFT reached a level of evidence that could be characterized as efficacious (Sterman, 2000). In these studies, operant neurofeedback treatment was supported on two fronts. First, it has been shown that the "relevant physiological changes are associated with this procedure" (p. 53). Second, clinical efficacy has been shown. Positive conclusions were warranted on the basis of "25 years of peer reviewed research demonstrating impressive EEG and clinical results achieved with the most difficult subset of seizure patients" (p. 53).

A number of studies have identified pathophysiology that would make SCP feedback a logical intervention for migraine. A few studies have reported good outcomes, but much more evidence is needed to justify the expense and time commitment needed for NFT for migraine. As mentioned above, a few studies have found NFT to helpful for the treatment of disordered sleep (Hoedlmoser et al., 2008). Again, much more research is needed to shore up these promising results.

## TRANSCRANIAL MAGNETIC STIMULATION

### Description and Definition

TMS is a neurostimulation and neuromodulation technique based on the principle of electromagnetic induction of an electric field in the brain. This field can be of sufficient magnitude and density to depolarize neurons, and when TMS pulses are applied repetitively they can modulate cortical excitability, decreasing or increasing it. This change in cortical excitability results in behavioral consequences and has interesting therapeutic potential (Rossi et al., 2009).

The specific mechanism by which repetitive TMS (rTMS) works is the induction of current in brain tissue using rapidly changing magnetic fields, usually about 1.5 to 3 Tesla strong. The process is noninvasive and, unlike electroconvulsive therapy, does not require the production of seizure for the treatment to be effective. Typically, the targets of stimulation are cortical neurons that depolarize in response to rTMS. This depolarization appears to have an effect both on the cortical areas being stimulated and downstream in limbic and other subcortical regions of the brain associated with depression (e.g., the anterior cingulate gyrus). Neuroimaging studies have shown reduced brain activity in the left dorsolateral prefrontal cortex (DLPFC) during an episode of depression, whereby resolution of a depressive episode is associated with a return to normal activity.

rTMS takes advantage of this observation by directly stimulating activity in the DLPFC and associated brain regions involved in mood and emotions (O'Reardon, Cristancho, et al., 2007). Daily stimulation over a period of weeks results in normalization of brain activity, which is believed to be responsible for relief of depression. In the treatment of auditory hallucinations in patients with schizophrenia, the locus of stimulation is the temporal lobe and, unlike the high-frequency pulses (greater than 5 pulses per second) that are used to excite brain regions in depression, the intent is to inhibit that region by applying low-frequency pulses (Nahas, 2008; Rossi et al., 2009).

### Principles and Applications

Although rTMS has been approved by the U.S. Food and Drug Administration only for the treatment of drug-resistant major depressive disorder (Rossi et al., 2009), it has been applied successfully in several studies to treat auditory hallucinations in schizophrenia, obsessive–compulsive disorder, posttraumatic stress disorder, neurodegenerative disorders, migraine, and pain (Babiloni et al., 2013; Bersani et al., 2013).

Auditory hallucinations are represented by overactivity of neurons, which occurs in the absence of an external stimulus. Antipsychotic medications work primarily by blocking dopamine activity in the brain. There is widespread blockade throughout the brain and body resulting in a number of undesirable side effects (e.g., movement disorders, cognitive dulling, weight gain, and other metabolic abnormalities). Activity can be reduced in target neurons by applying rTMS over the area of interest. Similar to depression, if this is done repeatedly the activity can be normalized with sustained improvement in symptoms (Bagati, Nizamie, & Prakash, 2009).

Tinnitus occurs because of overactivity of the auditory centers and is experienced as chronic ear ringing. The same strategy used to treat auditory hallucinations has been successfully used to treat tinnitus (De Ridder et al., 2007).

### Limitations and Contraindications

According to a Safety and Ethical Guidelines consensus statement (Rossi et al., 2009), TMS and rTMS are contraindicated under the following conditions:

1. Presence of implanted or irremovable metal in patient's head or neck, including aneurysm clips or coils, carotid or cerebral stents, implanted

stimulators, ferromagnetic implants in the ears or eyes, pellets, bullets, or metallic fragments less than 12 inches from coil.
2. Conditions that increase the risk of inducing epileptic seizure or result in increased or uncertain risk, such as untested protocols; techniques that exceed acceptable settings and safety limits; and patients who have a history of epilepsy or vascular, traumatic, tumoral, infectious, or metabolic lesions.
3. Patients taking drugs that lower seizure threshold, are sleep deprived, or have alcoholism and are actively drinking require caution; a few studies have been performed with patients who are pregnant, but this is not currently a Food and Drug Administration–cleared indication (Klirova et al., 2008).

Potential side effects that may limit the use of rTMS include seizures; transient acute hypomania; syncope; transient headache, pain, and paresthesia; transient cognitive or neuropsychological alterations; burns from scalp electrodes; structural brain changes; histotoxicity; and other transient biological effects (Rossi et al., 2009). However, treatments are generally well tolerated with only minor scalp discomfort experienced at the time of the procedure. In the Food and Drug Administration registration trial, only 4.5% of patients dropped out because of adverse effects (O'Reardon, Cristancho, et al., 2007). Mounting data have shown rTMS to be well tolerated and without major side effects in the majority of patients (Carpenter et al., 2012).

## Methods and Interventions

Different loci of stimulation and different parameters of rTMS have been used experimentally to treat mental disorders. However, because rTMS is currently approved only for drug-resistant major depression, I discuss the loci and parameters for that disorder.

Broadly, rTMS can be inhibitory or excitatory. Low-frequency rTMS produces inhibition in the region targeted, and high frequency produces excitation. In depression, low-frequency rTMS has been applied to the right DLPFC with success; however, left DLPFC high-frequency stimulation is the accepted method for treatment (Wassermann & Zimmermann, 2012). A 20- to 40-minute session with approximately 3,000 to 6,000 pulses at 10 Hz, 5 days a week for 4 to 8 weeks, is a common dosage (Aleman, 2013).

## Research Evidence and Landmark Contributions

Current thought on the mechanism of action and principal targets of rTMS include long-term changes in neurotransmitter concentration, neural plasticity, blood flow, and oscillatory activity (Leuchter et al., 2013). Many studies have examined the role of neurotransmission changes in the therapeutic effect of rTMS. Sibon et al. (2007) found that healthy volunteers evidenced serotonin synthesis increases in the right cingulate gyrus and right cuneus while at the same time showing decreases in the right insula and left parahippocampal gyrus in response to rTMS in the left DLPFC.

Similarly, Pogarell et al. (2007) demonstrated that prefrontal rTMS resulted in striatal dopamine release in depressed patients, a putative mechanism for the antidepressant effect of rTMS. Other researchers demonstrated a direct relationship between the increase in serotonin receptor binding in response to rTMS in the DLPFC and improvements in depression (Baeken et al., 2011). However, depressed patients who responded to rTMS has also been found to be resistant to rapid tryptophan depletion, suggesting that serotonin modulation did not fully explain the mechanism of action (O'Reardon, Cristancho, et al., 2007).

In addition to the neurotransmission theory, some researchers have found indirect evidence for the potential role that rTMS plays in neural plasticity, namely, long-term potentiation and long-term depression. Researchers have relied on motor cortex stimulation and output (in the form of motor evoked potentials) as an easily observable experimental model for the effect of rTMS (Leuchter et al., 2013). Major depression is often conceptualized as the result of dysfunctional connectivity between cortical and subcortical brain regions, with both oscillatory activity and blood flow revealing the underlying disconnection (Leuchter et al., 2013). The regions most often cited as being affected in depression are the DLPFC, the anterior cingulate gyrus, and the deep subcortical nuclei of the thalamus and

hypothalamus. Several researchers (e.g., Leuchter et al., 2013) have found that the immediate impact of rTMS is the entrainment of oscillatory activity and synchronization of cortical alpha, beta, theta, and delta waves. This synchronization is not limited to the immediate site of rTMS but translates into synchronization downstream in more distal regions (both cortical and subcortical) via corticocortical and thalamocortical loops. This resetting and synchronization persist over time and are associated with improvements in major depressive disorder.

In terms of efficacy, FDA registration trials revealed response and remission rates after treatment 5 days a week for 6 weeks of 24.5% and 15.5%, respectively (O'Reardon, Solvason, et al., 2007). During the taper phase, the remission rate increased to 22.6% at 9 weeks. A follow-up study found a similar rate of 14.1% for remission at 3 weeks, increasing to 30% during an open-label phase (George et al., 2010). Since FDA approval, rTMS has been widely used in combination with antidepressant medications, psychotherapy, and other modalities. When rTMS is used in combination with standard treatments, response and remission rates increase. In using rTMS in a naturalistic observational study, researchers reported a response rate of 58% and a remission rate of 37% (Carpenter et al., 2012).

### Key Accomplishments

Since its approval as a potential treatment for medication-resistant depression, rTMS clinical research and usage has increased significantly. Although incomplete, the understanding of the mechanisms of action of rTMS has improved greatly and has been aided by the development of new delivery techniques (e.g., new coil configurations), which, in turn, have extended the usage of rTMS in the clinic. The penetration depth of the standard (shape-8 coil) of rTMS is approximately 1.5 to 2.5 centimeters from the scalp. In contrast, the penetration depth of the newly developed H-coil is approximately 5.5 centimeters (Bersani et al., 2013). Using such coils allows the targeting of subcortical structures that are more often the source of difficulties in mental disorders such as major depression.

## ELECTROCONVULSIVE THERAPY

### Description and Definition

Electroconvulsive therapy is a treatment for severe mental disorders in which a brief application of electric stimulus is used to produce a generalized seizure. In the United States in the 1940s and 1950s, the treatment was often administered to severely disturbed patients residing in large psychiatric hospitals. Many of these early efforts proved ineffective, and some were even harmful. Moreover, its use as a means of managing unruly patients, for whom other treatments were not then available, contributed to the perception of ECT as an abusive instrument of behavioral control for patients in mental institutions. Although these perceptions still linger among the public and some professionals who are unfamiliar with its modern administration, ECT is now considered an important tool for the treatment of several severe mental disorders, especially drug-resistant major depressive disorder (Kellner et al., 2012).

### Principles and Applications

The U.S. Food and Drug Administration has approved ECT for the treatment of major depressive disorder, bipolar disorder, schizoaffective disorder, schizophreniform disorder, and catatonia. The mechanism of action of ECT is the induction of seizure in the brain. Electrodes are placed bilaterally, bifrontally, or right unilaterally. The benefit of bilateral application is better and faster responsiveness, whereas unilateral ECT has fewer memory effects (Kellner et al., 2012). The typical current applied through the electrodes is between 0.8 and 0.9 amperes (Nan et al., 2012), which is higher than what is typically required for depolarizing neurons. Therefore, new techniques are being developed to shape the pulses and reduce the current to achieve optimum clinical benefits with the least amount of side effects (Spellman, Peterchev, & Lisanby, 2009). Modern improvements have included use of brief-pulse square wave instead of sine wave, ultrabrief (less than 0.1 millisecond) square wave, use of the minimum dose needed to induce seizure, alternative lead placement, preoxygenation, and control of vital signs such as blood pressure and heart rate.

## Limitations and Contraindications

The main side effects of ECT are retrograde and anterograde amnesia (especially around the time of treatment). Historically, fear of memory impairment has been a major impediment to patient and practitioner acceptance of ECT. Modern ECT with control of oxygenation and improvement in anesthesia techniques has reduced the risk of serious memory loss. Memory for learned activities, important life events, and one's childhood and family are rarely compromised. Disorientation after the procedure may last up to an hour, but it most commonly resolves within 20 minutes (Fink, 2009). There is no recall for the procedure itself because of the use of general anesthesia. Anterograde amnesia resolves over several days or weeks, with retrograde amnesia lasting longer and sometimes memories from the weeks to months before ECT never return. If memory effects prove to be problematic during a course of ECT, possible solutions include changing from bilateral to unilateral, using ultrabrief pulses, or reducing the frequency of treatments to twice or even once a week. Somewhere between 29% and 55% of Rose et al.'s (2003) patients complained of persistent memory trouble, but up to 80% endorsed that the treatment was helpful.

In addition, there is a small risk of death that is equivalent to that from general anesthesia (1 in 250,000). The American Psychiatric Association's (2001) Task Force on ECT report estimates the risk of death as 1 per 10,000 patients, or approximately 1 per 80,000 treatments. A review of all patients treated with ECT in Denmark from 2000 to 2007 showed 99,728 treatments were given with a total of 78 deaths within 30 days of treatment. On examination of the medical records, it was determined that none of the deaths were directly related to ECT (Østergaard, Bolwig, & Petrides, 2014). Although there are no absolute contraindications for ECT, patients with cardiovascular disorders, increased intracranial pressure, or chest infections are considered high risk and should be examined carefully before treatment (Gomez, 2004).

## Methods and Interventions

Typically, the settings for ECT are medical centers and hospitals equipped with emergency and life support devices such as cardiopulmonary resuscitation equipment. Atropine or other anticholinergic agents are injected into the patient before anesthesia to avoid vagally mediated systole or arrhythmias. Methohexital is commonly used to induce short anesthesia, in addition to administering muscle relaxants to moderate the convulsions and manage airways. While the patient is under general anesthesia, electrocardiogram, EEG, and other vital signs monitoring is performed (Gomez, 2004).

ECT is typically administered 3 times a week in the United States and two times a week in other countries. There does not appear to be a difference between the efficacies of the two regimens (Charlson et al., 2012). Continuation and maintenance ECT often depend on the patients' responsiveness. It is recommended that schedules individualized on a case-by-case basis be developed on the basis of current research and clinical judgment. For most patients, acute administrations are followed with a taper that gradually extends the interval between treatments. Single sessions every 3 to 6 weeks is not an uncommon maintenance regimen (Kellner et al., 2012).

## Research Evidence and Landmark Contributions

In their seminal research, Cronholm and Ottosson (1960) demonstrated the central role of induced seizures in the therapeutic effect of ECT. It is now known that both the locus of the seizure origin and the intensity of electrical stimulation make a difference in the therapeutic effectiveness and side effects of ECT (Kellner et al., 2012). One possible explanation for the effect of seizures on the brain has been dubbed the neuroendocrine theory. Research has shown that ECT results in significant stimulation of the hypothalamic–pituitary–adrenal axis with considerable release of hormones in short temporal proximity to the seizure (Gomez, 2004). This hypothalamic–pituitary–adrenal axis stimulation is thought to contribute to ECT's antidepressant effect.

Another explanation for ECT's mechanism of action revolves around its effect on monoamine neurotransmission. There is strong evidence that ECT modulates serotonergic and noradrenergic

pathways by increasing both the neurotransmitter and the receptor sensitivity. It also has an activating effect on the dopaminergic system, thus its impact on disorders such as schizophrenia and Parkinson's disease (Kellner et al., 2012).

The third explanation often cited is the seizure threshold alteration or anticonvulsant effect. This theory attributes the antidepressant effect of ECT to GABA-ergic and neurohormone modulation (Holaday et al., 1986). Finally, some researchers have used the combined results of animal and human models of ECT effects to posit that neurotrophic factors play a significant role in increasing neurogenesis, which in turn affects different psychiatric symptoms such as depression (Abbott et al., 2014).

ECT's efficacy has been demonstrated over the decades in a number of mental disorders. ECT is the oldest psychiatric treatment that is still in use today. Improvements in technique and patient selection have led to a resurgence in the use of ECT over the past 20 to 30 years. Before pharmacologic options for depression were available, ECT was reported as effective in 80% to 90% of patients (Higgins & George, 2009). With the advent of modern antidepressant medications, starting in the 1950s with imipramine, ECT became less popular. Given its superior efficacy over medications, ECT never went away, but it has been reserved for more severely ill (e.g., suicidal, catatonic) patients. Most patients who receive ECT today have proved to have a treatment-refractory depression, with response rates of 50% to 60% typically being seen (Higgins & George, 2009).

### Key Accomplishments

ECT has been part of the psychiatric treatment armamentarium since the 1930s. During its early days, it was used without neuromuscular blockage and with little experience of how to reduce its side effects. Therefore, both the public and the mental health community voiced significant concern (Lisanby, 2007). The ongoing destigmatization of ECT and the attempts to reduce its side effects by improving the administration and dosing technology have been a key accomplishment in the history of this treatment modality.

The process of rediscovering ECT as a viable and tolerable treatment for drug-resistant depression and other severe mental disorders has been aided by the extensive research on its potential mechanisms of action. ECT is a medical procedure and is typically performed with a dedicated team including a psychiatrist, anesthesiologist or nurse anesthetist, behavioral health nurse, and recovery room nurse. To perform ECT, a psychiatrist must obtain permission from the governing body of the medical staff of the hospital where the procedure will be performed. Standards of training and delivery are set by the American Psychiatric Association and the Joint Commission on Accreditation of Health Care Organizations. The International Society for ECT and Neurostimulation (previously the Association for Convulsive Therapy) offers hands-on training in ECT and rTMS at its annual meeting, and week-long fellowships are offered throughout the year at a few centers of excellence such as Duke, Columbia, and the Medical University of South Carolina.

Many nonmedical professionals such as psychologists will encounter patients who have had or are considering ECT. More attention to training and education around ECT is needed. Collaboration in treatment and research remains a much-needed effort. Work on memory problems by using neuropsychological testing and other tools of psychology has been ongoing (Sackeim, 2014).

## FUTURE DIRECTIONS FOR BIOMEDICAL TREATMENTS

It remains as true today as ever that biofeedback is dependent on advances in technology. As measurement of physiology becomes more affordable and ambulatory, and as software is better designed and based on human factors engineering, biofeedback will develop. This surge in interest will probably be accompanied by better outcome studies that can determine the nature of the mediating factors in symptom change or performance improvement. Biofeedback will also be increasingly used for more disorders, such as obesity management and movement disorders, and for performance improvements, such as in sports psychology.

A survey of Scopus, Google, and PubMed shows an explosion of articles on NFT, with numbers running steady in the single digits until 2011, when they expanded to 50 to 270 per year (depending on the search engine). These articles have assessed a wide variety of applications ranging from sleep to traumatic brain injury to pain. Within the next few years, we should presumably have a better idea of what NFT can and cannot accomplish.

ECT has gone through many innovations that attempted to maintain its excellent antidepressant effect while decreasing the side effects. These innovations include shaping the administered electrical pulse, reduction of pulse width, placing the electrodes unilaterally and bifrontally, and adjusting signal intensity on the basis of the patient's seizure threshold (Spellman et al., 2009). Most recently, researchers have been examining the use of unidirectional stimulation with new configurations of the electrodes (e.g., altering the shape and symmetry of the electrodes, different placement of electrodes). One technique that has evidenced significant promise is the focal electrically administered seizure therapy. This technique uses an anode that is small and focused while maintaining a much larger diffusing cathode. The purpose of this and other techniques under investigation is to reduce the side effects while maintaining efficiency (Spellman et al., 2009).

Two exciting areas of scientific and clinical importance in the field of rTMS are the advances in the delivery technology of rTMS and the research on other disorders that could be treated using rTMS. In the future, such research will probably expand the number of disorders that can potentially be treated with both deep and standard rTMS. In addition to major depression and schizophrenia, the technique is showing promise in treating diverse and difficult disorders such as tinnitus, anoxia nervosa, migraine, and fibromyalgia.

## References


Abbott, C. C., Gallegos, P., Rediske, N., Lemke, N. T., & Quinn, D. K. (2014). A review of longitudinal electroconvulsive therapy: Neuroimaging investigations. *Journal of Geriatric Psychiatry and Neurology*, *27*, 33–46. http://dx.doi.org/10.1177/0891988713516542

Aleman, A. (2013). Use of repetitive transcranial magnetic stimulation for treatment in psychiatry. *Clinical Psychopharmacology and Neuroscience*, *11*, 53–59. http://dx.doi.org/10.9758/cpn.2013.11.2.53

American Psychiatric Association. (2001). *The practice of electroconvulsive therapy: Recommendations for treatment, training, and privileging* (2nd ed.). Washington, DC: Author.

Arns, M., Heinrich, H., & Strehl, U. (2014). Evaluation of neurofeedback in ADHD: The long and winding road. *Biological Psychology*, *95*, 108–115. http://dx.doi.org/10.1016/j.biopsycho.2013.11.013

Association for Applied Psychophysiology and Biofeedback. (2011). *About biofeedback*. Retrieved from http://www.aapb.org/i4a/pages/index.cfm?pageid=3463

Babiloni, C., Infarinato, F., Aujard, F., Bastlund, J. F., Bentivoglio, M., Bertini, G., . . . Rossini, P. M. (2013). Effects of pharmacological agents, sleep deprivation, hypoxia and transcranial magnetic stimulation on electroencephalographic rhythms in rodents: Towards translational challenge models for drug discovery in Alzheimer's disease. *Clinical Neurophysiology*, *124*, 437–451. http://dx.doi.org/10.1016/j.clinph.2012.07.023

Baeken, C., De Raedt, R., Bossuyt, A., Van Hove, C., Mertens, J., Dobbeleir, A., . . . Goethals, I. (2011). The impact of HF-rTMS treatment on serotonin(2A) receptors in unipolar melancholic depression. *Brain Stimulation*, *4*, 104–111. http://dx.doi.org/10.1016/j.brs.2010.09.002

Bagati, D., Nizamie, S. H., & Prakash, R. (2009). Effect of augmentatory repetitive transcranial magnetic stimulation on auditory hallucinations in schizophrenia: Randomized controlled study. *Australian and New Zealand Journal of Psychiatry*, *43*, 386–392. http://dx.doi.org/10.1080/00048670802653315

Bersani, F. S., Minichino, A., Enticott, P. G., Mazzarini, L., Khan, N., Antonacci, G., . . . Biondi, M. (2013). Deep transcranial magnetic stimulation as a treatment for psychiatric disorders: A comprehensive review. *European Psychiatry*, *28*, 30–39. http://dx.doi.org/10.1016/j.eurpsy.2012.02.006

Carpenter, L. L., Janicak, P. G., Aaronson, S. T., Boyadjis, T., Brock, D. G., Cook, I. A., . . . Demitrack, M. A. (2012). Transcranial magnetic stimulation (TMS) for major depression: A multisite, naturalistic, observational study of acute treatment outcomes in clinical practice. *Depression and Anxiety*, *29*, 587–596. http://dx.doi.org/10.1002/da.21969

Charlson, F., Siskind, D., Doi, S. A., McCallum, E., Broome, A., & Lie, D. C. (2012). ECT efficacy and treatment course: A systematic review and meta-analysis of twice vs. thrice weekly schedules.

*Journal of Affective Disorders*, *138*, 1–8. http://dx.doi.org/10.1016/j.jad.2011.03.039

Cronholm, B., & Ottosson, J. O. (1960). Experimental studies of the therapeutic action of electroconvulsive therapy in endogenous depression: The role of the electrical stimulation and of the seizure studied by variation of stimulus intensity and modification by lidocaine of seizure discharge. *Acta Psychiatrica Scandinavica*, *35*(Suppl. 145), 69–101. http://dx.doi.org/10.1111/j.1600-0447.1960.tb08351.x

Dawson, M., Schell, A., & Filion, D. (2007). The electrodermal system. In J. T. Cacioppo, L. Tassinary, & G. Bernston (Eds.), *Handbook of psychophysiology* (3rd ed., pp. 157–181). http://dx.doi.org/10.1017/CBO9780511546396.007

De Ridder, D., van der Loo, E., Van der Kelen, K., Menovsky, T., van de Heyning, P., & Moller, A. (2007). Theta, alpha and beta burst transcranial magnetic stimulation: Brain modulation in tinnitus. *International Journal of Medical Sciences*, *4*, 237–241. http://dx.doi.org/10.7150/ijms.4.237

Fink, M. (2009). Serendipity and science: The double anniversary of a treatment and a journal. *Journal of ECT*, *25*, 1–2. http://dx.doi.org/10.1097/YCT.0b013e31818f5755

Freedman, R. R. (1991). Physiological mechanisms of temperature biofeedback. *Biofeedback and Self-Regulation*, *16*, 95–115. http://dx.doi.org/10.1007/BF01000184

George, M. S., Lisanby, S. H., Avery, D., McDonald, W. M., Durkalski, V., Pavlicova, M., . . . Sackeim, H. A. (2010). Daily left prefrontal transcranial magnetic stimulation therapy for major depressive disorder: A sham-controlled randomized trial. *Archives of General Psychiatry*, *67*, 507–516. http://dx.doi.org/10.1001/archgenpsychiatry.2010.46

Gevirtz, R. (2013). The promise of heart rate variability biofeedback: Evidence-based applications. *Biofeedback*, *41*, 110–120. http://dx.doi.org/10.5298/1081-5937-41.3.01

Gevirtz, R., & Lehrer, P. (2003). Resonant frequency heart rate biofeedback. In M. S. F. Andrasik (Ed.), *Biofeedback: A practitioners guide* (3rd ed., pp. 245–250). New York, NY: Guilford Press.

Gomez, G. E. (2004). Electroconvulsive therapy: Present and future. *Issues in Mental Health Nursing*, *25*, 473–486. http://dx.doi.org/10.1080/01612840490443446

Higgins, E. S., & George, M. S. (2009). *Brain stimulation therapies for clinicians*. Washington, DC: American Psychiatric Press.

Hoedlmoser, K., Pecherstorfer, T., Gruber, G., Anderer, P., Doppelmayr, M., Klimesch, W., & Schabus, M. (2008). Instrumental conditioning of human sensorimotor rhythm (12-15 Hz) and its impact on sleep as well as declarative learning. *Sleep*, *31*, 1401–1408.

Holaday, J. W., Tortella, F. C., Long, J. B., Belenky, G. L., & Hitzemann, R. J. (1986). Endogenous opioids and their receptors. Evidence for involvement in the postictal effects of electroconvulsive shock. *Annals of the New York Academy of Sciences*, *462*, 124–139. http://dx.doi.org/10.1111/j.1749-6632.1986.tb51247.x

International Society for Neurofeedback and Research. (2015). *Definition of neurofeedback*. Retrieved from http://www.isnr.org/#!neurofeedback-introduction/c18d9

Kalaydjian, A. E., Eaton, W., Cascella, N., & Fasano, A. (2006). The gluten connection: The association between schizophrenia and celiac disease. *Acta Psychiatrica Scandinavica*, *113*, 82–90. http://dx.doi.org/10.1111/j.1600-0447.2005.00687.x

Kellner, C. H., Greenberg, R. M., Murrough, J. W., Bryson, E. O., Briggs, M. C., & Pasculli, R. M. (2012). ECT in treatment-resistant depression. *American Journal of Psychiatry*, *169*, 1238–1244. http://dx.doi.org/10.1176/appi.ajp.2012.12050648

Klirova, M., Novak, T., Kopecek, M., Mohr, P., & Strunzova, V. (2008). Repetitive transcranial magnetic stimulation (rTMS) in major depressive episode during pregnancy. *Neuroendocrinology Letters*, *29*, 69–70.

Kübler, A., Neumann, N., Kaiser, J., Kotchoubey, B., Hinterberger, T., & Birbaumer, N. P. (2001). Brain-computer communication: Self-regulation of slow cortical potentials for verbal communication. *Archives of Physical Medicine and Rehabilitation*, *82*, 1533–1539. http://dx.doi.org/10.1053/apmr.2001.26621

Leuchter, A. F., Cook, I. A., Jin, Y., & Phillips, B. (2013). The relationship between brain oscillatory activity and therapeutic effectiveness of transcranial magnetic stimulation in the treatment of major depressive disorder. *Frontiers in Human Neuroscience*, *7*, 37. http://dx.doi.org/10.3389/fnhum.2013.00037

Lisanby, S. H. (2007). Electroconvulsive therapy for depression. *New England Journal of Medicine*, *357*, 1939–1945. http://dx.doi.org/10.1056/NEJMct075234

Lofthouse, N., Arnold, L. E., & Hurt, E. (2012). Current status of neurofeedback for attention-deficit/hyperactivity disorder. *Current Psychiatry Reports*, *14*, 536–542. http://dx.doi.org/10.1007/s11920-012-0301-z

Lubar, J. F., Gordon, D. M., Harrist, R. S., Nash, M. R., Mann, C. A., & Lacy, J. E. (1991). EEG correlates of hypnotic susceptibility based upon fast Fourier

power spectral analysis. *Biofeedback and Self-Regulation*, *16*, 75–85. http://dx.doi.org/10.1007/BF01000447

Lubar, J. F., & Shouse, M. N. (1976). EEG and behavioral changes in a hyperkinetic child concurrent with training of the sensorimotor rhythm (SMR): A preliminary report. *Biofeedback and Self-Regulation*, *1*, 293–306. http://dx.doi.org/10.1007/BF01001170

Meisel, V., Servera, M., Garcia-Banda, G., Cardo, E., & Moreno, I. (2013). Neurofeedback and standard pharmacological intervention in ADHD: A randomized controlled trial with six-month follow-up. *Biological Psychology*, *94*, 12–21. http://dx.doi.org/10.1016/j.biopsycho.2013.04.015

Miller, N. E. (1969a). Learning of visceral and glandular responses. *Science*, *163*, 434–445. http://dx.doi.org/10.1126/science.163.3866.434

Miller, N. E. (1969b). Visceral learning and other additional facts potentially applicable to psychotherapy. *International Psychiatry Clinics*, *6*, 294–312.

Nahas, Z. (2008). Transcranial magnetic stimulation for treating psychiatric conditions: What have we learned so far? *Canadian Journal of Psychiatry*, *53*, 553–554.

Nan, W., Rodrigues, J. P., Ma, J., Qu, X., Wan, F., Mak, P. I., . . . Rosa, A. (2012). Individual alpha neurofeedback training effect on short term memory. *International Journal of Psychophysiology*, *86*, 83–87. http://dx.doi.org/10.1016/j.ijpsycho.2012.07.182

O'Reardon, J. P., Cristancho, P., Pilania, P., Bapatla, K. B., Chuai, S., & Peshek, A. D. (2007). Patients with a major depressive episode responding to treatment with repetitive transcranial magnetic stimulation (rTMS) are resistant to the effects of rapid tryptophan depletion. *Depression and Anxiety*, *24*, 537–544. http://dx.doi.org/10.1002/da.20261

O'Reardon, J. P., Solvason, H. B., Janicak, P. G., Sampson, S., Isenberg, K. E., Nahas, Z., . . . Sackeim, H. A. (2007). Efficacy and safety of transcranial magnetic stimulation in the acute treatment of major depression: A multisite randomized controlled trial. *Biological Psychiatry*, *62*, 1208–1216. http://dx.doi.org/10.1016/j.biopsych.2007.01.018

Østergaard, S. D., Bolwig, T. G., & Petrides, G. (2014). No causal association between electroconvulsive therapy and death: A summary of a report from the Danish Health and Medicines Authority covering 99,728 treatments. *Journal of ECT*, *30*, 263–264. http://dx.doi.org/10.1097/YCT.0000000000000169

Pagani, M., Lucini, D., Mela, G. S., Langewitz, W., & Malliani, A. (1994). Sympathetic overactivity in subjects complaining of unexplained fatigue. *Clinical Science*, *87*, 655–661.

Pogarell, O., Koch, W., Pöpperl, G., Tatsch, K., Jakob, F., Mulert, C., . . . Padberg, F. (2007). Acute prefrontal rTMS increases striatal dopamine to a similar degree as D-amphetamine. *Psychiatry Research: Neuroimaging*, *156*, 251–255. http://dx.doi.org/10.1016/j.pscychresns.2007.05.002

Prichep, L. S. (2005). Use of normative databases and statistical methods in demonstrating clinical utility of QEEG: Importance and cautions. *Clinical EEG and Neuroscience*, *36*, 82–87. http://dx.doi.org/10.1177/155005940503600207

Rose, D., Fleischmann, P., Wykes, T., Leese, M., & Bindman, J. (2003). Patients' perspectives on electroconvulsive therapy: Systematic review. *BMJ*, *326*, 1363. http://dx.doi.org/10.1136/bmj.326.7403.1363

Rossi, S., Hallett, M., Rossini, P. M., & Pascual-Leone, A.; Safety of TMS Consensus Group. (2009). Safety, ethical considerations, and application guidelines for the use of transcranial magnetic stimulation in clinical practice and research. *Clinical Neurophysiology*, *120*, 2008–2039. http://dx.doi.org/10.1016/j.clinph.2009.08.016

Sackeim, H. A. (2014). Autobiographical memory and electroconvulsive therapy: Do not throw out the baby. *Journal of ECT*, *30*, 177–186. http://dx.doi.org/10.1097/YCT.0000000000000117

Schwartz, M. S. (1987). *Biofeedback: A practitioners guide*. New York, NY: Guilford Press.

Schwartz, M. S., & Andrasik, F. (2003). *Biofeedback: A practitioner's guide* (3rd ed.). New York, NY: Guilford Press.

Sibon, I., Strafella, A. P., Gravel, P., Ko, J. H., Booij, L., Soucy, J. P., . . . Benkelfat, C. (2007). Acute prefrontal cortex TMS in healthy volunteers: Effects on brain 11C-alphaMtrp trapping. *NeuroImage*, *34*, 1658–1664. http://dx.doi.org/10.1016/j.neuroimage.2006.08.059

Spellman, T., Peterchev, A. V., & Lisanby, S. H. (2009). Focal electrically administered seizure therapy: A novel form of ECT illustrates the roles of current directionality, polarity, and electrode configuration in seizure induction. *Neuropsychopharmacology*, *34*, 2002–2010. http://dx.doi.org/10.1038/npp.2009.12

Sterman, M. B. (1977). Sensorimotor EEG operant conditioning: Experimental and clinical effects. *Pavlovian Journal of Biological Science*, *12*, 63–92.

Sterman, M. B. (2000). Basic concepts and clinical findings in the treatment of seizure disorders with EEG operant conditioning. *Clinical EEG and Neuroscience*, *31*, 45–55. http://dx.doi.org/10.1177/155005940003100111

Strehl, U., Leins, U., Goth, G., Klinger, C., Hinterberger, T., & Birbaumer, N. (2006). Self-regulation of slow

cortical potentials: A new treatment for children with attention-deficit/hyperactivity disorder. *Pediatrics*, *118*, e1530–e1540. http://dx.doi.org/10.1542/peds.2005-2478

Vollebregt, M. A., van Dongen-Boomsma, M., Buitelaar, J. K., & Slaats-Willemse, D. (2014). Does EEG-neurofeedback improve neurocognitive functioning in children with attention-deficit/hyperactivity disorder? A systematic review and a double-blind placebo-controlled study. *Journal of Child Psychology and Psychiatry*, *55*, 460–472. http://dx.doi.org/10.1111/jcpp.12143

Wassermann, E. M., & Zimmermann, T. (2012). Transcranial magnetic brain stimulation: Therapeutic promises and scientific gaps. *Pharmacology and Therapeutics*, *133*, 98–107. http://dx.doi.org/10.1016/j.pharmthera.2011.09.003

CHAPTER 20

# CRISIS INTERVENTION

*Richard K. James*



*Crisis* is not easily defined, but there are numerous definitions of a crisis as it affects both individuals (e.g., Aguilera, 1998; Caplan, 1961; Kleespies, 2009) and systems (Hoff, Hallisey, & Hoff, 2009; Roberts, 2005). An *individual crisis* is the perception or experiencing of the event by the person as an intolerable difficulty that exceeds the individual's resources and coping abilities. Unless the individual obtains some relief from the situation, the crisis has the potential to create severe affective, behavioral, and cognitive malfunctioning to the point of becoming life threatening or injurious to oneself or others (James & Gilliland, 2013). Thus, for a crisis to occur there must be a precipitating event, a negative perception of the event, a negative subjective response to it, and lowered functioning as a result (Kanel, 2003). An example of an individual crisis is this: A 30-year marriage ends when a husband who has handled all the financial affairs drops dead of a heart attack. Besides the overwhelming grief at his loss, his widow has absolutely no idea how to even balance the check book and sits paralyzed as unpaid bills pile up.

## DESCRIPTION AND DEFINITION

A *systemic crisis* occurs when people and the institutions, communities, and ecological systems they live in are overwhelmed and the response systems tasked to mitigate the disaster event are unable to effectively contain or control it, as in the case of a small town being wiped out by an F-4 tornado (James & Gilliland, 2013).

Two other definitions of crisis that are not commonly used in crisis intervention are provided here. They are helpful in understanding what psychological crisis is and, hence, providing suitable crisis intervention when it occurs. They are transcrisis states and points and metastasizing crises (James & Gilliland, 2013).

### Transcrisis States

Historically, psychological crises were seen to have a typical life span of about 6 to 8 weeks, and then they dissipated (Janosik, 1986). However, that view has changed, and it is now believed that what happens immediately after the crisis may determine whether it disappears quickly and completely or lasts a lifetime (van der Kolk & McFarland, 1996). Thus, although the original impact of the crisis may appear to be long gone, its residual impact may have found a foothold in the individual and continue to manifest itself in pathological ways years after the original occurrence of the crisis. Transcrisis is much like a cold sore in that the original herpes virus may have disappeared, but it has in fact become residual, and every time the individual is placed under stress the virus activates in the form of a lip lesion.

Transcrisis is not the same as posttraumatic stress disorder (PTSD). Whereas PTSD may indeed have many transcrisis events and points as a result of stimuli that cause an onset of PTSD symptoms, PTSD is a clearly defined personality disorder with specific criteria that are required to diagnose its occurrence (American Psychiatric Association, 2013). Ongoing problems with domestic violence,

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unresolved grief, and drug addiction are classic examples of transcrisis states that do not necessarily have PTSD as the cause.

## Transcrisis Points

Persons who are in transcrisis states will have transcrisis points, particularly when they are attempting to work through the crisis. Transcrisis points often occur in psychotherapy when clients move into new developmental stages with their problems. They become frightened and unsure of the new developmental territory they are in and regress into previous maladaptive patterns of feeling, thinking, and behaving. The battered wife who decides to leave the battering relationship and calls the local domestic violence hotline 15 times over the course of the next month as she vacillates between staying and leaving is in transcrisis with many transcrisis points. However, transcrisis points are not necessarily negative. They may be viewed from a therapeutic standpoint as positive developmental waypoints that mark the individual's move into new, uncharted, and potentially threatening and scary territory but also indicate that the individual is no longer stuck and is starting to move away from the debilitating affect, behavior, and cognition the crisis caused (James & Gilliland, 2013).

## Metastasizing Crises

Large-scale systemic crises often start out as small, isolated crises, but they can grow into crises that spread quickly and widely across broad systems if they are not spotted and early intervention does not quickly occur. Analogous to the spread of cancer, once the local infection has metastasized, it is much more difficult to root out the cause and destroy it (James & Gilliland, 2013). Gang warfare is a classic example of a metastasizing crisis. Small, isolated acts of juvenile delinquency and crime can quickly spread throughout a school system or community into organized crime as a start-up gang carves out territory if primary prevention measures are not taken to stop the spread (Eck & Spelman, 1987).

Hurricane Katrina is an excellent example of a macrosystemic metastasizing crisis. Although Memphis was 350 miles away from the physical effects of Katrina, the metastasizing effect of the hurricane soon spread to Memphis and other cities attempting to handle the displaced Gulf Coast people who had been left homeless, and in some cases penniless, from its devastating effects. The physical and mental health facilities of the city were overwhelmed with the human flood tide that arrived after Katrina.

## Types of Crises

Brammer (1985) proposed that crises come in three types: normal developmental crises, situational crises, and existential crises. Developmental crises such as graduation from high school and college, birth of a child, marriage, and retirement occur in the normal course of life but can cause severe disruptions and changes when they occur. They may have high potential to turn into crises if they are chronologically delayed and begin to pile up on one another. A working 40-year-old mother attempting to finish her bachelor's degree and taking care of elderly parents who finds, at 41 that she is pregnant again is a classic example of developmental issues with high potential for a crisis to occur.

Situational crises happen when an uncommon natural or manmade event occurs that the individual has no way of forecasting such as an automobile accident, sudden death of a child, a tornado, or a house fire.

Existential crises are more abstract and encompass purposes of living and reasons for being. An example of an existential crisis is a 28-year-old man, still 16 hours short of a degree and living in his mother's basement, who is unemployed and finds his college credits are about to expire. His student loans will come due, and he does not have the money to start making payments and is now thinking of committing suicide.

## Crisis Intervention Types

Crisis intervention comes in at least two types (Slaikeu, 1990). The first type addresses the immediate crisis situation and seeks to provide immediate relief and restore precrisis psychological equilibrium. What has come to be known in the field of crisis intervention as "psychological first aid" falls into this category. The second type is crisis therapy, which provides ongoing intervention for clients who are experiencing ongoing transcrisis events or PTSD and seeks to resolve the crisis.

Roberts's (2005) assessment–appraisal, connecting to support groups, and traumatic stress reactions (ACT) model is a good representation of both these types of crisis intervention and moves through the followings steps: Conduct assessment, establish rapport, identify major problems, deal with feelings, generate and explore alternatives, develop an action plan, and establish follow-up. However, most models depict crisis intervention in some linear, stepwise fashion, which can be problematic because the chaos that accompanies crisis often defies a strict linear approach.

## CONDENSED HISTORY AND CONTRIBUTIONS

The first identified practice of individual psychological crisis intervention occurred a little more than 100 years ago with the establishment of a crisis suicide phone line established in 1906 by the National Save-A-Life League (Bloom, 1984). Indeed, most of the crisis counseling done in the United States today and in many other countries as well is still done by volunteers working at crisis call centers 24 hours a day, 365 days a year. The hotline remains the most frequently used means of dealing with the archetype of crisis intervention—suicidal ideation (National Suicide Prevention Lifeline, 2011)—and has evolved into online interventions that feature synchronous and asynchronous email, chat lines, and texting (Crisistextline, 2014; Veterans Crisisline, 2014).

Although rarely acknowledged as a progenitor of crisis intervention, the founding of Alcoholics Anonymous in the 1930s has many of the core attributes of crisis intervention. Alcoholics Anonymous is run by volunteers; it is free and brief; it works in a transcrisis perspective; and it contains a core component of virtually every crisis intervention model—an extensive and readily available support system.

However, it was not until the Cocoanut Grove night club fire in 1942 and the deaths of more than 400 people in that disaster that the study of what happens to people who experience a severe traumatic event and the crisis responses that event creates began. Lindemann's (1944) treatment and study of Cocoanut Grove survivors is considered the first benchmark study of what commonly happens emotionally, cognitively, and behaviorally to people who have experienced a severe, life-threatening traumatic event. Gerald Caplan (1961) followed up Lindemann's work with the Cocoanut Grove fire survivors and proposed some of the initial concepts to start building a theory of crisis and the psychological interventions to ameliorate its effects.

The field of crisis intervention has largely grown as a result of such historic traumatic events. The 1960s are marked by three such events that started to move crisis intervention out of the psychological backwaters and into the national therapeutic mainstream. Those events were the Community Mental Health Centers Act (1963), the traumatic wake left by the Vietnam War in the lives of returning veterans, and the women's movement that brought domestic violence, sexual assault, and child abuse from behind closed doors into the public domain.

### Community Mental Health

The Community Mental Health Centers Act was a benevolent and well-meaning attempt to return mentally ill individuals housed in state mental hospitals to the community. The prevailing belief was that the new psychotropic medications could control psychotic behavior so effectively that individuals could live and function within the community without being institutionalized (Kanel, 2003). The failure of many communities to financially support this concept through provision of comprehensive mental health, medication, housing, and employment opportunities, along with an absence of familial or other social support systems, resulted in a huge population of homeless people with mental illness that continues to the present day. Jails have now become the 21st-century substitute insane asylums in the United States; the latest population count of inmates housed in correctional facilities who have been diagnosed with mental illness is 1,264,300 (National Institute of Corrections, 2006).

### Vietnam War

Although all wars have the potential to leave survivors traumatized, the sociopolitical factors that drove strategy in the Vietnam War became the perfect vessel to grow a virulent form of trauma in

thousands of returning veterans that would come to be known as PTSD. Many of these returning veterans had severe readjustment problems, engaged in heavy alcohol and drug use to dampen intrusive images and nightmares, and could not socially fit back into society or hold down a job. The afflicted veterans overwhelmed the resources of a reactionary Veterans Administration that was late to acknowledge the severity of these problems and unable to provide effective treatment for the constant transcrises in which these veterans found themselves (MacPherson, 1984).

### Women's Movement

A driving force of the social upheaval of the 1960s and 1970s was the women's movement. The National Organization of Women's political and social action agenda went far beyond the notion of women's rights or empowerment and lobbied vigorously to bring the large-scale prevalence of domestic violence, child abuse, and sexual assault into the full light of day (Capps, 1982). Researchers who started digging into the psychological outcomes of these toxic relationships soon found that survivors of physical and sexual trauma suffered long-term effects of psychological trauma as well (Herman, 1997), and these symptoms looked very much like those shown by Vietnam veterans. The culmination of these various research venues that coined terms such as *abused child syndrome, battered woman syndrome*, and *rape trauma syndrome* got combined with *Vietnam veterans syndrome* and became posttraumatic stress disorder (PTSD) in the third edition of the *Diagnostic and Statistical Manual* in 1980 (van der Kolk, Weisaeth, & van der Hart, 1996). The outcome not only resulted in raising the public's general consciousness with regard to trauma but also gave rise to the need to develop alternate crisis intervention strategies to deal with these emergent populations who were being seen on the streets and in Vietnam veterans' centers, spouse abuse shelters, street clinics, and child abuse centers and contacting call-in crisis lines (James & Gilliland, 2013).

Since the 1970s, mental health crisis intervention has experienced phenomenal growth both inside and outside the helping services. Why is this so? There are several reasons, not the least of which has been media exposure to national tragedies, such as the terrorist attacks of September 11; the bombing of the Oklahoma City federal building; the mass shootings at Virginia Tech, Columbine, and Newtown; and Hurricane Katrina. These names are indelibly imprinted on the American public's psyche as a result of the real-time videos shot while these tragedies were occurring, which exponentially increased the public's perception that the world is an instantaneously interconnected, dangerous, and crisis-prone place (Marshall et al., 2007).

Additional reasons for the growth of crisis intervention in mental health are also manifest. First is raised consciousness: As public understanding of what the pernicious effects of trauma can do to anyone under the right conditions has increased, the abbreviation PTSD has become common parlance, and the public has become much more accepting of crisis outreach programs. Furthermore, there is less blaming the victim and much more support for helping victims get through the crisis (James & Gilliland, 2013).

Second, mandates through state laws for provision of crisis intervention services in schools have been placed in operation throughout the United States, and school personnel have been trained to deal with crisis contingencies that range from suicide to armed intruders (Poland & McCormick, 1999). Third, the lessons learned from Vietnam have not been lost on the U.S. armed services or the Department of Veterans Affairs. Both have been proactive in developing crisis intervention and primary, secondary, and tertiary intervention programs.

The United States has not been alone in its endeavors to formalize crisis intervention into a discipline. Internationally, the United Nations Interagency Standing Committee (2007) has published guidelines for mental health provision in emergency situations. Europe has established the European Network for Traumatic Stress to develop evidence-based responses to large-scale disasters and provide assistance to those parts of the European Union that lack psychological resources. Australia has been in the forefront of research and implementation of crisis intervention strategies.

Finally, crisis intervention is growing because of its cost efficiency. Much individual crisis

intervention is done by volunteers at crisis phone lines, and one major reason for this is because it is free for people who could otherwise not afford professional treatment (Reese, Conoley, & Brossart, 2006). Minorities and those who have historically been socioeconomically deprived do not use traditional mental health services nearly as much as their more socially knowledgeable and financially able majority counterparts (L. S. Brown, 2008), and such free crisis intervention is generally available and used by these disenfranchised groups (Reese et al., 2006).

In large-scale disasters, free crisis intervention is the norm. Local volunteer civilian Crisis Emergency Response Teams are trained to give psychological first aid after a disaster. Most first-response crisis therapy is done pro bono by professional mental health workers who volunteer through the Red Cross. The American Psychological Association's (APA's) Disaster Response Network is a group of approximately 2,500 licensed psychologists volunteering in preparedness, response, and recovery activities and who are Red Cross Disaster Mental Health volunteers. Crisis intervention is also cheap in comparison to other treatment approaches (Roberts, 1991), and it is the approach sought by most health maintenance organizations to deal with large groups of people after a traumatic event because it is cheap (Kanel, 2003).

## CORE PRINCIPLES AND APPLICATIONS

A cursory inspection of the core principles and applications of crisis intervention would not seem much different than standard long-term therapeutic modalities. That would be a mistaken assumption. The following core principles and applications of crisis intervention are characterized by rapid, real-time assessment of the presenting crisis; focus on the immediate, traumatized component of the person; concentrate on immediate, individual problem-specific needs; use therapeutic interventions that focus on immediate control and containment of the crisis; evaluate successful outcomes by returning the client to a precrisis level of psychological equilibrium; and, above all, ensure safety (James & Gilliland, 2013).

### Assessment in Crisis Intervention

Continuous assessment of the client's ability to think, emote, and behave predominates over all the tasks in crisis intervention and is critical because of the high potential for injurious or lethal behavior. Thus, it should overarch any intervention methods used. Assessment in crisis intervention falls into two distinct categories: real-time assessment and crisis therapy assessment.

**Real-time assessment.** Real-time assessment occurs on site while the crisis is occurring. The purpose of real-time assessment is to allow the worker to determine how severe the crisis is and how well the worker is doing in stabilizing the individual. Roberts's (2005) ACT and Myer et al.'s (1992) Triage Assessment Form (TAF) are the two leading methods of real-time assessment.

ACT first assesses for immediate medical needs, threats to public safety, and property damage. After assessing for these primary safety needs, the worker conducts a triage assessment for trauma to determine the need for emergency psychiatric treatment if the individual is a threat to self or others and a crisis assessment to gather personal characteristics, parameters of the crisis, and the intensity and duration of the crisis, which are all used to develop a treatment plan.

Myer et al. (1992) have developed a simple real-time TAF for onsite use by first-line responders. This assessment tool rates individuals on affective, behavioral, and cognitive scales based on rubrics; each scale has numerical anchors ranging from 1 to 10. The total TAF range is 3 to 30. The higher the score on each scale, the greater the degree of impact the crisis is having on the individual. A total score ranging from 3 to 10, for example, indicates generally good adaptability, psychological equilibrium, and overall behavioral control of the crisis. A total score ranging from 21 to 30, however, indicates increasingly and severely disorganized adaptability, severe disequilibrium, and out-of-control behavior that is becoming dangerous to self and others. Scores between 11 and 19 are the most difficult to evaluate. These scores indicate the individual is in crisis but handling it to some greater or lesser extent. However, the higher the score in this range, the more

likely it is that the interventionist will become more directive and look for support systems that can more closely supervise the individual's psychological equilibrium. The TAF also has simple "X" (beginning) and "O" (ending) scales ranging from 1 to 10 on each dimension to record event duration and what occurred as the result of the intervention.

Finally, the TAF has a quick observational check list that allows first responders to check off a menu of problem behaviors that range from drug use and hallucinations to being aggressive or nonresponsive to verbal commands. These last two components of the TAF were entered at the request of law enforcement and mobile mental health teams to support case disposition and law enforcement decisions and any subsequent medical or legal proceedings that might issue out of those decisions. Although the TAF is specifically designed for real-time, onsite use, it certainly has utility in any transcrisis situation that may arise during follow-up therapy.

**Crisis therapy assessment.** A comprehensive assessment can be administered that covers precipitating events of the crisis, presenting problems incurred as a result of the crisis, the context of the crisis, precrisis functioning, and crisis functioning. Slaikeu's (1990) BASIC assessment is a derivative of Arnold Lazarus's (1981) well-known BASIC ID assessment and treatment paradigm; it includes behavioral, affective, somatic, interpersonal, and cognitive assessment components that cover a broad array of individual functioning such as patterns of work and play; sleep; drug use; coping mechanisms; type and duration of negative and positive feeling; appropriateness of affect to situations; general physical functioning and health; presence or absence of specific somatic complaints; strength of social affiliation with family, friends, and organizations; current day and night dreams; religious beliefs; philosophy of life; hallucinations; irrational self-talk; and general attitude toward life. The foregoing is not a complete list of what this very comprehensive assessment covers, so it should be understood that this protocol is not to be carried out with a suicidal individual standing on a bridge railing.

An intake form called the Comprehensive Mental Health Assessment, developed by the Erie County New York Mental Health System (Hoff et al., 2009), incorporates crisis care into the assessment and record-keeping requirements of that state's mental health system. The intake assessment attempts to create a working alliance with the individual to enable the interviewer to make fast, early decisions on treatment strategies. The assessment worksheet is based on a Likert rating scale ranging from 1 to 5 that covers physical health, self-acceptance and self-esteem, vocational situation, immediate family, intimacy of significant other relationships, housing, finances, decision making, spiritual values, violence and abuse, self-injurious behavior, dangerousness to others, substance abuse, legal problems, previous human service agency use, and safety concerns for self and others. One of the first questions asked is how urgently the person feels he or she needs help.

A major caveat to any of these crisis therapy assessment devices is that the individual's psychological equilibrium is good enough and she or he has the cognitive ability to give the interviewer the required information. That is assuredly not always the case in a crisis or its aftermath.

## Models of Crisis Intervention

Several models of crisis intervention parallel the major theories of psychotherapy and personality and include psychoanalytic, systems, cognitive, behavioral, interpersonal, narrative, solution-focused, and other major approaches. When used in crisis intervention, most of these theories focus specifically on the crisis event to the exclusion of any long-term treatment issues or personality change (James & Gilliland, 2013).

There are also newly emergent theories that focus exclusively on crisis. The major evolution in large-scale disasters and the crisis intervention that follows them has been the conceptualization and formulation of ecosystemic theory and intervention strategies based on how micro- and macrosystems operate and communicate within and between one another (Gist & Lubin, 1999; James, Cogdal, & Gilliland, 2003; Myer & Moore, 2006). Ecosystems theory views crises as interwoven in the fabric of the environment such that what happens in one part of the system has a dynamic effect on other parts of the system. On a micro scale, an alcoholic,

codependent, enabling family system is an excellent example and would be rated 9 to 11 on a macro systemic level. Time is a major variable in large systemic crises. As time moves forward postcrisis, large systems appear to experience particular stages (Myers & Wee, 2005). Depending on what occurs postcrisis, crisis event effects may decrease or increase for both the individual and the system itself (Antonovsky, 1991).

The most critical part of that system is how effectively and efficiently integrated mesosystems (communications; Bronfenbrenner, 1995) will be as they operate both within and between microsystems (family and friends); exosystems (local mental health, local government, local emergency management agencies); and state, national, and international macrosystems (Red Cross, National Office of Victim Assistance, Federal Emergency Management Agency). The major failures that occurred in the aftermath of Hurricane Katrina can largely be attributed to lack of communication, coordination, and ambiguous command within and between the foregoing systems (Gheytanchi et al., 2007).

The three most commonly used models of crisis intervention are the equilibrium, cognitive, and psychosocial transition models (Belkin, 1984). Three field-based models are the well-known psychological first aid model (U.S. Department of Veterans Affairs, 2011), a new coaching–game plan–playbook police model (Kirchberg et al., 2013), and a new hybrid model (Myer et al., 2013).

**Equilibrium model.** Lindemann's (1944) seminal work in crisis was mainly concerned with the Cocoanut Grove fire survivors' reactions to grief and how they worked through it. These reactions, for the most part, were temporary, and Lindemann found they could be helped though short-term intervention. Gerald Caplan (1964) expanded Lindemann's work across all types of crisis, including both developmental and situational crisis events. Both Caplan and Lindemann believed that individuals in crisis suffered from psychological disequilibrium because their customary coping mechanisms were unequal to the task of keeping them in psychological homeostasis. Thus, the primary goal of intervention in their model is to restore the individual to a precrisis state of equilibrium. The equilibrium model is typically used early on in initial contact to deal with the out-of-control psychological disequilibrium of the crisis client across affective, behavioral, and cognitive dimensions of the crisis (Caplan, 1961). This equilibrium model is still currently seen as the basic approach to how most crisis intervention is conducted.

**Cognitive model.** The cognitive model is closely aligned with cognitive behavior theories (Beck, 1976). People in crisis often have catastrophic, all-or-none, tunnel-vision thinking. The main purpose of this model is to reframe and cool off hot cognitions, broaden the client's view of the situation, and reframe and dispute the irrational and self-defeating thoughts the crisis creates. Although it may be used in initial contacts to cool off ideas of lethality, it is most commonly used after the client is stabilized and has at least some precrisis equilibrium restored.

**Psychosocial transition model.** The psychosocial transition model assumes that social learning plays an integral part in resolving a crisis because people are a product not only of their genes but also of what they have learned from their social milieu. This model has many of the trappings of Adlerian social psychology (Ansbacher & Ansbacher, 1956) and Eriksonian developmental psychology (Erikson, 1963). It is most typically used in longer term transcrisis situations because little will change until the social systems that cause the crisis are changed.

**Field-based models.** The term *psychological first aid* was first used by Raphael (1977) to describe basic caring and support in the immediate aftermath of a traumatic event that provided basic necessities of survival such as food, clothing, and shelter; concrete information services; caring and empathic responding; and reestablishment of social support systems. Psychological first aid has been operationalized in a field manual by the U.S. Department of Veterans Affairs (2011). The manual is used by a variety of both professional and volunteer responders that range from Red Cross disaster counselors to school crisis response teams to community emergency response teams—all of whom who are likely to make first contact with survivors of a disaster. The psychological first aid course may be taken online by anyone

wanting to learn the rudiments of helping people in crisis regain their psychological equilibrium.

### Police Crisis Intervention Teams

One of the major real-time settings for crisis intervention is in front-line services. Providers such as police, firefighters, emergency medical technicians, emergency room nurses, jailers, and mental health workers use crisis intervention strategies to deal with people who are in severe psychological disequilibrium (James & Crews, 2009; Ligon, 2005). This has been particularly true in regard to law enforcement officers, who are likely to be first-line responders to a mental disturbance call.

Victims of domestic violence, people who abuse alcohol and drugs, and people with mental illness who are off their medication are all crisis intervention candidates in need of first responders who have the skill to defuse and deescalate volatile, chaotic situations. The need for such first responders resulted in the crisis intervention team (CIT) model that was developed in 1988 in Memphis, Tennessee, and has become known as the Memphis model. What began as a few mental health professionals, local National Alliance for the Mentally Ill consumer advocates, and the Memphis police attempting to solve a local problem has now spread across the United States, Canada, Australia, and other countries (CIT International, 2013). Police officers undergo specialized training in defusing and deescalating out-of-control individuals who are in serious psychological disequilibrium (James & Crews, 2009) and are identified by the CIT medallions they wear on their uniforms. Candidates are volunteers who undergo extensive interviews by veteran CIT officers and are recommended by their area commanders for training. Training consists of 40 hours of education on legal statutes and people with mental illness, multicultural issues, referral services, and psychotropic medication and face-to-face group sessions with inpatients with mental illness to develop empathy and understanding and 12 hours of supervised practicum by psychologists and veteran CIT officers that starts with how one establishes first contact and moves to complex suicide scenarios. Variations of the Memphis model are used at police training sites throughout the country and overseas.

A principal component of the Memphis model training program is a coach–game plan–playbook model developed by Major Sam Cochran of the Memphis Police Department specifically for police officers and other first-line responders to defuse and deescalate angry, distraught, out-of-control individuals who are in the middle of a crisis and come to police attention through 911 "mental illness" calls (Kirchberg et al., 2013). In this model, front-line responders are trained to assess individuals' verbal and nonverbal behavior and develop a game plan that uses a combination of verbal deescalation techniques (plays) to defuse individuals who may be manifesting lethal behavior toward themselves or others.

## PRINCIPAL METHODS AND INTERVENTIONS

Intervention methods and the principles that guide them in crisis intervention call for psychologists who can tolerate chaos, think in nonlinear ways, and be creative in generating on-the-spot options. At times its methods may be highly directive and judgmental, particularly when the safety of clients or their significant others is an issue. Intervention tactics are often dictated not only by what the client is experiencing but also by what environmental variables are interacting with and exacerbating the crisis event.

### Steps in Crisis Intervention

Most models of crisis intervention have specific action steps that include problem assessment, provisions for safety, generation of support systems, examination of alternatives, and institution of short-term planning and follow-up. The task model developed by Myer et al. (2013) is a contemporary example of these actions steps. The task model has specified steps for crisis intervention that are generally linear in progression but may also be seen in terms of eight stand-alone tasks: predispositioning, engagement, and initiating contact; problem exploration and defining the crisis; providing support; examining alternatives; planning to reestablish control; obtaining a commitment; follow-up; and safety. Certainly some of these tasks, such as

predispositioning and problem exploration, would usually be done in the beginning of a crisis contact and might end with planning and commitment. However, the focus on getting a commitment from a person to do something that would normally come at the end of a crisis session may need to happen immediately if that person is standing on a bridge threatening to jump.

**Safety.** Safety is the number-one default task in any attempt to do crisis intervention (Myer et al., 2013). Safety issues involve the client, others who may be involved in the crisis, and the interventionist. Whether by commission or omission, clients often put themselves in hazardous situations as a result of their affective, behavioral, and cognitive reactions to the crisis by engaging in lethal behavior toward either themselves or others. An erroneous assumption in crisis intervention is that safety only enters the picture when the client is engaging in intentional lethal behavior toward self or others. In actuality, many safety issues arise from clients who have no intention of or motive for hurting themselves or others but who are not thinking clearly or behaving responsibly because of the cognitive and affective dissonance the crisis is causing and wind up putting themselves or others in harms way (James & Gilliland, 2013).

**Predispositioning, engaging, and initiating contact.** In crisis intervention, predisposing individuals to be open to intervention is critical when they may be anything but happy about the worker's presence or be so out of control as to be only generally cognizant of the interventionist's efforts to defuse and deescalate the situation. Particularly with a first contact, predispositioning clients as to what to expect is critical. A correlate to letting clients know what is going to occur is making contact with them in such a way as to allow them to understand that the interventionist is an immediate ally and support, not another in a long line of callous and uncaring bureaucrats and institutional authorities who have been anything but helpful in resolving their problems (Myer et al., 2013).

To that end, primary objectives in predisposing an individual to accept crisis intervention are twofold: first, to establish a psychological connection and create a line of communication and, second, to clarify intentions. *Clarifying intentions* means informing the client about the crisis intervention process and what the client can expect to happen. For many people in crisis, this will be their first contact with a crisis interventionist. They will feel threatened, and they need assurances that they are safe and that the interventionist is on their side (James & Gilliland, 2013).

**Defining the problem.** Problem definition is typically a primary starting task in crisis intervention (Myer et al., 2013). *Defining the crisis* means attempting to identify the event and its immediate antecedents across the affective, behavioral, and cognitive components of the crisis and how it is now affecting the individual. This task serves two purposes. First, the interventionist sees the crisis from the client's perspective. Second, defining the crisis gives the interventionist information on the immediate conditions, parties, and issues that led to the problem erupting into a crisis. However, as the crisis context changes, so may the problem (Myer & Moore, 2006). Those changing conditions will almost certainly call for redefinition of the problem in the new context. So to think that, once defined, the crisis problem is fixed and immutable is to not understand the rapid and dramatic changes that are likely to occur in a crisis situation (James & Gilliland, 2013).

**Providing support.** Probably the second most critical component of crisis intervention is providing support (Myer et al., 2013). Support occurs in three ways. First and most immediate is psychological and physical support from the interventionist. Deep, empathic responding using reflection of feelings and owning statements about the individual's present conditions serves as a bonding agent that says emphatically, "I am with you right here, and we are in this together." Physical support means giving individuals concrete assistance to help weather the crisis. This support come in many forms ranging from providing information on treatment options to arranging transportation of people to organizations that have the resources needed to help them (James & Gilliland, 2013).

Second, providing support means activating individuals' primary support systems such as family, friends, coworkers, church members, and so forth.

The primary support system of many people in crisis may be geographically distant, have few resources themselves, have given up on the client because of the client's behavior, or be physically, emotionally, or financially unequal to the task of providing support. Conversely, clients may feel too embarrassed or guilty to ask for help from their immediate support system. At such times, the interventionist is not only the initial point of contact and immediate psychological and physical anchor but also the expert who provides information and guidance and primary support in the minutes and hours after the initiating event (Myer et al., 2013).

**Examining alternatives.** In crisis intervention, examining alternatives and engaging in planning have little to do with long-term behavior change and everything to do with what will happen in the next few minutes, hours, and, at most, days to deescalate the crisis and defuse the situation. Examining the client's currently available choices in a realistic and time-efficient manner and determining whether they are doable includes finding situational supports, installing coping mechanisms, and reestablishing positive thinking and solution-focused behavior to generate achievable short-term goals (Myer et al., 2013).

Psychoeducation has become a key component in individuals' attempts to reestablish control of their lives and generate viable alternatives and plans. At times, individuals do not have enough information to make viable plans and need to have concrete information about what is happening to them psychologically. Psychoeducation means that the crisis worker is essentially providing individuals with information about their condition; what they can expect in the way of its affective, behavioral, and cognitive dimensions; and what they can do in regard to developing coping skills to alleviate it. For example, the symptoms of acute traumatic stress disorder become far less frightening when individuals are given information about its commonality, symptoms, and progression and what can be done about it. The crisis worker also provides information about basic referral and support services that the client may have little knowledge of or ability to access, such as Federal Emergency Management Agency services after a tornado (James & Gilliland, 2013).

**Making plans.** A crisis intervention plan is not about long-term personality or behavior change (Myer et al., 2013). It is laid out in a time frame of minutes, hours, and days. It is focused exclusively on the crisis and attempts to at least temporarily ameliorate its more profound effects on the individual. The plan needs to be simple, straightforward, and doable; have reinforcing value; and provide the individual with the feeling of having at least a modicum of control over the situation. A crisis plan is generated from among the positive and doable alternatives and translated into immediate actions the client can comprehend, own, and implement.

**Obtaining commitment.** Obtaining a concrete verbal or written commitment to a plan that can be comprehended, owned, and put into operation by the individual is critical. Too many times individuals in crisis who do not repeat verbally or write down the plan will forget what they are to do. Getting a verbal and or written commitment to what is going to happen avoids misunderstanding and plan failures (Myer et al., 2013).

**Follow-up.** Immediate, short-term follow-up by the worker to ensure that the plan is working is a critical task that has two purposes: first, to keep the individual on track and, second, to let people know that the worker is still supporting them (Myer et al., 2013).

## Strategies in Crisis Intervention

Depending on how the individual is responding to the crisis, the following nine strategies may be used singly or in combination.

**Creating awareness.** Although a few individuals may be so severely traumatized by a crisis that they dissociate, experience derealization, and completely decompensate, many others simple deny the reality of the situation. They repress the threatening feelings and thoughts that stop them from becoming aware of what they need to do to start regaining control. The crisis worker attempts to bring into conscious awareness warded-off and repressed feelings, thoughts, and behaviors that freeze clients' ability to act in response to the crisis. By gently but persistently reflecting the shunted-aside feelings and thoughts the individual is keeping at bay and

clarifying the problems and issues resulting from the crisis, the worker attempts to make it safe enough for the individual to recognize and start grappling with these overwhelming issues. Creating awareness is particularly important for the problem exploration task (Myer & James, 2005).

**Allowing catharsis.** At times it is important to let people know it is okay to release emotions and encourage them to do so. Allowing individuals to ventilate feelings and thoughts by talking, crying, punching a Bobo bag, swearing, babbling, tearing up a phone book, or any other way they can safely let feelings out is allowing catharsis to occur. However, allowing catharsis to go on for too long is likely to exacerbate the problem as opposed to simply airing out the emotional behavior that is supporting the disequilibrium. This strategy is most often used with people who cannot or will not get in touch with their feelings (Myer & James, 2005).

**Providing support.** Often the crisis worker is the sole immediate support available to the client. Creating dependence is seen as a cardinal sin in standard psychotherapy. However, in a crisis situation when social support systems are nonexistent or geographically distant, the individual may need to be dependent on the worker for emotional and physical support. There are good reasons why crisis workers often seem like social workers in supporting their clients' basic survival needs (Myer & James, 2005).

**Promoting expansion.** At times, individuals are so focused on the crisis that they have blinders on with regard to any other possibilities or options to contain the crisis. When individuals are so tightly wrapped up in the crisis they can see nothing else, the crisis worker needs to empathically but assertively pull them out of the emotional and cognitive whirlpool they are in and reframe their thinking about other options available to them.

**Emphasizing focus.** Parallel to the problem of individuals so focused on the crisis that they can see nothing else are individuals who are so emotionally and cognitively scattered by the crisis that they are incapable of focusing on a particular task. They are unable to take one component of the crisis and make a plan to handle it. The crisis worker's job is to slow the individual down, start to break the crisis down into manageable pieces, and get the person to commit to prioritize and deal with just one facet of the crisis (Myer & James, 2005).

**Providing guidance.** People in crisis often do not have the necessary information to make informed decisions or plan what they need to do to move forward. Therefore, the crisis worker is a primary source of information, referral sources, and expert guidance in regard to external resources and support systems (Myer & James, 2005). The sudden death of a loved one is a classic example of a crisis in which guidance may be critically needed by the shocked and grieving spouse.

**Promoting mobilization.** It may be solution-focused brief therapy, cheerleading, Adlerian encouragement, or behavioral positive reinforcement, but no matter what theory base the crisis worker uses, the primary goal in crisis intervention is to get the individual mobilized and proactive. To mobilize the individual the worker seeks both to create awareness of the individual's internal resources and to help the person use external support systems to move forward (Myer & James, 2005).

**Providing protection.** The overriding task of all crisis intervention strategies is protection—protection of the individual, protection of significant others, and, just as important, protection of the worker. Not all crises involve lethal behavior, but many have the potential for it through either acts of commission or acts of omission because individuals are too preoccupied with the crisis to see the dangers inherent in the actions they are taking. When an individual is in crisis, the worker should never dismiss comments about harmful behavior no matter how off the cuff they may seem. Thus, providing protection calls for the worker to be proactive in confronting and dealing with such behaviors at the first sign of them (Myer & James, 2005).

**Respecting culture.** Certain cultures do not even have words for trauma (Silove, 2000), and *crisis* has very different meanings across cultures. Deeply held cultural beliefs and previously learned ways of

dealing with the world surface rapidly when individuals are placed in a crisis situation (Dass-Brailsford, 2008). Thus, when a traumatic event occurs, there is a high probability that people will revert to their long-held cultural beliefs no matter where they live and work at the moment (L. S. Brown, 2009). This means that a crisis worker who goes into a different culture should be aware that the residents of that culture are basing their ability to get though the crisis on their own core set of cultural survival standards, which may not necessarily correlate with the worker's.

## A Sampling of Basic Verbal Techniques

On a continuum ranging from nondirective to directive, the crisis worker is far more likely to use directive language with more immobilized individuals. In most crisis intervention, the worker is active, directive, and mobilized in direct proportion to the disequilibrium the individual is experiencing. The following are a small sampling of crisis work techniques.

**Reflection of feelings.** A sine qua non of standard therapy is the ability to adequately reflect the client's feelings and thoughts beyond the surface level of what is being said. In crisis intervention that may not be prudent if the individual is highly labile and agitated. Reflecting the individual's anger at having a restraining order placed on her is likely to pour verbal gasoline on an already hot emotional fire. At times, staying away from feelings and concentrating on generating adaptive behaviors to regain control through open and closed questions that target behaving and thinking is a far wiser choice (James & Gilliland, 2013).

**Owning statements.** In traditional treatment, "owning" or "I" statements are generally used sparingly and most often indicate what is going on with the worker in the here and now of the session, such as "I am somewhat perplexed because you seem to be talking about using game plans that are kind of opposite of each other." In crisis intervention, the following owning statements are used in multiple ways because the desired focus of attention and action is the individual and the worker (James & Gilliland, 2013):

- Assertion—"I need for you to take a deep breath and sit down!" Many times individuals in crisis are frozen psychologically and unable to make even the smallest decision. The worker makes clear, concise, easily understandable subject–verb–object sentences to get the individual moving again.
- Reinforcement—"I'm really pleased you're starting to get control back and can take those nice deep breaths and sit down for a moment." As opposed to breeding dependent behavior, numerous specific, positive targeted behavioral reinforcing statements can help the individual successively approximate psychological homeostasis and proactive behavior.
- Limit setting—"People who want my help do not threaten to pick chairs up and start throwing them. I'll be glad to help you, but you have to put the chair down and sit on it." Individuals who are becoming more out of control behaviorally need to have clear limits set and understand what the behavioral boundaries are. Allowing labile and agitated behavior to escalate toward violence is a bad idea. An individual in crisis should have limits set if behavior is starting to escalate.
- Value judgment—"If you continue to make those threats, I'll have to assume you really will hurt yourself. That means calling the police, which I am ethically and legally bound to do, but even more important I do not want to see you get hurt or hurt others." Although many therapists would see making value judgments about a client's behavior as anathema, in crisis intervention when a person is immobilized and out of control, somebody needs to take control of the situation and that most likely will be the interventionist. Individuals in crisis often have so much trouble making rational judgments that the worker needs to make clear judgments of their behavior to keep them out of harm's way. Note that the emphasis is on the specific harmful behavior, not the total person.

**Closed questions.** Closed questions are also used more often in crisis intervention than in standard psychotherapy, particularly when the worker believes there is a possibility of lethal behavior

(James & Gilliland, 2013). Closed questions cover the following areas and are designed to obtain clarity and specificity of actions:

- Requesting specific information—"When and where will you go to an Alcoholics Anonymous meeting?"
- Seeking "yes" or "no" clarity—"Are you going to kill yourself?"
- Obtaining a commitment—"Are you willing to go to the cemetery this week and finally say good bye to her?"
- Increasing focus—"Are we understanding each other?
- Staying in real time—"Stay right with me, okay?"

**Externalizing the crisis.** Externalizing is typically seen as problematic in standard therapy because of clients' attempts to distance themselves from owning responsibility for their problems and taking action. However, in crisis externalizing and distancing are at times worthwhile strategies and take the focus away from the emotional vortex swirling around the individual. *That* and *there* are indefinite pronouns that are used to push the crisis away from the individual and make it less personal and substantive. The worker also concentrates on deescalating the real-time actions that are fueling the crisis by using *here* and *now* assertion statements to focus the client on taking positive action rather than brooding over the crisis event (James & Gilliland, 2013). For example, indefinite pronouns replace and distance the stimuli nouns that are causing the runaway emotions:

> Right now, I want you to put that [all those job failures and even your recent dismissal] out there [somewhere around the orbit of Saturn] and concentrate right here and now on getting you down from this bridge because your family is coming here [linking positive stimuli to the situation to replace the focus on negative environment] and they want you alive and at home with them right now [linking positive stimuli to the immediate setting and the future positive outcome] and tonight.

***Normal* versus *common*.** When people are confronted with a horrific life-shattering experience, they often lose so much affective and cognitive control they think they are going crazy. In an attempt to provide palliative relief to their concerns, neophyte crisis workers seek to assure them that such reactions are normal to assuage their fears. There is nothing normal about being in a commuter train wreck from which the individual had to be pried out of the wreckage with the jaws of life with other dead people pinned in with her. Her acute stress disorder symptoms are not remotely connected to the normal she knew before the traumatic event. A far better word is to use is *common*, indicating that the feelings, thoughts, and behaviors she is experiencing are common to people who go through such experiences (James & Gilliland, 2013).

## RESEARCH EVIDENCE

Determining what is evidence based in crisis intervention is akin to herding cats because of the extreme variability of who, what, where, and when of the crisis. Randomized controlled studies are not common to the practice of crisis intervention. It should be readily apparent that a person with suicidal ideation is handled differently than a person whose wife has died after 40 years of marriage, a survivor of a hurricane who has no home, sixth-grade students who have just been through a school shooting, a person with acute schizophrenia who is having an auditory and olfactory hallucinating episode, or a person in a rape crisis center who has just been sexually assaulted. Even within each of these crisis categories, the ever-changing kaleidoscope of each person's idiosyncratic situation makes crisis intervention a stand-up act that demands resiliency, flexibility, and creativity from the interventionist as conditions rapidly change. What is perhaps a better qualifier than *evidence based* is *best practices*. Given this qualifier, here is what the research evidence has shown.

### Psychological First Aid

As a first-order intervention during a crisis, psychological first aid is a best-practices bet that seeks to provide immediate relief and restore stability to the individual (Slaikeu, 1990). A psychological

first aid training program has been developed by the National Center for PTSD (U.S. Department of Veterans Affairs, 2011). This guide provides information and intervention skills for first responders, disaster relief workers, and volunteers to help survivors immediately after a traumatic event. It provides key steps in how to approach someone in need, how to talk to and stabilize them, and how to gather critical information. Its competencies are empirically grounded and based on best-practice models and consensus statements of leading mental health organizations (Parker et al., 2006). Its basic listening and responding skills have applicability to almost any crisis situation.

## Initial Contact, Bonding, and Social Support

Critical to effective crisis intervention is establishing contact, providing palliative social support and advocacy, and doing so in a timely manner during the acute crisis stage (L. M. Brown, Frahm, & Bongar, 2012; Prati & Pietratoni, 2009). In many instances, interventionists do not know the recipients of their services; therefore, bonding is critical and sets the tone for how effective intervention will be. Building a working alliance is essential in standard therapy. It is even more important in crisis intervention. The experiences of police crisis intervention team supervisors have indicated that the first few minutes are critical in establishing a working alliance with an out-of-control emotionally distraught or mentally ill consumer (Memphis Police Department, 2014). In that regard L. S. Brown's (2009) concept of social locations (personal identifiers) and how interventionists can fit their primary social locations to those of the individual in crisis or, just as important, recognize when they do not fit and change accordingly is critical in establishing a working relationship as opposed to escalating the situation to the point of physical harm.

## Group Intervention

Other chapters in this handbook deal with the ongoing controversy regarding critical incident stress debriefing (Mitchell & Everly, 2001) as a treatment tool to stave off PTSD and its symptoms (Pender & Prichard, 2008) and those who contest its use as, at the least, benign and useless and, at the most, psychologically damaging (Gist & Devilly, 2010; Raphael & Wilson, 2000). Indeed, Van Emmerik et al.'s (2002) meta-analysis of single-session debriefing found it overall to be largely ineffective.

However controversial critical incident stress debriefing may be, it has evolved into several variations of postincident intervention that fall under the term *critical incident stress management*. These group interventions are often used as second-order, soon-after-the-event interventions to bond; find support; share information; receive psychoeducation about peritraumatic symptoms, acute stress disorder, and PTSD; and provide restorative therapy (Strand, Felices, & Williams, 2010). In fact, these interventions are often mandated for first responders. Meta-analysis of multicomponent intervention critical incident stress management approaches has shown them to be effective (Roberts & Everly, 2006).

## Delivery Systems

Contrary to other face-to-face, sit-down-in-an-office, I-know-my-client-well therapeutic endeavors, crisis intervention is often conducted in faceless phone or Internet settings or first contact occurs on the street or in the home. Furthermore, the interventionists most often responsible for delivering crisis intervention will not be licensed therapists but volunteers or first responders. Therefore a critical variable in determining whether crisis intervention works is not only the techniques and strategies used but the delivery systems and the people who operate them.

**Telephone and Internet.** The anonymous nature of telephone and Internet crisis intervention makes it the perfect delivery system for those who may feel embarrassed or too ashamed to present their problems in a face-to-face meeting (Reese et al., 2006). Randomized trials have found high client acceptance and positive outcomes of telephone counseling (Brenes, Ingram, & Danhauer, 2011). Probably one of the more interesting outcomes of telephone crisis line research is that trained volunteers have good skills at providing effective crisis intervention (Mishara et al., 2005).

Project Liberty is a classic example of a successful temporary crisis hotline service that was opened after the terrorist attacks of 9/11. A total of 607

recipients of service responded to an anonymous questionnaire that asked them to rate 11 dimensions of service provision that ranged from counselor respect and willingness to listen to cultural sensitivity and information received. At least 89% of service recipients rated Project Liberty as either good or excellent across these service dimensions and four effectiveness domains of daily responsibilities, relationships, physical health and community involvement (Jackson et al., 2006).

**Mobile crisis teams and the CIT.** The nagging problem of doing evidence- based research in crisis intervention is that it is particularly difficult to do on the streets and in the homes that mobile crisis teams and police CITs often enter. Mobile crisis teams have become an integral part of emergency psychiatric services (Ng, 2006), and some dated research has shown their cost efficiency and ability to reduce hospitalization (Bengelsdorf et al., 1993). However, very little contemporary information and even less research has been conducted on their efficacy in dealing with emergency psychiatric services on the streets and in homes in which those services are required and requested.

What current research has occurred in contemporary outreach has mainly happened through police CITs. The CIT is considered a best-practice model for police intervention with the people who are mentally ill and seriously emotionally disturbed (Watson & Fulambarker, 2012). Research on CIT intervention has shown improved officer and consumer safety with less physical injury to each because of reduced officer physical force (Compton et al., 2011), reduced barricade and hostage situations (James, 1994), better mental health care for consumers (Watson et al., 2010), and fewer criminal proceedings against recipients of service and more diversion from jail to hospitals (Skeem & Bibeau, 2008). An added benefit has been the decreasing stigma of mental illness and less fear of involving police in mental disturbance calls (Browning et al., 2012).

**Red Cross Disaster mental health teams.** For 23 years, the APA has had a memorandum of understanding with the American Red Cross in providing a disaster response network of psychologists to respond to disaster in the United States. The American Red Cross has conducted training across several mental health disciplines, and thousands of mental health workers have been deployed in a wide variety of disasters over the past three decades. Research studies have been done on mental health providers and their mental health status in the aftermath of deployment in the United States and other countries (Miller, Marchel, & Gladding, 2013; Thormar et al., 2013), and anecdotal reports have been published on what workers did during deployment (Beach, 2007). Yet an extensive review of evidence-based outcomes concerning the effects of these deployments has found virtually no evidence as to their effectiveness or ineffectiveness. It is lamentable that little is known about the effectiveness of this well-publicized disaster intervention.

## LIMITATIONS AND CONTRAINDICATIONS

There is good reason that most crises historically have a 6- to 8-week time span. People are resilient, and most recover and even have the potential to grow from the crisis. However, with the entry of *PTSD* into the common language has come the notion that people who experience a crisis, particularly if it is life threatening, will invariably manifest psychopathology and need to be treated as sick victims (Gist & Lubin, 1999). One of the major criticisms of critical incident stress debriefing is the fact that because the individual is required to go through it, she or he must be suffering pathology. That view becomes even more problematic for marginalized populations who may be seen by government entities as unsophisticated and incapable of handling the crisis and as needing the government's benevolent protection (Kaniasty & Norris, 1999).

At the writing of this chapter, a lively and sometimes heated Internet discussion has been going on in APA Division 56 (Trauma Psychology). That debate focuses on medical practitioners who seem to be overgenerous in their diagnosis of PTSD in individuals in psychological crisis who present in their offices and emergency rooms. That overdiagnosis then leads to problems for the psychologists treating them in determining whether they are malingering or attempting to commit insurance fraud or are simply following doctor's orders in manifesting the

diagnosed malady. That is one of the reasons why psychological first aid is frequently a best-bet first-order intervention. It provides support in a minimally intrusive way and does not treat the individual as a helpless victim. Indeed, the underlying thesis of crisis intervention is that people are not victims but survivors who need short-term help to get their equilibrium back and go on with their lives.

Crisis intervention is not for every psychologist. The methods of crisis intervention have no set formula or recipe that can be pulled out and used again and again in a cookbook approach. Rather, the methods used are highly dependent on the context in which the crisis is occurring, the physical and psychological attributes and deficits of the individual receiving the intervention, the type and kind of support systems present, and a host of other variables—even the weather conditions—that defy Step 1, Step 2 approaches.

Psychologists who prefer working in a well-structured environment with carefully crafted protocols will not fare well in the chaos and high intensity of a crisis situation. Such situations also call at times for being able to work in environments that are too hot, too cold, too dirty, and too dangerous and with people who sometimes do not talk well, do not dress well, do not act well, and even do not smell well and are indeed dangerous. Crisis intervention calls for being creative, flexible, poised, energized, and resilient and being able to quickly adapt to changing situations while remaining calm, cool, and collected in what may be chaotic, stressful settings in which multiple problems are happening at the same time. However, if one is able to operate under those conditions, the reinforcement from successfully working in this high-adrenaline environment puts this work high among Glasser's (1976) positively addicting behaviors. That said, compassion fatigue, vicarious traumatization, and burnout are constant handmaidens to crisis work; high-quality and constant supervision are necessary.

This section ends with a brief description of what a crisis worker needs to be aware of from a personal mental health standpoint. Although doing crisis intervention is some of the most rewarding and exciting work there is in psychotherapy, it is also one of the most draining. Crisis workers encounter some of the most wretched, horrific, appalling human dilemmas one can imagine. Research has indicated that crisis workers experience more negative effects from their work than other human service workers (Charney & Pearlman, 1998), and this is particularly true of those who work with large-scale disasters (Wee & Myers, 2002).

Compassion fatigue and vicarious traumatization are very real constructs that are particularly virulent among crisis workers. Compassion fatigue is also known as secondary traumatic stress disorder, except that the exposure is to the person relating the event and not the event itself (Figley, 2002). It is a condition characterized by a gradual lessening of compassion over time as the worker is worn down and worn out by the constant stream of individuals in crisis.

Vicarious traumatization is a manifestation of the individual's traumatic symptoms by the interventionist. Even though the interventionist may never have experienced the sexual assault, combat, or domestic violence, symptoms that mimic those of the individual will start to surface (Pearlman & Mac Ian, 1995). If these highly intense traumatic crises continue over time and multiple clients, they will have the potential to have the same pernicious effects on the interventionist and to permanently alter and damage the worker (Saakvitne & Pearlman, 1996).

Thus, the empathy, commitment, and idealism needed by crisis workers in dealing with soul-wrenching issues, vicarious traumatization, and compassion fatigue are, over time, major pathways that lead to burnout and a host of behavioral, physical, interpersonal, and attitudinal problems that can lead to serious health issues (Maslach, 1982). Disaster workers go through regular debriefings onsite for good reason. If they do not deal with these stressors through adequate supervision, rest, recreation, and relief from constantly dealing with high-intensity clients, then the end result is burnout and along with it a host of personal, social, and health problems (Golembiewski et al., 1992). If the organization does have those safety nets in place (Golembiewski, Munzenrider, & Stevenson, 1986), compassion satisfaction gained from doing this work is an extremely effective buffer against burnout.

## FUTURE DIRECTIONS

In a world brought close by the Internet, crises on another continent become known instantly around the world. This instantaneous knowledge and the vicarious crises it can generate have largely unknown ramifications for the field of psychology. It is becoming more and more apparent that large-scale mega-crises and the psychological problems they create will require greater cross-fertilization of ideas and approaches from a variety of disciplines. Psychologists need to be in the vanguard in creating such alliances.

### Internet

The Internet will play a larger role both in crisis intervention in systems and with individuals, and it will behoove those who practice crisis intervention to know how to work with the technology. Crisis intervention is no longer a one-on-one proposition. One of the major challenges of systemic crisis management will be integrating social media and widespread communication abilities with official responders so valid information can replace rumors that run rampant in a systemic crisis (Hiltz, Diaz, & Mark, 2011). One of the major reason for the catastrophic aftermath of Hurricane Katrina was the lack of communication between various government entities and the inability to get valid information to the citizens of New Orleans (Gheytanchi et al., 2007). Advanced crisis management technology will call for a multidisciplinary approach that will integrate many different types of professions (including psychologists) into crisis management and intervention teams (Mendonça & Bouwman, 2011).

It may come to pass, and very quickly, that crisis interventionists will need to be better at using their thumbs than their mouths because texting is becoming the preferred mode of communication among the coming generation. Jacey Eckart (2014), a writer for Military.com Spouse, made this point about her son in writing about texting as a preferred technique in suicide intervention. "During conflict, my son seemed to need the space and distance that texting could provide in order to get his point across. The sooner he felt 'heard' via text, the sooner he started talking again" (p. 1). Indeed, not only does the Veterans Crisisline have 24/7 phone contact and chat lines, it also has a hotline texting number (838255; Veterans Crisisline, 2014). Hotlines are available for at-risk teens via toll-free numbers and live chat, but young people's preferred form of communication is texting. Texting is also becoming part of police training to deal with crises. With 6 billion text messages exchanged daily in the United States alone, law enforcement officers are increasingly being called on to defuse violent, unpredictable situations through the typed word (Associated Press, 2014).

### Police and Mental Health Practitioners

The new best friend of psychologists who are in the crisis intervention business will most likely be a police officer, and vice versa. Psychologists already serve in a consultative and supportive capacity with police crisis negotiation teams (Mullins & McMains, 2011). Unless a dramatic change occurs in the way mental health services are delivered in the United States, police will play a larger and large role in the provision of first-line response to people with mental illness (Watson & Fulambarker, 2012).

### Training and Education

The professionalization of the field and the growth in research also account for the growth in crisis intervention. In the past 30 years, crisis intervention has moved from a psychological afterthought into the front line of psychotherapy. As the specialty of crisis intervention has evolved, it has started to develop its own empirical base. A variety of professional journals that range across the populations, theories, and treatments for crisis intervention have been born, along with professional accreditation standards (e.g., Council for Accreditation of Counseling and Related Educational Programs, 2009; National Association of School Psychologists, 2010) and professional associations such as APA Division 56 (Trauma Psychology), and the Police Crisis Intervention Team International.

Thus, it is puzzling that, on the one hand, APA has an ongoing agreement with the American Red Cross to provide disaster crisis intervention, yet accreditation standards for clinical and counseling psychology do not explicitly require its inclusion in the curriculum standards (APA Commission on Accreditation, 2014).

There now exist substantial crisis theory and interventions different from standard operating conditions of psychotherapy that should be a required part of a psychologist's training. Practitioners who have not had coursework and experience in its application will soon find themselves at a disadvantage because, sooner or later, a crisis will arise.

## References


Aguilera, D. C. (1998). *Crisis intervention: Theory and methodology* (8th ed.). St. Louis, MO: Mosby.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: Author.

American Psychological Association Commission on Accreditation. (2014). *2015 self study instructions: Doctoral graduate programs*. Washington, DC: American Psychological Association.

Ansbacher, H. L., & Ansbacher, R. R. (1956). *The individual psychology of Alfred Adler*. New York, NY: Greenberg.

Antonovsky, A. (1991). The structural sources of salutogenic strengths. In C. Cooper & R. Payne (Eds.), *Personality and stress: Individual differences in the stress process* (pp. 67–104). London, England: Wiley.

Associated Press. (2014, May 11). *Police add texting to crisis negotiation arsenal*. Retrieved from http://www.mlive.com/news/index.ssf/2014/05/police_add_texting_to_crisis_n.html

Beach, M. (2007). Volunteer search and rescue and the American Red Cross: A Katrina response experience. *Journal of Professional Nursing*, *23*(6), e1–e7. http://dx.doi.org/10.1016/j.profnurs.2007.08.001

Beck, A. T. (1976). *Cognitive therapy and the emotional disorders*. New York, NY: International Universities Press.

Belkin, G. S. (1984). *Introduction to counseling* (2nd ed.). Dubuque, IA: William C. Brown.

Bengelsdorf, H., Church, J. O., Kaye, R. A., Orlowski, B., & Alden, D. C. (1993). The cost effectiveness of crisis intervention. Admission diversion savings can offset the high cost of service. *Journal of Nervous and Mental Disease*, *181*, 757–762. http://dx.doi.org/10.1097/00005053-199312000-00008

Bloom, B. L. (1984). *Community mental health: A general introduction* (2nd ed.). Pacific Grove, CA: Brooks/Cole.

Brammer, L. M. (1985). *The helping relationship: Process and skills* (3rd ed.). Upper Saddle River, NJ: Prentice Hall.

Brenes, G. A., Ingram, C. W., & Danhauer, S. C. (2011). Benefits and challenges of conducting psychotherapy by telephone. *Professional Psychology: Research and Practice*, *42*, 543–549. http://dx.doi.org/10.1037/a0026135

Bronfenbrenner, U. (1995). Developmental ecology through space and time: A future perspective. In P. Moen, G. H. Elder, Jr., & K. Luscher (Eds.), *Examining lives in context: Perspectives on the ecology of human development* (pp. 619–647). http://dx.doi.org/10.1037/10176-018

Brown, L. M., Frahm, K. A., & Bongar, B. (2012). Crisis intervention. In G. Stricker, T. A. Weiner, & B. Irving (Eds.), *Handbook of psychology: Vol. 8. Clinical psychology* (2nd ed., pp. 408–430). Hoboken, NJ: Wiley.

Brown, L. S. (2008). *Cultural competence in trauma therapy: Beyond the flashback*. http://dx.doi.org/10.1037/11752-000

Brown, L. S. (2009). Cultural competence. In C. A. Courtois & J. Ford (Eds.), *Treating complex traumatic stress disorders: Scientific foundations and therapeutic models* (pp. 166–182). New York, NY: Guilford Press.

Browning, S. L., VanHasselt, V. B., Messer, S. C., Tucker, A. S., & Taylor, L. (2012, August). *Dealing with the mentally ill: Crisis intervention team efficacy in law enforcement*. Paper presented at the 120th Annual Convention of the American Psychological Association, Orlando, FL. http://dx.doi.org/10.1037/e630902012-001

Caplan, G. (1961). *An approach to community mental health*. New York, NY: Grune & Stratton.

Caplan, G. (1964). *Principles of preventive psychiatry*. New York, NY: Basic Books.

Capps, M. (1982, April). *The co-optive and repressive state versus the battered women's movement*. Paper presented at the annual meeting of the Southern Sociological Society, Memphis, TN.

Charney, A. M., & Pearlman, L. A. (1998). The ecstasy and the agony: The impact of disaster and trauma work on the self of the clinician. In P. M. Kleespies (Ed.), *Emergencies in mental health practice: Evaluation and management* (pp. 418–435). New York, NY: Guilford Press.

CIT International. (2013). *Welcome to CIT International*. Retrieved from http://www.citinternational.org

Community Mental Health Centers Act, Pub. L. No. 88-164, Title II, 77 Stat. 290 (1963).

Compton, M. T., Demir Neubert, B. N., Broussard, B., McGriff, J. A., Morgan, R., & Oliva, J. R. (2011). Use of force preferences and perceived effectiveness of actions among crisis intervention team (CIT) police officers and non-CIT officers in an escalating psychiatric crisis involving a subject with schizophrenia. *Schizophrenia Bulletin*, *37*, 737–745. http://dx.doi.org/10.1093/schbul/sbp146

Council on Accreditation of Counseling and Related Educational Programs. (2009). *CACREP accreditation manual*. Retrieved from http://www.cacrep.org/wp-content/uploads/2013/12/2009-Standards

Crisistextline. (2014). *Crisistextline: Help for teens*. Retrieved from http://www.crisistextline.org

Dass-Brailsford, P. (2008). After the storm: Recognition, recovery and reconstruction. *Professional Psychology: Research and Practice*, *39*, 24–30. http://dx.doi.org/10.1037/0735-7028.39.1.24

Eck, J. E., & Spelman, W. (1987). *Problem-solving: Problem oriented policing in Newport News*. Washington, DC: Police Executive Research Forum.

Eckart, J. (2014). *Is texting better than suicide for men*. Retrieved from http://www.military.com/spouse/military-life/military-resources/is-texting-better-suicide-intervention-for-men.html

Erikson, E. (1963). *Childhood and society* (2nd ed.). New York, NY: Norton.

Figley, C. R. (Ed.). (2002). *Treating compassion fatigue*. New York, NY: Brunner/Routledge.

Gheytanchi, A., Joseph, L., Gierlach, E., Kimpara, S., Housley, J., Franco, Z. E., & Beutler, L. E. (2007). The dirty dozen: Twelve failures of the Hurricane Katrina response and how psychology can help. *American Psychologist*, *62*, 118–130. http://dx.doi.org/10.1037/0003-066X.62.2.118

Gist, R., & Devilly, G. J. (2010). Early intervention in the aftermath of trauma. In G. M. Rosen & C. B. Frueh (Eds.), *Clinician's guide to posttraumatic stress disorder* (pp. 153–175). http://dx.doi.org/10.1002/9781118269961.ch7

Gist, R., & Lubin, B. (Eds.). (1999). *Response to disaster: Psychosocial, community, and ecological responses*. Philadelphia, PA: Brunner/Mazel.

Glasser, W. (1976). *Positive addiction*. Oxford, England: Harper & Row.

Golembiewski, R. T., Munzenrider, R. F., Scherb, K., & Billingsley, W. (1992). Burnout and "psychiatric" cases. Early evidence of an association. *Anxiety, Stress, and Coping: An International Journal*, *5*, 69–78. http://dx.doi.org/10.1080/10615809208250488

Golembiewski, R. T., Munzenrider, R. F., & Stevenson, J. G. (1986). *Stress in organizations: Towards a phase model of burnout*. New York, NY: Praeger.

Herman, J. (1997). *Trauma and recovery*. New York, NY: Basic Books.

Hiltz, S. R., Diaz, P., & Mark, G. (2011). Introduction: Social media and collaborative systems for crisis management. *ACM Transactions on Computer-Human Interaction*, *18*, 1–6. http://dx.doi.org/10.1145/2063231.2063232

Hoff, L. A., Hallisey, J. B., & Hoff, M. (2009). *People in crisis: Clinical and diversity perspectives* (6th ed.). New York, NY: Routledge.

Inter-Agency Standing Committee. (2007). *IASC guidelines on mental health and psychosocial input support in emergency situations*. Geneva, Switzerland: Author.

Jackson, C. T., Allen, G., Essock, S. M., Felton, C. J., & Donahue, S. A. (2006). Clients' satisfaction with Project Liberty counseling services. *Psychiatric Services*, *57*, 1316–1319. http://dx.doi.org/10.1176/ps.2006.57.9.1316

James, R. K. (1994). Commentary to Dial 911: Schizophrenia and the police response. In P. Baclar (Ed.), *The family face of schizophrenia* (pp. 182–200). New York, NY: Jeremy Tarcher/Putnam.

James, R. K., Cogdal, P., & Gilliland, B. E. (2003, April). *An ecological theory of crisis intervention*. Paper presented at the American Counseling Association convention, Kansas City, MO.

James, R. K., & Crews, W. (2009). Systems consultation: Working with a metropolitan police department. In A. M. Dougherty (Ed.), *Psychological consultation and collaboration in schools and community settings: A casebook* (5th ed., pp. 93–114). Belmont, CA: Brooks/Cole.

James, R. K., & Gilliland, B. E. (2013). *Crisis intervention strategies* (7th ed.). Belmont, CA: Brooks/Cole.

Janosik, E. H. (1986). *Crisis counseling: A contemporary approach*. Monterey, CA: Wadsworth Health Sciences.

Kanel, K. (2003). *A guide to crisis intervention* (2nd ed.). Pacific Grove, CA: Brooks-Cole.

Kaniasty, K., & Norris, F. (1999). The experience of disaster: Individuals and communities sharing trauma. In R. Gist & B. Lubin (Eds.), *Response to disaster: Psychosocial, community and ecological approaches* (pp. 25–62). Philadelphia, PA: Brunner/Mazel.

Kirchberg, T., James, R., Cochran, S., & Dupont, R. (2013, October). *Something old, something new, something borrowed for the blue*. Paper presented at the Crisis Intervention Team International Conference, Hartford, CT.

Kleespies, P. M. (Ed.). (2009). *Behavioral emergencies: An evidence based resource for evaluating, and managing suicide, violence and victimization*. http://dx.doi.org/10.1037/11865-000

Lazarus, A. (1981). *The practice of multimodal therapy*. New York, NY: McGraw-Hill.

Ligon, J. (2005). Mobile crisis units: Frontline community mental health services. In A. R. Roberts (Ed.), *Crisis intervention handbook* (3rd ed., pp. 602–618). New York, NY: Oxford University Press.

Lindemann, E. (1944). Symptomatology and management of acute grief. *American Journal of Psychiatry*, *101*, 141–148. http://dx.doi.org/10.1176/ajp.101.2.141

MacPherson, M. (1984). *Long time passing: Vietnam and the haunted generation*. New York, NY: Doubleday.

Marshall, R. D., Bryant, R. A., Amsel, L., Suh, E. J., Cook, J. M., & Neria, Y. (2007). The psychology of ongoing threat: Relative risk appraisal, the September 11 attacks, and terrorism-related fears. *American Psychologist*, *62*, 304–316. http://dx.doi.org/10.1037/0003-066X.62.4.304

Maslach, C. (1982). *Burnout—The cost of caring*. Upper Saddle River, NJ: Prentice Hall.

Memphis Police Department. (2014). *CIT training manual*. Memphis, TN: Author.

Mendonça, D., & Bouwman, H. (2011). Introduction to the special issue: Information and communications technology for crisis management: Defining an agenda for scientific research. *Cognition, Technology, and Work*, *13*, 159–161. http://dx.doi.org/10.1007/s10111-011-0173-8

Miller, G. A., Marchel, C., & Gladding, S. (2013, August). *We were part of a good thing: Ten years of 9/11 disaster mental health research presentations*. Paper presented at the 121st Annual Convention of the American Psychological Association, Honolulu, HI. http://dx.doi.org/10.1037/e621532013-001

Mishara, L. B., Chagnon, F., Daigle, M., Balan, B., Raymond, S., Marcous, I., et al. (2005). *A silent monitoring study of telephone help provided over the Hopeline network and its short-term effects*. Montreal, Quebec, Canada: Centre for Research and Intervention on Suicide and Euthanasia.

Mitchell, J. T., & Everly, G. S., Jr. (2001). *Critical incident stress management: The basic course workbook* (3rd ed.). Ellicott City, MD: International Critical Incident Stress Foundation.

Mullins, W. C., & McMains, M. J. (2011). The role of psychologist as a member of a crisis negotiation team. In J. Kitaeff (Ed.), *Handbook of police psychology* (pp. 345–361). New York, NY: Routledge.

Myer, R. A., & James, R. K. (2005). *Crisis intervention workbook and CD-ROM*. Belmont, CA: Brooks/Cole.

Myer, R. A., Lewis, S., & James, R. K. (2013). The introduction of a task model for crisis intervention. *Journal of Mental Health Counseling*, *35*, 95–107. http://dx.doi.org/10.17744/mehc.35.2.nh322x3547475154

Myer, R. A., & Moore, H. (2006). Crisis in context theory: An ecological model. *Journal of Counseling and Development*, *84*, 139–147. http://dx.doi.org/10.1002/j.1556-6678.2006.tb00389.x

Myer, R. A., Williams, R. C., Ottens, A. J., & Schmidt, A. E. (1992). A three-dimensional model for triage. *Journal of Mental Health Counseling*, *14*, 137–148.

Myers, D., & Wee, D. F. (2005). *Disaster mental health services: A primer for practitioners*. New York, NY: Brunner/Routledge.

National Association of School Psychologists. (2010). *Standards for training and field placement programs in school psychology*. Retrieved from http://nasponline.org/standards/2010standards

National Center for PTSD. (2014). *Psychological First Aid: Field operations guide* (2nd ed.). Retrieved from http://www.ptsd.va.gov/professional/manuals/psych-first-aid.asp

National Institute of Corrections. (2006). *Mental illness in corrections*. Washington, DC: U.S. Department of Justice. Retrieved from http://www.ncic.gov/mentalillness

National Suicide Prevention Lifeline. (2011). Retrieved from http://www.suicidepreventionlifeline.org

Ng, A. T. (2006). Mobile crisis teams. In P. M. Gillette & H. L. McQuistion (Eds.), *Clinical guide to the treatment of the mentally ill homeless person* (pp. 73–82). Arlington, VA: American Psychiatric Publishing.

Parker, C. L., Barnett, D. J., Everly, G. S., Jr., & Links, J. M. (2006). Expanding disaster mental health response: A conceptual training framework for public health professionals. *International Journal of Emergency Mental Health*, *8*, 101–109.

Pearlman, L. A., & Mac Ian, P. S. (1995). Vicarious traumatization: An empirical study of the effects of trauma work on trauma therapists. *Professional Psychology: Research and Practice*, *26*, 558–565. http://dx.doi.org/10.1037/0735-7028.26.6.558

Pender, D. A., & Prichard, K. K. (2008). Group process research and emergence of therapeutic factors in critical incident stress debriefing. *International Journal of Emergency Mental Health*, *10*, 39–48.

Poland, S., & McCormick, J. S. (1999). *Coping with crisis: Lessons learned*. Longmont, CO: Sopris West.

Prati, G., & Pietratoni, L. (2009). Optimism, social support, and coping strategies as factors contributing to posttraumatic growth: A meta-analysis. *Journal of Loss and Trauma: International Perspectives on Stress and Coping*, *14*, 364–388. http://dx.doi.org/10.1080/153250902724271

Raphael, B. (1977). Preventive intervention with the recently bereaved. *Archives of General Psychiatry*, *34*, 1450–1454. http://dx.doi.org/10.1001/archpsyc.1977.01770240076006

Raphael, B., & Wilson, J. (Eds.). (2000). *Psychological debriefing: Theory, practice, and evidence*. http://dx.doi.org/10.1017/CBO9780511570148

Reese, R. J., Conoley, C. W., & Brossart, D. F. (2006). The attractiveness of telephone counseling: An empirical investigation of client perceptions. *Journal of Counseling and Development*, *84*, 54–60. http://dx.doi.org/10.1002/j.1556-6678.2006.tb00379.x

Roberts, A. R. (1991). *Contemporary perspectives on crisis intervention and prevention*. Upper Saddle River, NJ: Prentice-Hall.

Roberts, A. R. (2005). The ACT model: Assessment, crisis intervention, and trauma treatment in the aftermath of a community disaster and terrorism attacks. In A. R. Roberts (Ed.), *Crisis intervention handbook* (3rd ed., pp. 143–170). New York, NY: Oxford University Press.

Roberts, A. R., & Everly, G. S. (2006). A meta-analysis of 36 crisis intervention studies. *Brief Treatment and Crisis Intervention*, *6*(10), 10–21.

Saakvitne, K. W., & Pearlman, L. A. (1996). *Transforming the pain: A workbook on vicarious traumatization*. New York, NY: Norton.

Silove, D. (2000). A conceptual framework for mass trauma: Implications for adaption, intervention and debriefing. In B. Raphael & J. P. Wilson (Eds.), *Psychological debriefing: Theory, practice, and evidence* (pp. 337–350). http://dx.doi.org/10.1017/CBO9780511570148.026

Skeem, J., & Bibeau, L. (2008). How does violence potential relate to crisis intervention team responses to emergencies? *Psychiatric Services*, *59*, 201–204. http://dx.doi.org/10.1176/ps.2008.59.2.201

Slaikeu, K. A. (1990). *Crisis intervention: A handbook for practice and research* (2nd ed.). Needham Heights, MA: Allyn & Bacon.

Strand, R., Felices, K., & Williams, K. (2010). Critical incident stress management (CISM) in support of special agents and other first responders responding to the Fort Hood shooting: Summary and recommendations. *International Journal of Emergency Mental Health*, *12*, 151–160.

Thormar, S. B., Gersons, B. P., Juen, B., Djakababa, M. N., Karlsson, T., & Olff, M. (2013). Organizational factors and mental health in community volunteers: The role of exposure, preparation, training, tasks assigned, and support. *Anxiety, Stress, and Coping: An International Journal*, *26*, 624–642. http://dx.doi.org/10.1080/10615806.2012.743021

U.S. Department of Veterans Affairs. (2011). *Psychological First Aid: Field operations guide*. Retrieved from http://ptsd.va.gov/professional/materials/manuals/psych-first-aid.asp

van der Kolk, B. A., & McFarlane, A. C. (1996). The black hole of trauma. In B. A. van der Kolk, A. C. McFarlane, & L. Weisaeth (Eds.), *Trauma stress: The effects of overwhelming experience on the mind, body, and society* (pp. 3–23). New York, NY: Guilford Press.

van der Kolk, B. A., Weisaeth, L., & van der Hart, O. (1996). History of trauma in psychiatry. In B. A. van der Kolk, A. C. McFarlane, & L. Weisaeth (Eds.), *Traumatic stress* (pp. 47–74). New York, NY: Guilford Press.

van Emmerik, A. A., Kamphuis, J. H., Hulsbosch, A. M., & Emmelkamp, P. M. (2002). Single session debriefing after psychological trauma: A meta-analysis. *Lancet*, *360*, 766–771. http://dx.doi.org/10.1016/S0140-6736(02)09897-5

*Veterans Crisisline*. (2014). Retrieved from https://www.veteranscrisisline.net

Watson, A. C., & Fulambarker, A. J. (2012). The crisis intervention team model of police response to mental health crises: A primer for mental health practitioners. *Best Practices in Mental Health: An International Journal*, *8*, 71–81.

Watson, A. C., Ottati, V. C., Morabito, M., Draine, J., Kerr, A. N., & Angell, B. (2010). Outcomes of police contacts with persons with mental illness: The impact of CIT. *Administration and Policy in Mental Health and Mental Health Services Research*, *37*, 302–317. http://dx.doi.org/10.1007/s10488-009-0236-9

Wee, D. F., & Myers, D. (2002). Stress response of mental health workers following disaster: The Oklahoma City bombing. In C. R. Figley (Ed.), *Treating compassion fatigue* (pp. 57–83). New York, NY: Brunner/Routledge.

CHAPTER 21

# COMMUNITY INTERVENTIONS

*Edison J. Trickett and Dina Birman*

Although there is no universal consensus on a specific definition of community intervention, scholars have provided concepts for distinguishing among them and assessing both their nature and intent. Two such prevalent distinctions are those of community-placed versus community-based interventions and those that reflect specific targets versus those that strive for local empowerment of individuals to make choices about how and where to attempt to improve their lives. The community-placed–community-based distinction differentiates interventions placed in the community, such as a storefront clinic or health service, from those based on community concerns and collaborative efforts to alter aspects of the community itself. The targeted–empowerment distinction differentiates interventions targeting a predetermined goal, such as reducing school bullying, from those designed to empower community organizations or groups to develop processes to achieve self-determined goals. Such contrasts reflect false dichotomies in the abstract, yet represent meaningful differences with respect to the power to control and direct the intervention, research design, and decisions about outcome variables.

The overarching message of these varied frames is not only to direct attention to the complexity of conceptualizing and conducting community interventions, it is also to emphasize the importance of articulating underlying ways of thinking and directing how such interventions are carried out. In this chapter, we review community interventions in terms of their definitions; principles; applications; methods; research evidence; and accomplishments, limitations, and future directions. In doing so, we embrace an ecological perspective developed over several decades in community psychology that provides a context for understanding and evaluating community interventions.

## DESCRIPTION AND DEFINITION

It is hazardous to assert when history begins with respect to an important idea, and so it is with the concept of community intervention. Levine and Levine's (1970) *Social History of the Helping Professions* cited the beginnings of Jane Addams's Hull House and the social work movement in the late 1800s as an early example of a community setting created to provide a range of importance services to immigrants in Chicago. The emergence of crisis theory in the early 1940s, stimulated by treatment of the survivors of the 1944 Cocoanut Grove fire in Boston and the effort to treat battle shock among veterans of World War II, represented another impetus toward appreciating the impact of context on well-being and the value of resilience in coping with environmental stressors. Broader systematic perspectives on community intervention per se, however, began somewhat later during the 1960s and were shaped by two influential books: Gerald Caplan's (1964) *Principles of Preventive Psychiatry* and Seymour Sarason et al.'s (1966) *Psychology in Community Settings: Clinical, Vocational, Educational, Social Aspects*.

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Caplan (1964) was among the first to articulate a community vision within which to locate varied programs, services, and policy-related efforts to improve the well-being of the community population. The intent was to create multiple services that flowed from an intimate knowledge of the local community and reflected efforts at primary, secondary, and tertiary prevention. It was premised on understanding individual behavior in context.

> We have come to realize that a disorder in the individual patient must usually be regarded as a presenting manifestation of a maladjustment in the social system of which he is a part and that its causes and expectable progress cannot be understood without a first-hand appraisal of the other elements of the system. (p. 92)

Such knowledge, and the requisite actions to improve community well-being, require collaboration of psychiatrists across other mental health disciplines and sectors of the community involving "social scientists, planners, and other specialists in social policy development" (p. 268). Caplan's community vision included preventive interventions, mental health consultation as a means of radiating change, and the development of social support systems as resources for creating adaptive responses.

Sarason et al. (1966) addressed community intervention from the perspective of a clinical psychology that had been fundamentally shaped by a commitment to World War II veterans. Consistent with the emergence of community mental health in the early 1960s, their effort was to move the center of psychological understanding and intervention from the individual patient in the clinical setting to the school setting and its considerable influence on child and adolescent development. Doing so involved two primary questions: "How do we determine, understand, and describe the culture of the school setting, and, related to that, how do we introduce change into an ongoing social system?" (p. 3). They provided rich and nuanced discussion of the process of entry into school settings, the need to understand what the school as a community is like before presuming to know how to be useful, and their subsequent approaches to introduce change in the school context. In so doing, they offered an early exemplar of the potential as well as the complications of creating a psychology in community settings that involved new roles, new knowledge bases, and a new appreciation of the role of context in both understanding and changing behavior.

Within an ecological perspective, community intervention can be defined by three complementary sets of activities: (a) developing a multilevel conception of community life and the ecology of individual lives in that context; (b) collaborating with community members in coconstructing the intervention and its evaluation; and (c) working to achieve both individual change and enhancement of community resources for future as well as current problem solving (Trickett & Schmid, 1993). Each of these interrelated activities commits the intervention team to learning and caring about the local sociocultural context and its future.

## PRINCIPLES AND APPLICATIONS

The early works of Caplan and Sarason signaled the importance of moving from an individual-level perspective to a person-in-context understanding of individual behavior. Drawing on such early efforts, the field of community psychology further systematized the inherent ecological perspective (see Volume 1, Chapter 12, this handbook). The remainder of this chapter outlines principles and applications of this perspective, provides examples of community interventions, outlines their limitations, and proposes future directions for community interventions.

### Ecology as a Way of Thinking

Ecology as a perspective is predicated on the importance of context in affecting the expression of behavior, its adaptive significance, and the opportunities and constraints it provides for altering individual behavior. It presumes that influences on behavior are found at multiple levels of the ecological environment and that individual behavior change in the absence of environmental change is far less likely to persist. Furthermore, because of the influence of

extraindividual factors on well-being, such factors themselves become targets of change.

Within psychology, the concept of ecology is most frequently associated with the elegant framework provided by Bronfenbrenner (1977) in which the ecological environment is described as a series of nested structures or systems, each of which affects individual behavior either directly or indirectly. Furthermore, individuals are not passive recipients of their environments but have agency to actively cope and adapt. In so doing, there is a reciprocal relationship of mutual influence between individuals and multiple levels of their ecology. Such a perspective on ecology has informed many fields of inquiry, including not only psychology but the social and behavioral sciences more generally.

The ecological perspective underlying the conception and conduct of community interventions in this chapter includes aspects of Bronfenbrenner's (1977) perspective such as the interdependence and reciprocal influence of component parts of the local ecosystem and the agency of individuals. Unlike Bronfenbrenner, the evolving ecological perspective in community psychology (Kelly, 1968, 2006) focuses not only on understanding the ecology of individual lives as nested in multiple interactive systems but also on the ecology of communities themselves. Consistent with this community emphasis, intervention goals focus on the development of local resources, capacity building, and local empowerment in the service of individual well-being. The relationship between the researcher–community interventionist and local settings or groups was seen as a critical aspect of the overall ecology of the intervention.

## Multilevel Community Context and the Ecology of Lives

Developing a multilevel conception of communities and the ecology of lives rests first on a framework of ecological processes that direct community inquiry. There is no consensually agreed-on method for learning about how communities function and how local context affects the community intervention. The ecological perspective draws on four ecological processes from field biology and applied as metaphor to human communities: adaptation, cycling of resources, interdependence, and succession (Kelly, 2006). These processes serve as orienting concepts that, together, represent a way of learning about diverse aspects of the community that is particularly relevant to the conduct of community interventions. They are not intended as a series of prescribed activities to be followed in lockstep fashion. Rather, they represent a way of selecting and organizing information about the community context and the ecology of individual lives that can inform how interventions can be developed.

The adaptation principle draws attention to the differing kinds of demands and opportunities that communities provide that, in turn, constrain how individuals cope and adapt. Such demands and opportunities are found in the availability of key social settings in the community, cultural norms regarding various aspects of community and family life; beliefs, attitudes, and social agendas of key opinion leaders in high-profile settings such as the church, neighborhood organization, or school; and policies that affect local practices and regulations such as educational options for undocumented adolescent high school graduates. The ecology of lives stresses the importance of understanding individual behavior, including risk behavior, as a coping response to the opportunities, indignities, individual- and setting-level resources, and cultural supports across varied life domains that must be negotiated in daily living (Swindle & Moos, 1992).

In field biology, *cycling of resources* refers to how biological communities define, develop, conserve, and distribute resources necessary for survival of the community. Applied to human communities, it draws attention to the strengths of the community that can be drawn on to develop community interventions. Such resources can include local people with relevant commitments and competencies, the social capital found in social and organizational networks (Putnam, 2000); they may involve the existence or potential creation of social settings that provide safe spaces, service programs, or places where community members can reflect on how to cope with a local tragedy or celebrate an important identity-affirming event; and they can be manifested in the technological resources available to gather

information on an emerging issue, mobilize community members to act on a local emergency, and link to resources outside the community.

Interdependence reflects the systems theory premise that systems are made up of interdependent parts that cannot be understood in isolation from one another. From this perspective, community interventions are conceptualized as "events in systems" (Hawe, Shiell, & Riley, 2009) whose effects ripple across people, agencies, and other community settings and groups that affect intervention processes and impact. On the individual level, the interdependence principle reminds us that individual behavior in any particular setting such as the school may be affected by events in other life domains such as the neighborhood or family. Consequently, interventions designed to change behavior in one setting may, if successful, inadvertently put individuals at risk in other settings of importance to them. For example, for some African American adolescents, "acting White" in school may have deleterious interpersonal out-of-school consequences with subsets of peers (Fordham & Ogbu, 1986). Because ripples may have both positive and negative consequences at the individual and community levels, the explicit effort to anticipate and assess them is a hallmark of thinking ecologically about community interventions.

In field biology, succession draws attention to the process of community-level change over time as a function of both internal evolution and external changes in the broader environment. In human communities, succession directs attention to both community history and hopes for the future. With respect to history, the culture or multiple cultures of its citizens, the legacy of past influential community leaders, and the role of the church as a reliable source of comfort over generations, these kinds of influences represent historical forces that help define current community life. Often this history reflects experiences with previous outside intervention efforts whose residual effects may affect current efforts. Succession also alerts the community intervention team to seek out the local hopes, because communities have hopes for how the involvement in community interventions will contribute to a better community. Thus, the question "Will the prospects for the future of our community improve if we engage in this intervention?" helps shape an appreciation of the relevance and viability as well as goals of the intervention. This question, of course, is equally relevant for the individuals in these communities contemplating behavior change as well.

Within an ecological perspective, collaboration is the relational process that can unlock the mysteries of local ecology and identify the existing and potential resources relevant to intervention development and implementation. Collaboration is a critical part of intervention ecology because it (a) is a critical component and mediator of the community-level impact of the intervention (Allen, Mohatt, & Trickett, 2014); (b) is an ethical imperative for working across varied sociocultural communities with histories of colonialism (Trimble & Fisher, 2005); and (c) increases the degree to which authentic interactions and valid knowledge across role-related lines can be achieved (Argyris, 1970). Furthermore, it can empower local individuals and settings to shape community interventions in ways that generate commitment not only to immediate projects but to further engaged civic participation (Minkler & Wallerstein, 2010).

Collaboration is most often found in the creation of advisory boards consisting of community members, agency representatives, outside interventionists, or some subsample of the three. In principle, such boards provide communities with differing degrees of influence at different stages of the intervention process, ranging from selection of the issue to be addressed to aiding in implementation and interpreting results (Israel et al., 1998). The ecological perspective in community psychology views collaboration less as an instrumental relationship formed to further interventionist-initiated goals or researcher-initiated goals and more of a relationship of mutual influence and respect for the differential sources of expertise of varied stakeholders throughout the intervention process.

## METHODS AND INTERVENTIONS

### Research Methods

Multiple qualitative and quantitative methods and mixed-methods approaches are typically used to

capture the diverse outcomes of community interventions at both the individual and the community levels (Schensul, 2009). Qualitative efforts most frequently focus on such issues as understanding local culture and its role in shaping intervention goals and implementation processes or documenting the process of collaboration. Focus groups consisting of local stakeholders are commonplace in community interventions, on the front end to provide cultural and contextual guidance and after project completion to weigh in on interpretation of results and potential next steps. Cognitive interviewing is often used to fine tune quantitative measurement instruments and, when interventions occur in diverse cultural and linguistic community contexts, to serve as translational and interpretive resources for researchers who may themselves be cultural outsiders. The use of both qualitative and quantitative methods is also valuable when community populations are small in number and concerns about statistical power plague the ability of quantitative data to provide persuasive information.

The complexity of the intervention process, cultural embeddedness of phenomena, and assessment of multiple levels of change have highlighted the importance of developing research designs that provide evidence on influential factors relating to intervention processes and outcomes. The randomized controlled trial is frequently used when ecological conditions permit to assess presumed causal processes and their relation to outcome. However, limitations of the design are found in its ability to adequately assess the multiple outcomes of complex interventions in community social systems, ethical objections from varied diverse populations, necessary sample sizes to assess intervention impact on diverse cultural groups, and, more generally, the trade-off between internal and external validity.

In addition to adding qualitative methods to traditional randomized controlled trial designs, alternative designs include time-series designs, practical trials (Glasgow et al., 2006), and comprehensive dynamic trials (Rapkin & Trickett, 2005). Time-series designs may obviate some of the potential community-level concerns about randomization because of ethical issues. Practical trials adopt the causal logic of randomized controlled trials but intentionally attempt to increase external validity through such processes as heterogeneous sampling of both people and settings and the inclusion of questions of relevance to policy decision makers and local stakeholders. Comprehensive dynamic trials include differing designs, deemed comprehensive because they make use of information from multiple sources to understand what is happening in the intervention and dynamic because they build in recurring feedback mechanisms to respond to shifting circumstances and concerns in real time. Each of these efforts, in differing ways, represents responsiveness to local ecology in designing and monitoring community intervention.

## Representative Interventions

In this section, we provide three exemplars of community intervention: one set in public elementary schools, one set in an indigenous community, and a third addressing refugee and immigrant mental health.

**School-based intervention.** Parents and Peers as Leaders in School (PALS) was a multilevel community intervention for aggressive youths in low-income, urban, predominantly African American public schools. The goals were to embed services in accessible high-impact settings for children and youths, increase schools' capacity to deal with problems expressed in the school context, and, in so doing, increase the potential sustainability of local changes brought about by the intervention (Atkins et al., 2015). At the school level, it targeted settings with a high incidence of aggressive behavior, such as hallways and recess. Classroom activities were designed to increase student engagement, including peer-to-peer modeling of cooperation and interpersonal problem solving. Finally, parents were engaged to support educational and behavioral goals at school and, at the individual level, anger management activities for children were conducted.

The project was initiated with a systematic assessment of school-based aggression to identify setting factors and was collaborative, involving teachers and parents in the assessment and implementation process. Empirically based interventions brought by the outside consultant were explored

within the context of the practical day-to-day school realities of teachers and parents, and a menu of options for each classroom was developed for individualized classroom use. Findings from a randomized study included less victimization during recess for a peer-monitored versus recess-as-usual condition at the school level. In addition, compared with children in the control classrooms, a combination of clinic services, classroom, and peer-level interventions resulted in increased engagement is service utilization, positive behavioral changes at home as rated by parents, and improved teacher-rated academic progress (Atkins et al., 2006).

**Intervention in an indigenous community.** Alaska Native communities dealing with suicide and alcohol use among Alaska Native adolescents was a well-developed example of a community-based intervention (Allen et al., 2014). The intervention was based on a culturally derived model of protective factors generated through life history interviews of adults; it included individual-, family-, and community-level influences. The intervention focus was strength based, promoting sobriety and reasons for living and deriving from cultural traditions, rituals, and the historical role of elders in the communities. Culturally affirming intervention modules were developed through the use of local practices that reflected underlying protective factors and were carried out by local leaders.

In addition to quantitative data gathered on youths participating in the intervention, local villages authored a cultural history. The development and cultural refinement of measures were described, and qualitative interviews with community members documented the ripple effects in the communities involved.

With respect to outcomes, youth dosage effects, assessed by attendance at intervention activities, were related to both select effects on individual, family, and community protective factors but not peer-level factors. Dosage was also predictive of the ultimate individual-level outcome variables of reasons for life and reflective processes. Interviews with community adults involved in the project documented positive family communication ripples among families whose children participated in the intervention and increased appreciation of the wisdom of elders in the villages.

**Refugee interventions.** Refugee and immigrant mental health projects have addressed the acculturative stress and mental health challenges experienced by those resettling in the United States. Particularly at risk are refugees who experience a number of traumatic events while fleeing war and persecution. The difficulties encountered during resettlement are exacerbated by the fact that many immigrants and refugees live in poor communities, and their children attend underresourced schools (Ruiz de Velasco & Fix, 2000). Despite the need, most immigrants and refugees do not seek treatment because of lack of familiarity, distrust, and stigma related to clinic-based mental health services (Tribe, 2002). Mental health services are commonly unavailable in people's native language and are perceived as incongruent with immigrants' cultural values (Geltman et al., 2000).

The literature on immigrant and refugee mental health has primarily addressed traditional individual-level interventions designed to reduce symptoms of posttraumatic stress disorder and related disorders (Murray, Davidson, & Schweitzer, 2010). Although such efforts have shown promise in symptom reduction, few have assessed whether symptom reduction spills over to affect the ecology of life more broadly in the interpersonal, academic, or occupational domains. One study (Stein et al., 2003), however, found that a group-based cognitive–behavioral therapy intervention reduced symptoms but did not affect teacher reports of classroom behavior relative to controls. This lack of spillover suggests potential limitations of neglecting the broader adaptive life challenges faced by immigrants and refugees and supports the argument for interventions that directly address the context of acculturation and resettlement within families, schools, and other relevant settings (e.g., Suárez-Orozco & Suárez-Orozco, 2001).

An ecological perspective has informed ways of intervening to address the mental health needs of these populations in two ways: (a) accounting for the ecology of lives in place-based mental health services targeting individual change and (b) changing

the ecology of the lives of immigrants and refugees to ease relevant stressors.

A growing literature on mental health of immigrants and refugees has highlighted several ways that individually based interventions can address the ecology of immigrants and refugees. First is promoting an appreciation of the complex stressors of the resettlement experience across multiple life domains and conceptualizing mental health as an issue of psychosocial coping and adaptation across those domains. This, in turn, suggests an expanded conception of mental health interventions that, in addition to mental health symptoms, address issues that range from housing to occupational–academic adjustment, to forming relationships with others from their ethnic community as well as members of the host society (Birman, Trickett, & Buchanan, 2005). Second, the literature on immigrant mental health stresses the importance of providing mental health services not in specialized clinics but in communities, schools, resettlement agencies, and other spaces in which immigrants and refugees live their lives. Placing services in the community can make services more accessible, reduce stigma, and bring clinicians into the settings in which their clients are facing the challenges in their daily lives.

Third, an ecological perspective on the lives of immigrants and refugees directs attention to a strength-based, resource perspective. In the clinical literature, this perspective generally refers to balancing attention to a client's pathology with appreciation of the client's strengths, resilience, skills, and social ties in therapeutic interventions. However, from an ecological perspective, strengths or deficits are less likely to be viewed as individual characteristics and more likely to be seen as reflecting the interaction or transaction between the individual and the surrounding environment, with adaptation contingent on person–environment fit (or lack of fit). This transactional view of behavior can help identify not only client resilience but also a range of possible needed external resources relevant to client adaptation.

Some community interventions have created the role of "culture brokers," often paraprofessionals who are culturally similar to the immigrants and refugees being served (Ellis et al., 2011). These culture brokers may link clients to ethnic-specific programs in the immigrant community or accompany them to appointments with social services to help translate or explain the service system to them and their situation to the service provider.

The circumstances facing immigrant and refugee children and youths have spurred the creation of new settings to accommodate their particular circumstances. The creation of newcomer centers in public schools across the United States represents one example of efforts to support the social adaptation of children and families that includes, but does not center on, mental health per se (Boyson & Short, 2003). These centers represent efforts to create safe spaces either in existing settings ("school within a school") or as free-standing schools that provide the specialized and diverse kinds of services relevant to immigrant and refugee children and adolescents. Such services typically include intensive educational efforts at language learning and retention of the language and culture of origin, often with additional tutoring if needed, and cultural orientation programs for children and parents. In addition, such programs may offer linkages with other relevant services for children and families such as social services, health care access, and extensive outreach to parents.

Newcomer centers serve multiple community-building functions. First, they have the potential to create a sense of community among students, parents, and teachers directly involved in the school. Furthermore, the safe space and individualized attention made possible by the low teacher–student ratio can facilitate close student–teacher relationships that can allow teachers access to the more personal and difficult issues facing students, including mental health. Such centers also serve as resources for community building by organizing settings and occasions for further intercultural boundary spanning, such as forming international clubs and organizing school-based international dinners.

These three exemplars only begin to tap the range of community interventions that have attempted to positively affect individual mental health in ways that respect and are responsive to context and culture. Additional examples are

available in such areas as disaster relief, substance abuse across diverse groups, community needs and resource assessment among Aboriginal groups in Australia and First Nations people in Canada, collaborative urban efforts to bring mental health resources to neighborhoods, and media-centered work connecting socially isolated elderly people with one another.

## RESEARCH AND ACCOMPLISHMENTS

The past 2 decades have seen a steady increase in the conduct and evaluation of community interventions. Indeed, the primary accomplishments over time have been (a) the success of community interventions and (b) the degree to which community interventions have moved toward an ecological appreciation of their complexity and multiple effects. Planning frameworks for diagnosing, implementing, and evaluating community interventions, such as PRECEDE–PROCEED, have been developed and used in more than 1,000 projects (Green & Kreuter, 2005). Measurement efforts to evaluate the intervention process and outcome have typically shown multilevel change in the desired directions.

The accomplishment of community interventions addressing multiple layers of change has been in evidence since the early 2000s when several visible organizations, including the Institute of Medicine, the Kellogg Foundation, and the Kaiser Foundation, issued reports on the importance of conducting community interventions based on ecological and multilevel efforts, with significant attention to collaborative processes to include relevant stakeholders (Beehler & Trickett, in press). A more recent Institute of Medicine (2012) report on community-based nonclinical prevention reaffirmed the importance of viewing the ecology of community interventions through a systems lens that considers them more than the sum of their component parts. More important, this latter report emphasized the value of assessing both processes and outcomes as indicants of intervention success while broadening substantive outcomes to include both targeted individual change and community well-being.

The value of thinking ecologically and from a more public health perspective has also become prominent in clinical psychology and mental health—certainly another contribution of community interventions. With respect to child mental health, for example, a demonstrably effective platform for integrating the delivery of services with the empowerment and improvement of local ecology is the school setting. Schools offer direct access to universal populations of children and adolescents in their formative years and indirect access to families. The school–child–family mesosystem is a potent force over developmental processes and educational attainments that is predictive of future success.

The importance of local context, culture, and collaboration is also a recurrent theme in community interventions involving culturally diverse communities. These efforts include both community-placed efforts to adapt evidence-based practices for use in diverse ethnocultural communities and broader projects reflecting a multilevel, culturally situated, community-based ecological perspective (Schensul & Trickett, 2009). The cultural adaptation process, primarily for individuals and families, is designed to incorporate both culture and local ecology, often involving some combination of focus groups, cultural consultants, collaborative professional relationships, and interviews with relevant stakeholders as a prelude to intervention adaptation and pilot testing (Bernal, 2006).

### Community-Placed Interventions

Several examples elaborate the major accomplishments of community interventions—their success across multiple layers, the degree to which they have moved toward an ecological appreciation of their complexity, and their influence on thinking across mental health—in place-based mental health programs directed toward individual change.

Some individually based programs are found in service settings. For example, the International Family, Adult, and Child Enhancement Services Program (Birman et al., 2008) was designed to provide comprehensive services to refugee children. These services included not only traditional therapy but also practical assistance with enrolling children in school, accompanying parents and children to medical and other appointments, helping families

obtain social services, and advocating for them with existing systems. Service providers varied in their levels of education, skills, and network connections to diverse parts of the community and included coethnic paraprofessionals and case workers and art, occupational, and psychotherapists. To make services as accessible as possible, service providers traveled to program participants' homes, schools attended by their children, and other community settings.

Service providers also facilitated the creation and enhancement of other community settings that could be helpful to the refugees they served. This work included organizing groups of refugees to attend community celebrations and concerts and creating child summer camp programs that provided opportunities to engage in artistic, athletic, and recreational activities. These latter programs were designed not only to address psychological symptoms but also to enhance quality of life and introduce children and parents to resources in their new cultural environment. A study of the effectiveness of this intervention among 68 refugee youths demonstrated that over the course of the intervention, children improved not only psychologically but also in their functioning across life domains (Birman et al., 2008)

In addition to programs in community agencies, community-placed programs have also frequently been located in schools. School-placed services can enable clinicians to become part of the setting, get to know the students, identify potential needs, and make it less threatening to reach out to mental health professionals. For example, Cultural Adjustment and Trauma Services used a multitier school-based comprehensive service model to provide interventions in New Jersey. Services included group, family, and intensive one-on-one treatment of and coordination of services to traumatized immigrant and refugee youths (Beehler et al., 2012), with coordinating services designed to provide supportive resources in the youths' environment. Both greater amounts of clinical services and use of coordinating services were associated with reduction in symptoms of posttraumatic stress disorder and improvement in functioning.

Another model of ecologically informed service provision is found in the Supporting the Health of Immigrant Families and Adolescents program (Ellis et al., 2011), a community-placed mental health program for refugee youths from Somalia living in Boston. Using a public health model to intervene at different levels of the ecology of these youths, primary preventive efforts include providing education about mental health services to Somali parents and training teachers to work with traumatized refugees in their classes. At the secondary prevention level, support groups for the at-risk Somali students are designed to build emotion regulation skills and create relationships that make it easier for the youths to access more intensive services as needed. Students in need of more intensive clinical services receive these more traditional mental health services from clinicians at school or in their homes. Although the program worked across ecological levels and life domains, program effectiveness was assessed through individual-level change in Somali refugee students who participated in the group and individual therapy sessions. Both groups of students receiving the intervention showed improved mental health and a decrease in resource hardships over time, with the most at-risk group showing the greatest gains.

In addition to programs that target maladaptive individual behavior, other interventions focus on improving the general quality of life by building resilience and enhancing access to resources. Goodkind's (2005) Learning Circles and Advocacy program for Hmong adult refugees, for example, involved cultural exchange among Hmong adults and college students both one on one and in groups (learning circles). The goal was to empower individuals to engage in personal development through mutual learning, having refugee participants share their history and culture, identify their own problems, and, with the support of the college students, engage in direct action to achieve what they wanted and needed. College students also engaged in advocacy activities on behalf of the Hmong participants. Program effectiveness data showed that participants improved over the course of the intervention with respect to their quality of life, satisfaction with resources, and decrease in distress. Furthermore,

mediating analyses suggested that participants' increased quality of life could be explained by their improved satisfaction with resources, supporting the importance of a resource perspective on intervention.

These programs represent individually based mental health interventions to immigrants and refugees with attention to the ecology of their lives. All were community placed, whether in schools, participants' homes, or community centers. All acknowledged the multiplicity of needs faced by immigrants and refugees, and all provided a range of comprehensive and individualized programs and resources. All included intervention components that focused on building on or acknowledging participants' strengths, and all included some degree of collaboration with the relevant communities, although the extent and type of collaboration differed.

## Community-Based Programs

Community-based programs (Schensul, 2009) target the local ecology rather than individuals in their intervention efforts. We provide two examples here of efforts to accomplish such a goal: developing a multilevel intervention and reorienting an organizational mission.

**Developing a multilevel intervention.** A primary goal of ecological understanding is to develop a multilevel conception of factors contributing to the identified issue of concern and the available and needed resources to deal with it. Trickett and Birman (1989) provided a school-based example of this process in their description of work in a school whose student population had, over the prior several years, transitioned from a predominantly White, middle–upper-middle-class college-bound group to a multicultural mixed-social-class population representing more than 60 home languages and diverse post–high school careers. The school's concern was not specific to substance use, bullying, or dropping out; rather, it was a broader school climate concern over how to provide the increasingly multicultural student body with more relevant and effective education.

Over a 2-year period of engagement with students, teachers, and administrators, a group of multicultural students and faculty from a local university developed a multilevel assessment of contributors to the school experience of immigrant and refugee students. For example, lack of mainstream teacher knowledge of the culture of many students in their classes had resulted in misinterpretations of student class behavior that negatively affected the classroom experience; lack of Spanish-speaking guidance counselors and teachers limited access to adult resources for the relatively large number of students from Spanish-speaking countries; parents were often sent important school notices involving policies, college information, and information involving their children in languages they could not understand. Furthermore, the multicultural savvy developed by English as a second language (ESL) teachers through their intense contact with students of limited English proficiency and their parents was not often tapped as a resource by other teachers.

Each of these issues involving different levels of school context and diverse subcommunities in the school suggested different potential points of intervention. With ESL teachers taking the lead, an in-service training program for teachers, administrators, and representatives of the central office was planned to integrate many of these issues into one event. The intent was to highlight both the distinctive knowledge of ESL teachers and the information gathered through the multilevel assessment. The event itself included speeches from "downtown" representatives and the principal stressing the importance of providing a supportive and enriching climate for the multicultural student body and a video created by the ESL teachers featuring refugee and immigrant students in the school talking about their experiences in mainstream classrooms. These were followed by a small-group discussions among teachers.

The long-term impact on school climate was not reported. However, in the short term, the lead taken by the ESL teachers increased the degree to which mainstream teachers sought them out as knowledgeable resources about immigrant students. Subsequent discussions with the principal involved hiring Spanish-speaking counselors and teachers and advocating for resources from the superintendent such as translation services for information sent

home. The specific implications for individual mental health in this example are indirect and require long-term follow-up. However, changes in the school climate initiated by this intervention may plausibly be related to psychological adjustment of immigrant students, as has been found with students more generally (Ellis et al., 2011). The creation of resources, such as Spanish-speaking guidance counselors, makes it possible for students who need access to more formal mental health resources to have such access.

**Reorienting organizational mission.** A second approach to altering the ecology involves shifting the mission of the organization from being client centered to focusing on community development. Although it was not a mental health intervention per se, Uttal (2006) described a multiyear action research project to increase the number of culturally competent certified Spanish-speaking Latino family childcare providers in the community. Working in the community, the agency initially identified informal providers, translated certification training materials, and held trainings at times and in locations convenient to participants. The process required many adaptations to develop training materials and the training sessions themselves to make them culturally congruent and relevant to the lives of the Latina women. In addition, to make the sessions more welcoming and encourage attendance, women could bring friends and relatives to the trainings to participate in discussions.

Two years of field observations led to the conclusion that the adaptations required in this particular context went far beyond adapting materials or recruitment methods for individual participants. Rather, it included the need to address cultural values and traditions, participant acculturation level and interpretation of identity, and racism experienced by participants in obtaining consent from landlords to become family childcare providers.

As a consequence, the program redefined itself as a community development project, creating not only opportunities for employment for individual women, but improving the quality and availability of childcare in the Spanish-speaking community. Latino participants embraced the philosophy of encouraging the larger community to educate itself about childrearing principles in the United States and to view childcare as a community-strengthening responsibility of all. Such a shift in program philosophy is consistent with the broader needs of immigrants in many programs described above. Although not involving mental health directly, the issue of program philosophy is equally relevant to mental health agencies that target the psychological well-being of an immigrant community.

These examples serve to illustrate a range of possibilities of how interventions can be reconceptualized when a goal is changing the local ecology to be more responsive to immigrant and refugee populations. Most important, they represent a consistent move from an individual orientation to an ecological one that retains, but contextualizes, individual-level efforts while simultaneously working to change and coordinate services and create settings critical to the ecology of the lives for whom services are intended.

A major research accomplishment of community interventions is collaboration and empowerment. In the reports above, helpers included Somali social workers, paraprofessionals from multiple cultures, advisory boards of refugees and former agency clients, and cocreated mutual learning collaborations between university students and refugees. Refugees and immigrants from relevant communities were involved as resources for recruitment, consultants on intervention content, and community advocates in the setting providing services. Agencies learned the value of collaborating with other community organizations representing life spheres important to immigrants and refugees, such as schools or legal services. They further worked with fellow agencies to create additive rather than duplicative services. Such efforts represented the increasing appreciation of the ecology of individual lives, the interdependence of service-providing settings with other sectors, and, in the case of newcomer centers, the value of creating settings when current settings are inadequate for the adaptive tasks facing a population.

Community intervention with immigrant and refugee groups has shown that the concept of collaboration is complex, fluid, and deserving of

attention in its own right. Differences in status and social position between community members, service providers, and university researchers are compounded by gaps in language and cultural assumptions between these groups. Because immigrants generally have less status and power in these relationships, power dynamics may mute the degree to which immigrant and refugee collaborators freely express their opinions. Interventionists in these situations must also confront the dilemma of who must change, the immigrant group, the academic partners, or both, and continue to resist locating problems and solutions in individuals rather than the surrounding context.

## LIMITATIONS

As community interventions have unfolded over time, the promise of their aspirations has predictably been tempered by appreciation of their limitations. These limitations are conceptual, methodological, empirical, and pragmatic. Conceptually, the contextualist emphasis of ecology places emphasis on how interventions unfold locally and requires time to develop collaborative processes to carry out complex sets of activities in diverse sociocultural contexts. These emphases on culture, context, collaboration, community, and commitment over time need to be conceptualized both as an overall package of interactive intervention components and as individual constructs, or sets of constructs. Together, they raise the fundamental question of what is the intervention in community intervention. Although an ecological perspective provides a useful frame, it is more of a way to think about community interventions than what to do in any specific instance. Case studies and narrative accounts are needed to further theory here.

In addition, such critical concepts as community and collaboration are themselves contested in the current literature (Schensul, 2009; Trickett & Espino, 2004). The idea of ripple effects, so central to understanding the local impact of community interventions, is underdeveloped beyond work on the role of social networks in the community intervention process. Thus, conceptual limitations currently affect the understanding of the what and why (mechanisms of influence) of such interventions.

Methodologically, as discussed above, the demands of an ecological way of thinking energized a search for new research designs, often ones that attempt to capture emergent processes related to collaborative relationships whose influence over the research cannot be preordained. In addition, the importance of process highlights the importance of mixing methods to capture diverse aspects of the intervention process. How these methods are mixed, and how to develop a research team competent to do so, is a limitation to learning as much as possible from such interventions.

Empirically, as research with immigrants and refugees has suggested, the database on ecologically based community interventions is growing and filled with potential heuristics to guide practice. Still, the complexity and demands of community interventions have limited the range and depth of the evidence base in many substantive areas. Expanding the worldview on community interventions needs to be accompanied with increasing empirical evidence documenting both their effects and their complications.

Pragmatic limitations include community interventions themselves and the scientific and funding context in which they occur. The kinds of interventions described above are resource intensive, require multiple competencies and skills, entail relationship building, unfold over lengthy periods of time, and need significant resources to track and assess processes, direct outcomes, and determine ripple effects. Particularly for junior investigators, they may constitute a risk for providing publishable articles to sustain one's career. In addition, it is difficult to publish the complexities of such work in journal-length format, particularly when the research designs may not clearly identify causal paths. Funding for such lengthy, multicomponent, resource-intensive work is still unusual, though reports such as the 2012 Institute of Medicine report are promising in providing groundwork of the potential payoff of such work.

## FUTURE DIRECTIONS

Future directions are likely to involve both the internal development of community interventions

themselves and the influence of larger social movements and events. There will be an effort to simultaneously confront the kinds of limitations mentioned above through increased emphasis on articulating philosophies of science, theories of community change processes, and statistical efforts to map reciprocal interactions and social systems. Professionally, efforts will increase to influence funding bodies to take responsible risks in supporting longer term collaborative research projects that can assess multilevel change.

In this process, there will be increasing encounters with the evidence-based practice movement in terms of its emphasis on the individual level of analysis and intervention and its prioritization of the randomized controlled trial and its emphasis on internal validity. The increasing limitations of this movement to contribute to population-level change in mental health outcomes will be one contributor to broadening the notion of evidence and an appreciation of multiple research methods.

Diversity will be heightened as a topic of community intervention both because of the uneasy relationship between diversity and evidence-based practice and because the demographics of the United States will increase the importance of understanding diverse groups and multicultural settings, such as schools. The increase in awareness of and communication among psychologists internationally will also make efforts at community intervention more aware of how culture affects intervention processes and goals. These efforts will include increased interdisciplinarity of intervention teams as well as increased inclusion of cultural insiders in the intervention process. These developments increase the complexities of intergroup interactions and power dynamics as ecological aspects of community interventions that contribute to outcomes.

In addition, national and international forces will likely propel areas of work as new at-risk populations emerge and ongoing but still relatively unattended-to groups continue to need resources. Among the latter populations are children in need of services, returning veterans, elderly individuals, and people who are homeless. In terms of groups reflecting larger international forces, displaced persons, unaccompanied minors from Central and South America, and asylum seekers will become more prominent recipients of community interventions. In all of these instances, loss of a sense of community, identity, empowerment, and, when necessary, access to clinical services will provide an opportunity for community interventions.

Finally, advances in technology have provided opportunities in community interventions to develop concepts and for subsequent interventions to reach multiple groups across the risk spectrum. For example, a strong sense of community may develop among individuals who share a condition or status, such as substance abuse, domestic violence, or being a veteran, but who know each other only electronically. How does the accessibility of people who are otherwise strangers affect, and indeed define, sense of community as well as a host of other important psychological concepts, such as sense of normalcy and empowerment? The Internet as a profound means of creating communities will be expanded as a format for intervention in the communities.

The future depends on the degree to which community interventions themselves respond to larger ecological determinants of health such as poverty, racism, immigration, homelessness, and income disparities as they are reflected in the ecology of lives in diverse communities. Such work demands an appreciation of the individual in context. The intent of this chapter has been to provide a framework and examples of translating this goal into community interventions.

## References

Allen, J., Mohatt, G. (Eds.), & Trickett, E. (Consulting Ed.). (2014). Ecological description of a community intervention [Special section]. *American Journal of Community Psychology*, *54*, 81–186.

Argyris, C. (1970). *Intervention theory and method: A behavioral science view*. Reading, MA: Addison-Wesley.

Atkins, M. S., Frazier, S. L., Birman, D., Adil, J. A., Jackson, M., Graczyk, P. A., . . . McKay, M. M. (2006). School-based mental health services for children living in high poverty urban communities. *Administration and Policy in Mental Health and Mental Health Services Research*, *33*, 146–159. http://dx.doi.org/10.1007/s10488-006-0031-9

Atkins, M. S., Rusch, D., Mehta, T. G., & Lakind, D. (2015). Future directions for dissemination and implementation science: Aligning ecological theory and public health to close the research to practice gap. *Journal of Clinical Child and Adolescent Psychology*. Advance online publication.

Beehler, S., Birman, D., & Campbell, R. (2012). The effectiveness of cultural adjustment and trauma services (CATS): Generating practice-based evidence on a comprehensive, school-based mental health intervention for immigrant youth. *American Journal of Community Psychology*, *50*, 155–168. http://dx.doi.org/10.1007/s10464-011-9486-2

Beehler, S., & Trickett, E. (in press). Community psychology misdirected? The case of evidence-based practice. In M. Bond, I. Serrano-Garcia, & C. Keys (Eds.), *Handbook of community psychology*. Washington, DC: American Psychological Association.

Bernal, G. (2006). Intervention development and cultural adaptation research with diverse families. *Family Process*, *45*, 143–151. http://dx.doi.org/10.1111/j.1545-5300.2006.00087.x

Birman, D., Beehler, S., Harris, E. M., Everson, M. L., Batia, K., Liautaud, J., . . . Cappella, E. (2008). International Family, Adult, and Child Enhancement Services (FACES): A community-based comprehensive services model for refugee children in resettlement. *American Journal of Orthopsychiatry*, *78*, 121–132. http://dx.doi.org/10.1037/0002-9432.78.1.121

Birman, D., Trickett, E., & Buchanan, R. M. (2005). A tale of two cities: Replication of a study on the acculturation and adaptation of immigrant adolescents from the former Soviet Union in a different community context. *American Journal of Community Psychology*, *35*, 83–101. http://dx.doi.org/10.1007/s10464-005-1891-y

Boyson, B., & Short, D. (2003). *Secondary school newcomer programs in the United States*. Santa Cruz, CA: Center for Research on Education, Diversity, and Excellence, University of California.

Bronfenbrenner, U. (1977). Toward an experimental ecology of human development. *American Psychologist*, *32*, 513–531. http://dx.doi.org/10.1037/0003-066X.32.7.513

Caplan, G. (1964). *Principles of preventive psychiatry*. New York, NY: Basic Books.

Ellis, B. H., Miller, A. B., Baldwin, H., & Abdi, S. (2011). New directions in refugee youth mental health services: Overcoming barriers to engagement. *Journal of Child and Adolescent Trauma*, *4*, 69–85. http://dx.doi.org/10.1080/19361521.2011.545047

Fordham, S., & Ogbu, J. U. (1986). Black students' school success: Coping with the "burden of 'acting White.'" *Urban Review*, *18*, 176–206. http://dx.doi.org/10.1007/BF01112192

Geltman, P. L., Augustyn, M., Barnett, E. D., Klass, P. E., & Groves, B. M. (2000). War trauma experience and behavioral screening of Bosnian refugee children resettled in Massachusetts. *Journal of Developmental and Behavioral Pediatrics*, *21*, 255–261. http://dx.doi.org/10.1097/00004703-200008000-00001

Glasgow, R. E., Davidson, K. W., Dobkin, P. L., Ockene, J., & Spring, B. (2006). Practical behavioral trials to advance evidence-based behavioral medicine. *Annals of Behavioral Medicine*, *31*, 5–13. http://dx.doi.org/10.1207/s15324796abm3101_3

Goodkind, J. R. (2005). Effectiveness of a community-based advocacy and learning program for Hmong refugees. *American Journal of Community Psychology*, *36*, 387–408. http://dx.doi.org/10.1007/s10464-005-8633-z

Green, L. W., & Kreuter, M. W. (2005). *Health program planning: An educational and ecological approach*. New York, NY: McGraw-Hill.

Hawe, P., Shiell, A., & Riley, T. (2009). Theorising interventions as events in systems. *American Journal of Community Psychology*, *43*, 267–276. http://dx.doi.org/10.1007/s10464-009-9229-9

Institute of Medicine. (2012). Committee on Valuing Community-Based, Non-Clinical Prevention Policies and Wellness Strategies: An integrated framework for assessing the value of community-based prevention. Washington, DC: National Academies Press.

Israel, B. A., Schulz, A. J., Parker, E. A., & Becker, A. B. (1998). Review of community-based research: Assessing partnership approaches to improve public health. *Annual Review of Public Health*, *19*, 173–202. http://dx.doi.org/10.1146/annurev.publhealth.19.1.173

Kelly, J. (1968). Toward an ecological conception of preventive interventions. In J. W. Carter (Ed.), *Research contributions from psychology to community mental health* (pp. 76–100). New York, NY: Behavioral Publications.

Kelly, J. G. (2006). *Becoming ecological: An expedition into community psychology*. http://dx.doi.org/10.1093/acprof:oso/9780195173796.001.0001

Levine, M., & Levine, A. (1970). *A social history of the helping professions: Clinic, court, school and community*. New York, NY: Appleton-Century-Crofts.

Minkler, M., & Wallerstein, N. (Eds.). (2010). *Community-based participatory research for health: From process to outcomes*. San Francisco, CA: Jossey-Bass.

Murray, K. E., Davidson, G. R., & Schweitzer, R. D. (2010). Review of refugee mental health interventions following resettlement: Best practices and recommendations. *American Journal*

*of Orthopsychiatry*, *80*, 576–585. http://dx.doi.org/10.1111/j.1939-0025.2010.01062.x

Putnam, R. D. (2000). *Bowling alone: The collapse and revival of American community*. http://dx.doi.org/10.1145/358916.361990

Rapkin, B., & Trickett, E. J. (2005). Comprehensive dynamic trial designs for behavioral prevention research with communities: Overcoming inadequacies of the randomized controlled trial paradigm. In E. J. Trickett & W. Pequegnat (Eds.) *Community interventions and AIDS* (pp. 249–277). New York, NY: Oxford University Press.

Ruiz-de-Velasco, J., & Fix, M. (2000). *Overlooked and underserved: Immigrant students in U.S. secondary schools*. Washington, DC: Urban Institute.

Sarason, S., Levine, M., Goldenberg, I., Cherlin, D., & Bennett, E. (1966). *Psychology in community settings: Clinical, educational, vocational, social aspects*. New York, NY: Wiley.

Schensul, J. J. (2009). Community, culture and sustainability in multilevel dynamic systems intervention science. *American Journal of Community Psychology*, *43*, 241–256. http://dx.doi.org/10.1007/s10464-009-9228-x

Schensul, J. J., & Trickett, E. (2009). Introduction to multi-level community based culturally situated interventions. *American Journal of Community Psychology*, *43*, 232–240. http://dx.doi.org/10.1007/s10464-009-9238-8

Stein, B. D., Jaycox, L. H., Kataoka, S. H., Wong, M., Tu, W., Elliott, M. N., & Fink, A. (2003). A mental health intervention for schoolchildren exposed to violence: A randomized controlled trial. *JAMA*, *290*, 603–611.

Suárez-Orozco, C., & Suárez-Orozco, M. M. (2001). *Children of immigration*. Cambridge, MA: Harvard University Press.

Swindle, R. W., Jr., & Moos, R. H. (1992). Life domains in stressors, coping, and adjustment. In W. B. Walsh, K. H. Craik, & R. H. Price (Eds.), *Person–environment psychology: Models and perspectives* (pp. 1–33). Hillsdale, NJ: Erlbaum.

Tribe, R. (2002). Mental health of refugees and asylum-seekers. *Advances in Psychiatric Treatment*, *8*, 240–247. http://dx.doi.org/10.1192/apt.8.4.240

Trickett, E. J., & Birman, D. (1989). Taking ecology seriously: A community development approach to individually-based preventive interventions. In L. Bond & B. Compas (Eds.), *Primary prevention and promotion in the schools* (pp. 361–390). Thousand Oaks, CA: Sage.

Trickett, E. J., & Espino, S. R. (2004). Collaboration and social inquiry: Multiple meanings of a construct and its role in creating useful and valid knowledge. *American Journal of Community Psychology*, *34*, 1–69. http://dx.doi.org/10.1023/B:AJCP.0000040146.32749.7d

Trickett, E. J., & Schmid, K. (1993). The social context of the school: An ecological perspective on school, adolescents in schools, and intervention in schools. In P. Tolan & B. Cohler (Eds.), *Handbook of clinical research and practice with adolescents* (pp. 173–202). New York, NY: Wiley.

Trimble, J. E., & Fisher, C. B. (2005). *The handbook of ethical research with ethnocultural populations and communities*. Thousand Oaks, CA: Sage.

Uttal, L. (2006). Organizational cultural competency: Shifting programs for Latino immigrants from a client-centered to a community-based orientation. *American Journal of Community Psychology*, *38*, 251–262. http://dx.doi.org/10.1007/s10464-006-9075-y

CHAPTER 22

# SELF-HELP PROGRAMS

*Forrest Scogin and Elizabeth A. DiNapoli*



Self-help programs have been in existence since the earliest days of clinical psychology. The self-advocacy movement for mental health resulted from patients discussing their mistreatment or unmet needs and organizing groups to improve mental health care. For example, in 1909, Clifford W. Beers, a former psychiatric patient, formed the National Committee for Mental Hygiene. This group is now known as the National Mental Health Association, and it continues the goal of promoting mental health recovery through advocacy, education, self-help, and peer support. Self-help programs are a vital component of mental health promotion and continue to play an important role in public health efforts throughout the world.

The reality is that self-help programs will continue to be produced, marketed, and used, although they may be viewed by some psychologists as more nuisance than asset. These methods will continue to flourish with or without the support of psychologists, so consumers and clinicians need to become better informed about self-help for mental health disorders (Jacobs & Goodman, 1989).

In this chapter, we provide an overarching review of this broad topic with an emphasis on the evidence base and recommendations for practice. Specifically, the core principles of self-help, its limitations and contraindications, and its principal methods are presented. The chapter concludes with the major accomplishments of self-help and probable future directions.

## DESCRIPTION AND DEFINITION

For the purposes of this chapter, *self-help* is defined as a self-directed attempt to improve specific behaviors, relationships, or emotional problems without (or with minimal) professional support (Rosen, 1993). Psychologist involvement exists on a continuum ranging from traditional therapist-administered psychotherapy with no self-help augmentation to entirely self-administered treatment typified by the purchase of written or electronic materials that are implemented with no therapist assistance. Most of the research evidence exists around the midpoint of this continuum and is concerned with the effects of minimal-contact self-help and therapist-aided self-help.

Another definitional matter is the broad number of resources falling under self-help programs. This chapter covers self-help programs that are highly recommended by mental health experts, in particular those programs that are based on an established psychological theory and present a protocol or give directions on how to implement the intervention.

The overarching principle of psychological self-help programs is that, for some problems, consumers can implement treatments with little or no professional assistance (Jacobs & Goodman, 1989). These core principles of self-help are not novel and date as far back as the Bible. Self-improvement advice is also sprinkled throughout classic novels, such as Benjamin Franklin's famous quote, "Early to

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bed, early to rise, makes a man healthy, wealthy, and wise" in *Poor Richard's Almanac*. To assist with managing their homes and families, 19th-century homemakers turned to the words of the *Married Lady's Companion* for help. In the 1930s, aspiring businessmen followed Dale Carnegie's *How to Win Friends and Influence People*. The self-help revolution continues to flourish, which is evident by the enormous number of do-it-yourself websites and the plethora of business companies that use self-improvement slogans to draw in consumers.

There are many advantages to self-help programs (e.g., affordability and accessibility) that make them so appealing to consumers. As such, the self-help industry is booming. More people will read a self-help book, obtain psychological information on the web, and attend a self-help group than will consult all mental health professionals combined (Kessler, Mickelson, & Zhao, 1997). The research firm Marketdata estimated self-improvement to be an $11 billion industry in 2008 (PRWeb, 2006) with about 5,000 self-help books (including parenting advice) appearing each year (Bogart, 2011). More than 25 million individuals have participated in a self-help group at some point in their lives, and approximately 10 million have participated in the past 12 months (Kessler et al., 1997). These numbers highlight the fact that many individuals are purchasing or engaging in self-help programs and seeking mental health help without professional treatment (Druss & Rosenheck, 2000).

## PRINCIPAL METHODS

A national study of clinical and counseling psychologists revealed that self-help resources are frequently recommended to patients (Norcross et al., 2000). Specifically, 85% of psychologists recommended self-help books; 82%, self-help groups; 34%, an Internet site; and 24%, autobiographies (Norcross et al., 2000). Books, online programs, support groups, and Internet resources are just some of the self-help modalities available for individuals struggling to improve a problem on their own. The range of self-help applications is quite large and covers much of the territory deemed appropriate for therapist-administered treatments. Cognitive–behavioral models (widely defined) tend to lend themselves particularly well to self-administration (Anderson et al., 2005), and not surprisingly these programs tend to be those with the greatest evidentiary corpus. Yet, research has also found support for other, more expressive types of self-help, such as focused expressive writing, in improving health and well-being (Smyth & Helm, 2003).

Of the different types of media-based self-help, the most used and well researched is undoubtedly bibliotherapy. Self-help books or bibliotherapy can be defined as the use of written material "for the purpose of gaining understanding or solving problems relevant to a person's developmental or therapeutic needs" (Marrs, 1995, p. 846). Meta-analyses have found effect sizes of .57 to .96 for bibliotherapy over controls and nonsignificant differences between self-administered and therapist-administered treatments (Gould & Clum, 1993; Marrs, 1995; Scogin et al., 1990). Bibliotherapy has also been found to be better suited for some problems (e.g., anxiety) and that increased therapist contact is needed for others (e.g., weight loss; Marrs, 1995).

The widespread availability of high-speed Internet has expanded the use of self-help to online programs (cybertherapy, Internet therapy, or telehealth). Similar to traditional self-help programs, online self-help can be self-guided or partially supported with professional contact. The following advantages have been identified for online self-help: greater interactivity, improved public access, more tailoring to the user's needs, quicker updates to the content, and ease of completing research studies on their use (Marks, Cavanagh, & Gega, 2007). A meta-analysis of online self-help programs for a variety of problems found an overall mean effect size of .53 (Barak et al., 2008). Online self-help programs have been shown to be effective for various problems, including anxiety (Przeworski & Newman, 2004), depression (Andersson & Cuijpers, 2009), and alcohol use (Riper et al., 2008).

Another advancement that arose with the availability of the Internet is increased accessibility to online mental health resources, such as referral, screening, and psychoeducation materials. Researchers estimate that 80% of all Internet users have sought health care information online (Pew Internet

and American Life Project, 2008), and mental health topics are among the most frequently searched (Davis & Miller, 1999). Unfortunately, much of the mental health information provided on the Internet has flaws in accuracy and specificity (Reavley & Jorm, 2011). The HONCode (http://www.hon.ch/HONcode/Conduct.html) was established to encourage the dissemination of quality and regularly updated health information on the Internet for patients and professionals.

Perhaps the best known form of self-help is the support group. A self-help support group (e.g., 12-step program) is a supportive, educational mutual-aid group that addresses a single condition shared by its members (Kurtz, 1997). Research on self-help support groups has typically concluded that participation is beneficial and helpful (Seligman, 1995). Self-help groups produce higher rates of patient improvement by imparting information, emphasizing self-determination, providing mutual support, and mobilizing the resources of the person, the group, and the community (S. H. Barlow et al., 2000; Riessman & Carroll, 1995). Computer-mediated support groups are also available, and participation in such groups has been found to result in positive health outcomes, such as increased social support and improved quality of life (Rains & Young, 2009). The National Mental Health Consumers' Self-Help Clearinghouse (http://www.mhselfhelp.org) and the American Self-Help Clearinghouse *Self-Help Sourcebook* (White & Madara, 2002) can connect mental health consumers with support groups.

This review would not be complete without discussing autobiographies, films, and smartphone applications as potential self-help programs. There are many first-person narratives or autobiographies describing the author's personal experience with a mental health disorder and its treatment. However, only a small fraction of therapists recommend autobiographies to their psychotherapy clients (Clifford, Norcross, & Sommer, 1999). Those psychologists that do recommend autobiographies have reported positive treatment benefits, and more than 95% of their clients reported helpful effects from reading such books (Clifford et al., 1999). Watching films, or videotherapy, can be used to increase awareness about a certain disorder and may in turn have therapeutic benefits. The versatility of smartphones has also ushered in the development of self-help apps. Self-help apps may have certain benefits over computer programs, in that smartphones are small, portable, integral to daily activities, and with many of us virtually all of the time.

## LIMITATIONS AND CONTRAINDICATIONS

The self-help arena in which the greatest growth is occurring is Internet-based programs. One of the main limitations to Internet-based self-help programs is that it is a relatively new field, and there is still much to be determined, such as who is most likely to benefit (Andersson & Titov, 2014). Remote treatment and self-help treatment may be more suitable for certain individuals, but few consistent predictors have been identified (Andersson, Carlbring, & Grimlund, 2008; Nordgreen et al., 2012). Additional research is also needed to determine the risks and negative outcomes of self-help treatments. Another limitation of self-help treatment, particularly online programs, is that there is some degree of clinician and patient skepticism regarding them (Mohr et al., 2010). One of the most obvious and often-cited limitations in the self-help field is that most programs have received little or no empirical scrutiny, despite claims of efficacy.

Contraindications, primarily based on clinical intuition, include conditions such as schizophrenia, psychotic depression, and bipolar disorder. Results for self-treatment manuals for agoraphobia have been variable, with some studies finding it to be ineffective (Holden et al., 1983) and others finding self-exposure instructions to be beneficial (Ghosh & Marks, 1987). People with an ego-syntonic disorder, typified by the personality disorders, would also not usually be viewed as good candidates for self-administered interventions. Client characteristics may also contraindicate the use of self-help programs, notably literacy or reading skills, especially when the material is presented in written form. Of course, none of these contraindications preclude a person from pursuing a purely self-administered program. Unfortunately, there is practically no evidence on the efficacy of entirely self-administered programs in part because of the logistics involved and because

of the understandable reluctance of university institutional review boards to approve such research.

## RESEARCH EVIDENCE AND INTERVENTIONS

The effectiveness of self-help substantially exceeds that of no treatment and nearly reaches that of professional treatment (Cuijpers et al., 2010). One of the biggest criticisms of self-help programs is that very few have been subjected to research and shown to be empirically valid. For instance, more than 95% of self-help books are published without any research documenting their effectiveness (Rosen, 1993). Therefore, it is extremely difficult for the consumer to distinguish sound or effective self-help programs from those that are flawed. In this chapter we hope to help the self-help consumer or referring clinician by recommending specific self-help interventions for each disorder, but for a more comprehensive list please refer to *Self-Help That Works: Resources to Improve Emotional Health and Strengthen Relationships* (Norcross et al., 2013).

In the following sections, we adopt a life-span approach in which we review the child–adolescent, adult, and older adult literatures. The bulk of self-help work has been conducted in the areas listed below, but there is also extensive application in others areas such as sexual dysfunctions, bullying, chronic pain, divorce, and less obvious targets such as nail biting.

### Anxiety

Anxiety disorders and symptoms have received considerable research attention in the self-help field. According to the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* (American Psychiatric Association, 2013), anxiety disorders include disorders that share features of excessive, persistent fear; anxiety; and related behavioral disturbances that cause clinically significant distress or impairment in important areas of functioning. Depending on the type of object or situation that induces the fear or anxious response and the content of the associated thoughts or beliefs, anxiety disorders are classified into separation anxiety, selective mutism, specific phobia, social anxiety, panic disorder, agoraphobia, social phobia, simple phobia, obsessive–compulsive disorder, posttraumatic stress disorder, and generalized anxiety disorder.

Meta-analytic reviews of self-help interventions for anxiety problems have found statistically significant effect sizes (Cohen's *d*) of 0.62 to 0.78 at posttreatment and 0.51 at follow-up relative to control conditions (Haug et al., 2012; Hirai & Clum, 2006; Menchola, Arkowitz, & Burke, 2007). The majority of meta-analyses have found self-directed interventions to be less effective than therapist-directed approaches (Haug et al., 2012; Hirai & Clum, 2006; Menchola et al., 2007; Nordgreen et al., 2012). Yet, one meta-analysis found essentially no difference in the two modes of delivery with respect to symptom reduction or rate of dropout (Cuijpers et al., 2010).

The adoption of self-help technology for adolescents with emotional problems in routine clinical practice cannot be recommended because meta-analyses of self-help interventions for this population found an overall nonsignificant effect of −0.47 (Ahmead & Bower, 2008). In addition, the evidence for guided self-help interventions for anxiety has been inconclusive. *Guided* refers to active support of a professional or paraprofessional therapist for no less than 30 minutes and no more than 3 hours in total. Guided self-help interventions for anxiety based on cognitive–behavioral therapy (CBT) have been found to be effective at posttreatment ($d = 0.69$) but not at follow-up ($d = 0.32$) or among more clinically representative samples ($d = 0.31$; Coull & Morris, 2011).

Meta-regressions of self-help for anxiety have been conducted in an effort to identify moderators of efficacy such as mode of delivery and degree of professional involvement. Internet- and computer-based self-help outperformed bibliotherapy, and participants recruited from the community achieved better outcomes than those recruited from clinics (Haug et al., 2012). Researchers concluded that self-help engages vital factors identified in the broader psychotherapy literature such as provision of a clear rationale, explanation of the patients' symptoms, and procedures for resolving symptoms that require active participation by the patient (Haug et al., 2012).

These results provide support for evidence-based self-help programs for anxiety (and other disorders), serving as a standard against which more costly interventions might be compared. Moreover, results support a stepped-care model of mental health treatment in which less expensive, less complicated interventions are offered first for less serious problems. Minimal-contact evidence-based self-help programs could be considered for a first or early step in such a model of mental health care. For example, Norway has adopted self-care programs as the first step in mental health care, as a matter of policy and federal legislation. Unfortunately, empirical analyses of cost-effectiveness and acceptability of self-versus therapist-administered interventions for anxiety are not available, although common sense would dictate that the former is less costly (but not necessarily the winner in a cost–benefit ratio; Lewis, Pearce, & Bisson, 2012).

Self-help books often describe and teach individuals how to use cognitive, behavioral, physical, and social tools to reduce anxiety and phobias (D. H. Barlow, Craske, & Meadows, 2000; Bourne, 2011; Craske, Antony, & Barlow, 2006). Other self-help books are more holistic and use an integrative approach to treating anxiety by incorporating other techniques such as story narratives, yoga, and meditation (e.g., Jeffers, 2006; Lerner, 2005). Most self-help programs have focused on written materials for panic disorder and fear among the anxiety spectrum disorders (Hirai & Clum, 2008). Autobiographies, such as *The Panic Attack Recovery Book* (Swede & Jaffe, 2000), allow readers to relate to the personal experiences of the author while also learning techniques for anxiety recovery. Online self-help programs and Internet resources are readily available for individuals with anxiety. Such free sites include AnxietyOnline (https://www.anxietyonline.org.au), the Panic Center (http://www.paniccenter.net), the Anxiety Panic Internet Resource (http://www.algy.com/anxiety/anxiety.php), and the Anxiety Disorders Association of America (http://www.adaa.org). Support groups are available for specific types of anxiety (e.g., Agoraphobics in Motion and Tourette Syndrome Association, Inc.) as well as for more general emotional difficulties (e.g., Emotions Anonymous). Search engines, such as the tAPir Registry (http://www.algy.com/anxiety), have been developed to help individuals locate support groups and self-help organizations.

## Depression

Depression has also been the focus of considerable attention in self-help research. To be diagnosed with major depression, an individual must have five or more of the following symptoms for at least 2 weeks: depressed mood, loss of interest or pleasure in usual activities, significant weight loss or weight gain, insomnia or hypersomnia, psychomotor agitation or retardation, fatigue or loss of energy, feelings of worthlessness or guilt, diminished ability to think or concentrate, and recurrent thoughts of death or suicide (American Psychological Association, 2013). The depressive symptoms must cause clinically significant distress or impairment in social, occupational, or other important areas of functioning. Other types of depressive disorders include disruptive mood dysregulation disorder, persistent depressive disorder (dysthymia), and premenstrual dysphoric disorder.

Meta-analytic reviews of self-administered or self-guided CBT treatments for clinical depression found effect sizes ranging from 0.28 to 1.28 relative to no-treatment controls (Cuijpers et al., 2011; Menchola et al., 2007). Greater effects associated with guided self-help are consistent with treatment guidelines offered by the United Kingdom's National Collaborating Centre for Mental Health and the results of reviews of anxiety self-help noted previously. Therapist-administered interventions have been found to be superior to self-administered treatments for depressive symptoms (Menchola et al., 2007). Bibliotherapy has been found to have nondifferential efficacy ($d = 0.73$) compared with other forms of psychotherapy for depression treatment in older adults (Cuijpers, van Straten, & Smit, 2006). A meta-analysis found a respectable treatment effect ($d = 0.77$) for cognitive forms of bibliotherapy (Gregory et al., 2004). Parsing by age group, effects of 1.32, 1.18, and 0.57 were reported for adolescents, adults, and older adults, respectively (Gregory et al., 2004).

Greater effectiveness of self-help for depression symptoms has been associated with both

methodological issues (unclear allocation concealment, observer-rated depression and waiting-list controls) and clinical issues (community samples, participants with existing depression, guided self-help, and CBT techniques; Gellatly et al., 2007). Gellatly et al.'s (2007) systematic review supports the recommendation of the National Institute for Health and Care Excellence that materials based on CBT content, complemented by expert guidance, have merit. All reviews on self-help for depression have concluded with the suggestion that it should play a more prominent role in health care and have a place in stepped-care models. Self-administered treatments appear to be particularly helpful for milder forms of depression, whereas therapist-administered treatments may be warranted for more serious disorders (Menchola et al., 2007). Given the nondifferential efficacy of delivery format, patient preferences should be an important consideration in treatment selection (Menchola et al., 2007).

With respect to the treatment of depression, several well-known self-help books use CBT, including *Feeling Good* (Burns, 1980) and *Mind Over Mood* (Greenberger & Padesky, 1995). More behaviorally based self-help books have also been marketed, including *Control Your Depression* (Lewinsohn et al., 2011) and *Overcoming Depression One Step at a Time: The New Behavioral Activation Approach to Getting Your Life Back* (Addis & Martell, 2004). Other self-help books focus on mindfulness approaches, including *The Mindful Way Through Depression* (Williams et al., 2007) and *When Living Hurts* (Yapko, 1994). Autobiographies, such as *Darkness Visible* (Styron, 1992) and *Undercurrents* (Manning, 1994), provide sensitive descriptions of severe depression and near suicide. Computer-assisted CBT for depression has also been developed and tested (Spek et al., 2007), including DVD, personal digital assistant, and web-based applications (http://www.moodgym.anu.edu.au). General (e.g., http://psychcentral.com/disorders/depression) and age-specific (for older adults, http://www.psychguides.com/depression; for children and adolescents, http://www.adaa.org) Internet resources, as well as support groups (http://www.drada.org), are also available.

## Alcohol Abuse

To have a diagnosis of alcohol use disorder, an individual must have a maladaptive pattern of drinking, leading to clinically significant impairment or distress, as manifested by at least two of the following occurring within a 12-month period: alcohol consumed in larger amounts or over a longer period than intended; persistent desire or unsuccessful efforts to cut down or control alcohol use; tolerance, withdrawal, or both; craving or urge to use alcohol; continued use despite having persistent or recurrent social or interpersonal problems; important social, occupational, or recreational activities given up because of use; and a great deal of time spent in activities necessary to obtain, use, or recover from alcohol (American Psychological Association, 2013).

One systematic review of bibliotherapy for alcohol abuse was located. A meta-analysis summarizing 3 decades of research on the effectiveness of self-help materials for problem drinkers (22 studies) found a small to medium treatment effect ($d = 0.31$; Apodaca & Miller, 2003). The authors opined that the methodological quality of the studies was relatively high. The effect size for comparisons of bibliotherapy with more extensive interventions was near zero. Reduced alcohol consumption has been found with appropriately evaluated and constructed self-help material, which can be particularly beneficial for the segment of heavy drinkers who will access self-help materials but who are unlikely to seek counseling. Most bibliotherapy studies were conducted with mild problem drinkers, and individuals with more serious problems warrant more extensive intervention (Apodaca & Miller, 2003). Overall, the majority of self-help authors have recognized that psychotherapy with ongoing adjunctive self-help is needed for recovery from alcohol abuse.

The highest rated self-help books for alcoholism include the material published by Alcoholics Anonymous (AA). *Alcoholics Anonymous* (the "Big Book") describes the AA recovery program and provides personal testimonies from AA members (Anonymous, 1955). *Twelve Steps and Twelve Traditions* (Anonymous, 1953) discusses AA's basic principles and serves as a guide for recovery. The autobiography *Getting Better: Inside Alcoholics Anonymous*

(Robertson, 1988) discusses the evolution of AA while also describing the author's personal struggle with alcoholism.

One criticism of AA's 12-step approach is that it integrates religious and spiritual content. To appeal to a wider range of people, certain organizations (e.g., Secular Organization for Sobriety) provide nonreligious approaches to sobriety. Other non-AA web-based programs and support programs have been shown to reduce the amount of drinking in users, including Drinker's Check-up (http://www.drinkerscheckup.com), SMART: Self-Management and Recovery Training (http://www.smartrecover.org), and Moderation Management (http://www.moderation.org).

## Insomnia

Insomnia is a pervasive problem and leads to many adverse health and quality-of-life outcomes. A diagnosis of insomnia is given when an individual is dissatisfied with his or her sleep quantity or quality as a result of having difficulty initiating sleep, maintaining sleep, or early morning awakening (American Psychological Association, 2013). The sleep disturbances must also cause clinically significant distress in important areas of functioning (e.g., social, occupational, or academic).

Because the psychological treatment of insomnia involves a rather straightforward set of procedures known as CBT for insomnia (CBT–I), self-administered applications have been developed and tested. A meta-analysis of 10 randomized controlled self-help studies found that insomnia interventions had small to moderate effects in improving sleep efficiency ($d = 0.42$), sleep onset latency ($d = 0.29$), wake after sleep onset ($d = 0.44$), and sleep quality ($d = 0.33$; van Straten & Cuijpers, 2009). Moreover, sleep improvements were maintained at follow-up. Self-help for insomnia might be a useful addition to existing treatments, especially when integrated in a stepped care approach (van Straten & Cuijpers, 2009).

A systematic review and meta-analysis of computerized CBT-I for insomnia (six randomized controlled trials) found that the effects on most of the above-mentioned sleep indicators were significant, with effects ranging from small to large (Cheng & Dizon, 2012). However, treatment effects were not observed for wake after sleep onset, total sleep time, and time in bed. Results suggest that computerized CBT–I is supported as a mildly to moderately effective therapy for insomnia, especially as a low-intensity treatment in a stepped care model.

CBT-focused self-help books, such as *Relief From Insomnia* (Morin, 1996) and *Overcoming Insomnia and Sleep Problems* (Espie, 2006) help individuals improve their pattern and quality of sleep. CBT–I is also available for consumers as on online (http://www.sleepio.com), CD-based (http://cbtforinsomnia.com), and mobile app (CBT–I Coach, developed by the US Department of Veterans Affairs). Support groups and online resources for insomnia can be found through the American Academy of Sleep Medicine (http://www.aasmnet.org) and the Sleep Research Society (http://www.sleepresearchsociety.org).

## Eating Disorders

The most common feeding and eating disorders are anorexia nervosa, bulimia nervosa, and binge-eating disorder. Anorexia nervosa is defined by an intense fear of gaining weight and restriction of food that leads to significantly low body weight (American Psychological Association, 2013). Bulimia nervosa is characterized by recurrent episodes of binge eating followed by recurrent inappropriate compensatory behaviors to prevent weight gain. Similar to bulimia, binge-eating disorder involves recurrent episodes of binge eating but without inappropriate compensatory behavior. Both individuals with anorexia nervosa and individuals with bulimia nervosa have self-evaluation that is unduly influenced by body shape and weight.

A meta-analysis of eight randomized controlled trials was conducted to examine the effects of Internet-based interventions for eating disorders. Six of the studies that used guided self-help CBT interventions showed significant symptom reductions on binging and purging measures that were in the medium to high effect size range (Dölemeyer et al., 2013). Two studies did not follow a structured treatment program and did not produce significant effects. The results support the value of

Internet-based interventions using guided self-help for eating disorders, but the authors cautioned that further investigation is needed because of the heterogeneity of findings.

Erford et al. (2013) examined the effectiveness of guided self-help for bulimia nervosa. Six studies were identified that compared self-help with a wait-list condition, and a medium to large effect ($d = 0.70$) was observed on binging measures. One study that compared self-help with a placebo condition found a medium effect ($d = 0.50$). Similar effects were observed with purging outcomes. Self-help was for the most part found to be comparably effective with psychotherapy and counseling, although self-help approaches tended to yield better maintenance of gains at follow-up. Results suggest that guided self-help may be an effective initial intervention to help self-motivated individuals significantly reduce eating disorder symptoms.

Research-supported self-help programs for eating disorders are available, such as *Dying to Be Thin* (Sacker & Zimmer, 1987) and *Overcoming Binge Eating* (Fairburn, 2013). Similarly, Overcoming Bulimia Online (http://www.overcomingbulimiaonline.com) is an 8-week online research-supported self-help program for people with bulimia that helps users develop healthy eating plans and problem-solving skills. Geneen Roth's autobiographies, *Feeding the Hungry Heart* (Roth, 1993b) and *Breaking Free From Compulsive Eating* (Roth, 1993a) are strongly recommended books that discuss the development and struggles of living with an eating disorder. Many respectable Internet resources are available to locate information on eating disorders, including the National Eating Disorders Association (http://www.nationaleatingdisorders.org) and Psych Central's Eating Disorders (http://psychcentral.com/disorders/eating_disorders). Support groups (http://www.anad.org; http://www.nationaleatingdisorders.org) and 12-step recovery programs (http://www.oa.org; http://www.ceahow.org) are also available for people with eating disorders and food addictions.

### Behavioral Problems in Children

Numerous self-help books can help parents cope with and manage behavioral problems in children. A Cochrane Collaboration systematic review of media-based behavioral treatments for behavioral problems in children found moderate effects in comparison to no-treatment control (Montgomery, Bjornstad, & Dennis, 2006). The addition of up to 2 hours of therapist time significantly improved the effect size. Another systematic review that examined the evidence for the effects of self-help parenting interventions for childhood behavior disorders found that, although therapist-lead programs may have an outcome advantage in the short term, over the longer term the two modes of delivery are similar in effect (O'Brien & Daley, 2011). Results from these studies suggest that behavioral interventions delivered via media and self-help parent training are worth considering in clinical practice in a stepped-care model of service delivery. For example, the self-help book *Your Defiant Child* (Barkley & Benton, 2013) provides parents with an eight-step program to help change defiant behaviors in children.

## MAJOR ACCOMPLISHMENTS

Among the key accomplishments of self-help psychological treatments has been the recognition of this approach in several practice guidelines. One of the most notable was its inclusion in the National Institute for Health and Care Excellence guidelines for the treatment of adult depression (National Collaborating Centre for Mental Health, 2010). People with mild but long-lasting symptoms of depression or with mild or moderate depression were recommended to receive low-intensity interventions such as "individual guided self-help based on the principles of cognitive–behavioral therapy (CBT)" that include behavioral activation, problem-solving techniques, and "computerized CBT" (p. 9). Guided self-help interventions should include written material or alternative media, be supported by a trained practitioner who reviews progress and outcome, and consist of up to six to eight sessions over 9 to 12 weeks (including follow-up). For computerized CBT, the guidelines suggest that the program should explain the CBT model, encourage tasks between sessions, and use thought-challenging and active monitoring of behavior, thought patterns, and

outcomes. The length of intervention and the role of the practitioner are similar to guided self-help recommendations. Inclusion of self-help programs in this consensus national health care guideline is a strong recognition of the potential for this mode of intervention.

Another key recognition of self-help was inclusion of bibliotherapy in the Department of Veterans Affairs–Department of Defense guidelines for the treatment of depression (U.S. Department of Veterans Affairs & U.S. Department of Defense, 2009). Under the category of self-management strategies (which are recommended for patients with all severity levels), bibliotherapy is described as helpful for understanding depression and developing skills. Similar to the National Institute for Health and Care Excellence guidelines, a CBT focus and intermittent monitoring by a professional are advocated. The action statement of the guidelines states, "Consider guided self-help interventions for mild to moderate depression," and the guidelines suggest that guided self-help may be offered "particularly if traditional cognitive–behavioral treatment options are not conveniently accessible" (p. 127).

Cognitive bibliotherapy is also recognized as an evidence-based treatment for geriatric depression. A committee developed under the auspices of the Society of Clinical Geropsychology that was chaired by Forrest Scogin reviewed evidence on the efficacy of psychological treatments for difficulties experienced by older adults. The results of the review by the depression subcommittee were published first as a journal article (Scogin et al., 2005) and then as a book chapter (Shah, Scogin, & Floyd, 2012). Cognitive bibliotherapy, or CBT provided in written media, met the major criteria of having at least two randomized controlled trials that supported the treatment by evidencing significant reduction in depression symptoms relative to the control condition. Cognitive bibliotherapy was also recognized by the Substance Abuse and Mental Health Services Administration as an evidence-based practice for older adult depression.

Finally, perhaps the ultimate accomplishments of self-help programs are that they are frequently used and frequently effective. Millions of people use self-help books, computer programs, autobiographies, and support groups each year. And, despite occasional psychologist skepticism, such self-resources typically prove cost effective.

## FUTURE DIRECTIONS

The future for self-help treatments is to initiate integration into stepped health care. Why has this not occurred? One is an enduring skepticism that self-help is effective, which may be partially due to the ongoing development of self-help programs and the lag in scientific evidence to support these approaches. Technology has enabled self-help to move from print media to digital media in short order. The development of computer- and smartphone app–delivered programs presents many opportunities to expand the interactive capabilities and appeal of the therapeutic material. As was the case with print media, the commercialization of digital self-help programs will run far ahead of their scientific evaluation.

Another reason for the slow integration into health care is that individuals with low literacy, low motivation, and severe problems are not suited for self-help. Yet that still leaves a lot of people who have reasonable literacy, reasonable motivation, and reasonable problems who might benefit from well-conceived self-help who are not currently served. Another barrier to integrating self-help into stepped health care is that it is perceived by some to threaten the role of the psychotherapist in the provision of psychological treatments. As noted in several of the systematic reviews, however, therapist-administered treatments consistently outperform self-administered treatments. In addition, there is a scarcity of trained clinicians compared with the large number of people in need of mental health treatment.

In the future, self-help should be, will be, viewed as an important part of modern health care and should be considered an adjunct to, not a replacement for, traditional pharmacological or psychotherapeutic approaches. Norcross (2006) has published practical suggestions for integrating self-help into psychotherapy. As long as people have an interest in helping themselves, clinical psychologists have an obligation to assist them in locating the best resources available to them.

## References


Addis, M. E., & Martell, C. R. (2004). *Overcoming depression one step at a time: The new behavioral activation approach to getting your life back*. Oakland, CA: New Harbinger.

Ahmead, M., & Bower, P. (2008). The effectiveness of self help technologies for emotional problems in adolescents: A systematic review. *Child and Adolescent Psychiatry and Mental Health*, *2*, 20. http://dx.doi.org/10.1186/1753-2000-2-20

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: Author.

Anderson, L., Lewis, G., Araya, R., Elgie, R., Harrison, G., Proudfoot, J., . . . Williams, C. (2005). Self-help books for depression: How can practitioners and patients make the right choice? *British Journal of General Practice*, *55*, 387–392.

Andersson, G., Carlbring, P., & Grimlund, A. (2008). Predicting treatment outcome in Internet versus face to face treatment of panic disorder. *Computers in Human Behavior*, *24*, 1790–1801. http://dx.doi.org/10.1016/j.chb.2008.02.003

Andersson, G., & Cuijpers, P. (2009). Internet-based and other computerized psychological treatments for adult depression: A meta-analysis. *Cognitive Behaviour Therapy*, *38*, 196–205. http://dx.doi.org/10.1080/16506070903318960

Andersson, G., & Titov, N. (2014). Advantages and limitations of Internet-based interventions for common mental disorders. *World Psychiatry: Official Journal of the World Psychiatric Association*, *13*, 4–11. http://dx.doi.org/10.1002/wps.20083

Anonymous. (1953). *Twelve steps and twelve traditions* (trade ed.). New York, NY: Alcoholics Anonymous World Services.

Anonymous. (1955). *Alcoholics Anonymous—Big book*. New York, NY: Alcoholics Anonymous World Services.

Apodaca, T. R., & Miller, W. R. (2003). A meta-analysis of the effectiveness of bibliotherapy for alcohol problems. *Journal of Clinical Psychology*, *59*, 289–304. http://dx.doi.org/10.1002/jclp.10130

Barak, A., Hen, L., Boniel-Nissim, M., & Shapira, N. A. (2008). A comprehensive review and a meta-analysis of the effectiveness of Internet-based psychotherapeutic interventions. *Journal of Technology in Human Services*, *26*, 109–160. http://dx.doi.org/10.1080/15228830802094429

Barkley, R. A., & Benton, C. M. (2013). *Your defiant child: Eight steps to better behavior* (2nd ed.). New York, NY: Guilford Press.

Barlow, D. H., Craske, M. G., & Meadows, E. A. (2000). *Mastery of your anxiety and panic*. New York, NY: Graywind Publications.

Barlow, S. H., Burlingame, G. M., Nebeker, R. S., & Anderson, E. (2000). Meta-analysis of medical self-help groups. *International Journal of Group Psychotherapy*, *50*, 53–69.

Bogart, D. (2011). *Library and book trade almanac*. Medford, NJ: Information Today.

Bourne, E. J. (2011). *The anxiety and phobia workbook*. Oakland, CA: New Harbinger.

Burns, D. D. (1980). *Feeling good.* New York, NY: New American Library.

Cheng, S. K., & Dizon, J. (2012). Computerised cognitive behavioural therapy for insomnia: A systematic review and meta-analysis. *Psychotherapy and Psychosomatics*, *81*, 206–216. http://dx.doi.org/10.1159/000335379

Clifford, J. S., Norcross, J. C., & Sommer, R. (1999). Autobiographies of mental health clients: Psychologists' uses and recommendations. *Professional Psychology: Research and Practice*, *30*, 56–59. http://dx.doi.org/10.1037/0735-7028.30.1.56

Coull, G., & Morris, P. G. (2011). The clinical effectiveness of CBT-based guided self-help interventions for anxiety and depressive disorders: A systematic review. *Psychological Medicine*, *41*, 2239–2252. http://dx.doi.org/10.1017/S0033291711000900

Craske, M. G., Antony, M. M., & Barlow, D. H. (2006). *Mastering your fears and phobias: Workbook*. http://dx.doi.org/10.1093/med:psych/9780195189179.001.0001

Cuijpers, P., Donker, T., Johansson, R., Mohr, D. C., van Straten, A., & Andersson, G. (2011). Self-guided psychological treatment for depressive symptoms: A meta-analysis. *PLoS ONE*, *6*, e21274. http://dx.doi.org/10.1371/journal.pone.0021274

Cuijpers, P., Donker, T., van Straten, A., Li, J., & Andersson, G. (2010). Is guided self-help as effective as face-to-face psychotherapy for depression and anxiety disorders? A systematic review and meta-analysis of comparative outcome studies. *Psychological Medicine*, *40*, 1943–1957. http://dx.doi.org/10.1017/S0033291710000772

Cuijpers, P., van Straten, A., & Smit, F. (2006). Psychological treatment of late-life depression: A meta-analysis of randomized controlled trials. *International Journal of Geriatric Psychiatry*, *21*, 1139–1149. http://dx.doi.org/10.1002/gps.1620

Davis, R., & Miller, L. (1999, July 15). Millions comb the web for medical information. *USA Today*.

Dölemeyer, R., Tietjen, A., Kersting, A., & Wagner, B. (2013). Internet-based interventions for eating disorders in adults: A systematic review. *BMC Psychiatry*, *13*, 207–223. http://dx.doi.org/10.1186/1471-244X-13-207

Druss, B. G., & Rosenheck, R. A. (2000). Use of practitioner-based complementary therapies by persons reporting mental conditions in the United States. *Archives of General Psychiatry*, *57*, 708–714. http://dx.doi.org/10.1001/archpsyc.57.7.708

Erford, B. T., Richards, T., Peacock, E., Voith, K., McGair, H., Muller, B., . . . Chang, C. (2013). Counseling and guided self-help outcomes for clients with bulimia nervosa: A meta-analysis of clinical trials from 1980 to 2010. *Journal of Counseling and Development*, *91*, 152–172. http://dx.doi.org/10.1002/j.1556-6676.2013.00083.x

Espie, C. A. (2006). *Overcoming insomnia and sleep problems: a self-help guide using cognitive behavioral techniques*. London, England: Robinson.

Fairburn, C. G. (2013). *Overcoming binge eating: The proven program to learn why you binge and how you can stop*. (2nd ed.). New York, NY: Guilford Press.

Gellatly, J., Bower, P., Hennessy, S., Richards, D., Gilbody, S., & Lovell, K. (2007). What makes self-help interventions effective in the management of depressive symptoms? Meta-analysis and meta-regression. *Psychological Medicine*, *37*, 1217–1228. http://dx.doi.org/10.1017/S0033291707000062

Ghosh, A., & Marks, I. M. (1987). Self-treatment of agoraphobia by exposure. *Behavior Therapy*, *18*, 3–16. http://dx.doi.org/10.1016/S0005-7894(87)80047-3

Gould, R. A., & Clum, G. A. (1993). A meta-analysis of self-help treatment approaches. *Clinical Psychology Review*, *13*, 169–186. http://dx.doi.org/10.1016/0272-7358(93)90039-O

Greenberger, D., & Padesky, D. A. (1995). *Mind over mood*. New York, NY: Guilford Press.

Gregory, R. J., Schwer Canning, S., Lee, T. W., & Wise, J. (2004). Cognitive bibliotherapy for depression: A meta-analysis. *Professional Psychology: Research and Practice*, *35*, 275–280. http://dx.doi.org/10.1037/0735-7028.35.3.275

Haug, T., Nordgreen, T., Öst, L. G., & Havik, O. E. (2012). Self-help treatment of anxiety disorders: A meta-analysis and meta-regression of effects and potential moderators. *Clinical Psychology Review*, *32*, 425–445. http://dx.doi.org/10.1016/j.cpr.2012.04.002

Hirai, M., & Clum, G. (2008). Self-help therapies for anxiety disorders. In P. L. Watkins & G. A. Watkins (Eds.), *Handbook of self-help therapies* (pp. 77–107). New York, NY: Routledge.

Hirai, M., & Clum, G. A. (2006). A meta-analytic study of self-help interventions for anxiety problems. *Behavior Therapy*, *37*, 99–111. http://dx.doi.org/10.1016/j.beth.2005.05.002

Holden, A. E., Jr., O'Brien, G. T., Barlow, D. H., Stetson, D., & Infantino, A. (1983). Self-help manual for agoraphobia: A preliminary report of effectiveness. *Behavior Therapy*, *14*, 545–556. http://dx.doi.org/10.1016/S0005-7894(83)80077-X

Jacobs, M. K., & Goodman, G. (1989). Psychology and self-help groups: Predictions on a partnership. *American Psychologist*, *44*, 536–545. http://dx.doi.org/10.1037/0003-066X.44.3.536

Jeffers, S. (2006). *Feel the fear . . . and do it anyway*. New York, NY: Ballantine Books.

Kessler, R. C., Mickelson, K. D., & Zhao, S. (1997). Patterns and correlates of self-help group membership in the United States. *Social Policy*, *27*, 27–46.

Kurtz, L. F. (1997). *Self-help and support groups: A handbook for practitioners* (Vol. 34). Thousand Oaks, CA: Sage.

Lerner, H. (2005). *The dance of fear: Rising above anxiety, fear, and shame to be your best and bravest self*. New York, NY: Perennial Currents.

Lewinsohn, P. M., Munoz, R. F., Youngren, M. A., & Zeiss, A. M. (2011). *Control your depression* (Rev. ed.). New York, NY: Simon & Schuster.

Lewis, C., Pearce, J., & Bisson, J. I. (2012). Efficacy, cost-effectiveness and acceptability of self-help interventions for anxiety disorders: Systematic review. *British Journal of Psychiatry*, *200*, 15–21. http://dx.doi.org/10.1192/bjp.bp.110.084756

Manning, M. (1994). *Undercurrents: A life beneath the surface*. New York, NY: HarperCollins.

Marks, I. M., Cavanagh, K., & Gega, L. (2007). *Hands-on help: Computer-aided psychotherapy*. New York, NY: Psychology Press.

Marrs, R. W. (1995). A meta-analysis of bibliotherapy studies. *American Journal of Community Psychology*, *23*, 843–870. http://dx.doi.org/10.1007/BF02507018

Menchola, M., Arkowitz, H. S., & Burke, B. L. (2007). Efficacy of self-administered treatments for depression and anxiety. *Professional Psychology: Research and Practice*, *38*, 421–429. http://dx.doi.org/10.1037/0735-7028.38.4.421

Mohr, D. C., Siddique, J., Ho, J., Duffecy, J., Jin, L., & Fokuo, J. K. (2010). Interest in behavioral and psychological treatments delivered face-to-face, by telephone, and by Internet. *Annals of Behavioral Medicine*, *40*, 89–98. http://dx.doi.org/10.1007/s12160-010-9203-7

Montgomery, P., Bjornstad, G. J., & Dennis, J. A. (2006). Media-based treatments for behavioral problems in children. *Cochrane Database of Systematic Reviews*, *2001*, CD002206.

Morin, C. M. (1996). *Relief from insomnia*. Jackson, TN: Main Street Books.

National Collaborating Centre for Mental Health. (2010). *Depression: The treatment and management of depression in adults* (updated ed.). Leicester, England: British Psychological Society.

Norcross, J. C. (2006). Integrating self-help into psychotherapy: 16 practical suggestions. *Professional Psychology: Research and Practice*, *37*, 683–693. http://dx.doi.org/10.1037/0735-7028.37.6.683

Norcross, J. C., Campbell, L. F., Grohol, J. M., Santrock, J. W., Selagea, F., & Sommer, R. (2013). *Self-help that works: Resources to improve emotional health and strengthen relationships*. New York, NY: Oxford University Press.

Norcross, J. C., Santrock, J. W., Campbell, L. F., Smith, T. S., Sommer, R., & Zuckerman, E. L. (2000). *Authoritative guide to self-help resources in mental health*. New York, NY: Guilford Press.

Nordgreen, T., Havik, O. E., Ost, L.-G., Furmark, T., Carlbring, P., & Andersson, G. (2012). Outcome predictors in guided and unguided self-help for social anxiety disorder. *Behaviour Research and Therapy*, *50*, 13–21. http://dx.doi.org/10.1016/j.brat.2011.10.009

O'Brien, M., & Daley, D. (2011). Self-help parenting interventions for childhood behaviour disorders: A review of the evidence. *Child: Care, Health and Development*, *37*, 623–637. http://dx.doi.org/10.1111/j.1365-2214.2011.01231.x

Pew Internet and American Life Project. (2008). *New health data*. Retrieved from http://www.pewinternet.org/2008/07/30/new-health-data

PRWeb. (2006, September 21). *The U.S. market for self-improvement products and services* [Press release]. Retrieved from http://www.prweb.com/releases/Marketdata/Enterprises/prweb440011.htm

Przeworski, A., & Newman, M. G. (2004). Palmtop computer-assisted group therapy for social phobia. *Journal of Clinical Psychology*, *60*, 179–188. http://dx.doi.org/10.1002/jclp.10246

Rains, S. A., & Young, V. (2009). A meta-analysis of research on formal computer-mediated support groups: Examining group characteristics and health outcomes. *Human Communication Research*, *35*, 309–336. http://dx.doi.org/10.1111/j.1468-2958.2009.01353.x

Reavley, N. J., & Jorm, A. F. (2011). The quality of mental disorder information websites: A review. *Patient Education and Counseling*, *85*, e16–e25. http://dx.doi.org/10.1016/j.pec.2010.10.015

Riessman, F., & Carroll, D. (1995). *Redefining self-help: Policy and practice*. San Francisco, CA: Jossey-Bass.

Riper, H., Kramer, J., Smit, F., Conijn, B., Schippers, G., & Cuijpers, P. (2008). Web-based self-help for problem drinkers: A pragmatic randomized trial. *Addiction*, *103*, 218–227. http://dx.doi.org/10.1111/j.1360-0443.2007.02063.x

Robertson, N. (1988). *Getting better: Inside Alcoholics Anonymous*. New York, NY: William Morrow.

Rosen, G. M. (1993). Self-help or hype? Comments on psychology's failure to advance self-care. *Professional Psychology: Research and Practice*, *24*, 340–345. http://dx.doi.org/10.1037/0735-7028.24.3.340

Roth, G. (1993a). *Breaking free from compulsive eating*. New York, NY: Plume.

Roth, G. (1993b). *Feeding the hungry heart: The experience of compulsive eating*. New York, NY: Plume.

Sacker, I. M., & Zimmer, M. A. (1987). *Dying to be thin: Understanding and defeating anorexia nervosa and bulimia—A practical, lifesaving guide*. New York, NY: Warner.

Scogin, F., Bynum, J., Stephens, G., & Calhoon, S. (1990). Efficacy of self-administered treatment programs: Meta-analytic review. *Professional Psychology: Research and Practice*, *21*, 42–47. http://dx.doi.org/10.1037/0735-7028.21.1.42

Scogin, F., Welsh, D., Hanson, A., Stump, J., & Coates, A. (2005). Evidence-based psychotherapies for depression in older adults. *Clinical Psychology: Science and Practice*, *12*, 222–237. http://dx.doi.org/10.1093/clipsy.bpi033

Seligman, M. E. (1995). The effectiveness of psychotherapy: The Consumer Reports study. *American Psychologist*, *50*, 965–974. http://dx.doi.org/10.1037/0003-066X.50.12.965

Shah, A., Scogin, F., & Floyd, M. (2012). Evidence-based psychological treatments for geriatric depression. In F. Scogin & A. Shah (Eds.), *Making evidence-based psychological treatments work with older adults* (pp. 87–130). http://dx.doi.org/10.1037/13753-004

Smyth, J., & Helm, R. (2003). Focused expressive writing as self-help for stress and trauma. *Journal of Clinical Psychology*, *59*, 227–235. http://dx.doi.org/10.1002/jclp.10144

Spek, V., Nyklícek, I., Smits, N., Cuijpers, P., Riper, H., Keyzer, J., & Pop, V. (2007). Internet-based cognitive behavioural therapy for subthreshold depression in people over 50 years old: A randomized controlled clinical trial. *Psychological Medicine*, *37*, 1797–1806. http://dx.doi.org/10.1017/S0033291707000542

Styron, W. (1992). *Darkness visible: A memoir of madness*. New York, NY: Vintage Books.

Swede, S., & Jaffe, S. S. (2000). *The panic attack recovery book: Step-by-step techniques to reduce anxiety and change your life—Natural, drug-free, fast results*. New York, NY: New American Library.

U.S. Department of Veterans Affairs & U.S. Department of Defense. (2009). *VA/DoD clinical practice guideline for management of major depressive disorder (MDD)*. Washington, DC: Author.

van Straten, A., & Cuijpers, P. (2009). Self-help therapy for insomnia: A meta-analysis. *Sleep Medicine Reviews*, *13*, 61–71. http://dx.doi.org/10.1016/j.smrv.2008.04.006

White, B. J., & Madara, E. J. (Eds.). (2002). *The self-help group sourcebook: Your guide to community and online support groups*. Dover, NJ: American Self-Help Group Clearinghouse.

Williams, M., Teasdale, J., Segal, Z., & Kabat-Zinn, J. (2007). *The mindful way through depression*. New York, NY: Guilford Press.

Yapko, M. D. (1994). *When living hurts: Directives for treating depression*. New York, NY: Brunner-Routledge.

CHAPTER 23

# POSITIVE PSYCHOLOGICAL INTERVENTIONS

*Acacia C. Parks and Kristin Layous*

Clinical interventions are often focused on psychopathology and problem solving; after all, most people seek psychotherapy because of problems they would rightly like to solve. Although possibly counterintuitive, the premise underlying positive psychological interventions (PPIs) is that one can change behavioral problems without directly addressing them. By promoting well-being, PPIs can soften the impact of negative events by providing individuals with tangible evidence of the good in their lives (Seligman, Rashid, & Parks, 2006). Originally designed to bolster the well-being of the general public, PPIs have now been successfully applied in clinical settings as adjuncts to other treatments for mental disorders (Parks, Kleiman, et al., 2015) and as a solitary approach (Seligman et al., 2006). Although largely rooted in the long-standing humanistic tradition, PPIs are more specific and have a strong base of research evidence for their efficacy and ease of implementation.

In this chapter, we provide an overview of PPIs—their core applications, central limitations, principal methods, research evidence, and landmark contributions. We conclude with PPIs' major accomplishments and likely future directions.

## DESCRIPTION AND DEFINITION

PPIs are defined as cognitive or behavioral activities that target increases in positive states (e.g., positive emotions, satisfaction with life) as opposed to decreases in negative states (e.g., depression, anxiety; Parks & Biswas-Diener, 2013; Sin & Lyubomirsky, 2009). PPIs are designed to foster happiness, indirectly reducing the severity of mental distress. Instead of simply telling people to "think positively" or "be happy," PPIs are concrete strategies that allow people to boost their happiness often by somewhat indirect means—by engaging in acts of kindness or reflecting on their strengths. In addition, *PPIs* is an umbrella term that describes activities that can be practiced within the context of therapy or outside of it (i.e., self-administered).

## PRINCIPLES AND APPLICATIONS

Using this definition, PPIs generally fall into seven categories: (a) savoring, (b) gratitude, (c) kindness, (d) empathy, (e) optimism, (f) strengths, and (g) meaning. *Savoring* refers to the intentional focus on a present moment with the goal of prolonging or amplifying that moment. Savoring interventions prompt people to purposely enjoy sensory experiences (e.g., taste or touch), to stay engaged in the present moment (i.e., remain undistracted by one's smartphone while interacting with a friend), or to replay or share a positive event in their lives (Bryant, Smart, & King, 2005; Langston, 1994).

Gratitude activities seek to cultivate feelings of gratitude toward sources outside of oneself (usually other people) for positive things in one's life. Some gratitude activities include the expression of gratitude to others through letters or visits (e.g., Seligman et al., 2005), and others focus entirely on the internal experience by recounting and possibly journaling life's blessings.

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Kindness activities consist of deliberately doing kind things for others, be it spending one's money or time. A person might spend a small amount of money buying a coffee for a stranger or donating to charity (e.g., Lyubomirsky, Sheldon, & Schkade, 2005), or they might give time by tutoring a friend or sibling or volunteering for a nonprofit.

Empathy activities seek to deepen relationships with others by cultivating a sense of understanding. They include strategies such as loving-kindness meditation (Fredrickson et al., 2008), forgiveness (McCullough, Root, & Cohen, 2006), and perspective-taking activities (Hodges, Clark, & Myers, 2011). In loving-kindness meditation, for example, individuals cultivate positive emotions toward themselves and others by practicing meditation techniques.

Optimism activities prompt people to cultivate positive future expectancies. In other words, people are asked to imagine their "best possible future self," assuming everything has gone as well as it possibly could (e.g., King, 2001) or to positively anticipate specific events in one's life (Quoidbach, Wood, & Hansenne, 2009).

Strengths-based activities ask people to focus on their strengths (rather than their deficiencies). For example, a strengths-based activity would prompt people to write about their strengths or purposely use them in a new way.

Last, meaning-oriented activities focus on understanding one's own values and goals and, in some cases, planning ways to live in line with one's values or actively pursue one's goals. This category can involve activities such as goal setting, reflecting on the meaning of one's work, or reflecting on one's life as a whole in a way that promotes integration and coherence.

PPIs vary widely in their format, duration, and modality of dissemination, but most consist of one or more activities from the above-described categories. PPIs are thought to operate via diverse mechanisms, many of which are still unknown. For instance, a PPI focused on gratitude might improve well-being via increases in felt gratitude, but it could also work by improving social relationships. Generally speaking, PPIs are thought to boost global well-being by increasing the frequency with which one experiences positive emotions, positive thoughts, positive behaviors, and psychological need satisfaction (Lyubomirsky & Layous, 2013).

Several models have been proposed to understand PPIs and their potential benefits. We provide an overview of these principles, suggesting that well-being—or happiness—can be increased and can possibly protect people against mental disorders.

## The Changeability of Happiness

The sustainable happiness model suggests that—despite genetic and situational influences—people's relative levels of happiness can be increased via volitional behaviors (Lyubomirsky, Sheldon, & Schkade, 2005). The model proposes that, although genetics and life circumstances (e.g., gender, income, marital status) influence people's happiness, a large proportion of happiness is due to intentional behavior—what people choose to do and how they interpret the events in their lives. Thus, although genetics and circumstances explain a large proportion of individual differences in happiness, intentional behavior (e.g., practicing gratitude or performing kind acts), practiced regularly and consistently, can still increase overall happiness. The changeability of happiness is an idea similar to the changeability of weight; a person may eat and exercise the same amount as another person but still have a different weight and body composition (i.e., based on genetic endowment). However, if normally sedentary people begin a rigorous exercise program, their weight will decrease and will likely stay decreased if they continue their exercise program. If they stop exercising, however, they are likely to return to their former weight. Likewise, the practice of happiness activities can lastingly increase well-being regardless of baseline happiness levels (Lyubomirsky, Sheldon, & Schkade, 2005).

In addition, Fredrickson's (2001) broaden-and-build model explains how even short-term improvements in positive emotion can lead to lasting changes in happiness. Positive emotions lead individuals to experience broadened attentional states (Fredrickson & Branigan, 2005), which result in more creativity, openness to new experiences, and a general desire to approach rather than avoid. According to the model, the types of behaviors

people engage in while experiencing positive emotions are likely to result in the building of lasting resources—relationships, knowledge, better health, and so on—that fuel long-term happiness (Tugade & Fredrickson, 2004). In the Research Evidence and Landmark Contributions section of this chapter, we review convincing empirical evidence that PPIs increase happiness and reduce depression, supporting these theories.

### Happiness as a Protective Factor Against Mental Disorders

In addition to alleviating symptoms of existing mental disorders, PPIs may protect against mental disorders by mitigating various factors that give rise to them (Layous, Chancellor, & Lyubomirsky, 2014). Specifically, researchers have identified multiple transdiagnostic risk factors for mental disorders, such as maladaptive patterns of thoughts and attentional focus (e.g., rumination, negative self-views, attentional focus on negative stimuli; Nolen-Hoeksema & Watkins, 2011), that PPIs could alleviate. For example, PPIs promote a positive view of one's self and one's surroundings. Focusing on one's strengths could counteract one's typically negative self-focus and purposely performing kind acts could promote a view of one's self as a good, benevolent person. Similarly, purposely attending to the positive aspects of one's life or one's surroundings via a gratitude activity could counteract one's detrimental focus on negative stimuli, and visualizing a positive future could neutralize worry about unknown events. Indeed, even simple distraction activities have been found to reduce ruminative tendencies, so an activity that not only distracts but also replaces negative repetitive thoughts with positive ones could be even more effective. In addition, activities that promote gratitude or kindness necessarily prompt people to focus positively on others rather than brooding about negative aspects of the self. This frame switch to the positive outer world rather than the negative inner world could allow for a much-needed mental timeout from negativity.

Once people have these positive intervention strategies in their tool belt, they might better weather acute stressors such as losing one's job or foreclosing on a mortgage. Instead of engaging in their typical maladaptive patterns of thoughts or behaviors, people might instead choose to focus on a potential upside of a career shift or a move to a different neighborhood, thus reducing the likelihood that they ruminate on their stressor and spiral downward into clinical symptoms. Furthermore, engaging in PPIs elevates one's well-being so adaptive responses to negative events come more easily. Thus, by addressing risk factors for mental disorders, PPIs might strengthen people's emotional and cognitive resources so they can resiliently face life's stressors.

In sum, PPIs mitigate risk factors directly (e.g., through distraction or other-focus) and also stimulate increases in positive emotions, thoughts, and behaviors that can counteract or replace negative emotions, thoughts, and behaviors (Lyubomirsky & Layous, 2013). Over time, these positive activities may become habitual and thus continually reinforce a relatively higher level of global well-being. Because well-being is associated with positive outcomes across multiple domains (Lyubomirsky, King, & Diener, 2005), sustained increases in well-being are likely to precipitate circumstances in people's work, relationships, and health that also reinforce their happiness. Thus, not only can PPIs protect against mental disorders by mitigating risk factors, they also promote sustained well-being, making people more resilient to otherwise detrimental life stressors.

## LIMITATIONS AND CONTRAINDICATIONS

Although PPIs show promise to improve people's daily lives and protect them from distress, one size does not fit all. That is, one type of PPI is unlikely to work for all happiness seekers and, as in treatment, it may take time for people to determine which activities work for their preferences and how often they should practice (Lyubomirsky & Layous, 2013).

Although on average PPIs seem effective, we caution readers from ever thinking of efficacy on average. The importance of person–activity fit has frequently been noted; individual differences in personality, motivation level, activity preference, beliefs about happiness, and baseline levels of well-being all play a role in how well an individual

responds to a PPI. Research has suggested that happiness seekers (i.e., people seeking on the Internet for information and activities to help them become happier) are not a homogeneous group. Rather, it appears that at least two distinctive subgroups exist in this population—individuals who are somewhat severely distressed and those who are already reasonably happy (Parks et al., 2012). Some evidence has suggested that people with lower levels of well-being at the start of a PPI can gain either more (Sin & Lyubomirsky, 2009) or less (Sergeant & Mongrain, 2011; Sin, Della Porta, & Lyubomirsky, 2011) from a PPI than people at average or relatively higher levels.

Furthermore, some evidence has suggested that deliberately pursuing happiness can be detrimental to well-being under some circumstances. For example, if people fail to increase their happiness, the resulting disappointment could undermine the end goal (Mauss et al., 2011). The universality of this effect, however, is currently under debate, with new evidence suggesting that people are only frustrated by the pursuit of happiness if they do not have the tools to effectively improve their own mood (Parks, Titova, & Ferguson, 2015).

Although people around the globe report wanting happiness for themselves and their children (Diener & Lucas, 2004), evidence has suggested that different cultures have different conceptions of what it means to be happy. For example, people in Western cultures tend to consider their personal achievement and goal pursuit when evaluating their happiness (Uchida, Norasakkunkit, & Kitayama, 2004), whereas people from Eastern cultures tend to value harmony in their social relationships above their individual needs or personal happiness (Uchida et al., 2004). The Western focus on intrapersonal factors and the Eastern focus on interpersonal factors likely affects what type of positive interventions could be most efficacious in certain cultures.

Unfortunately, the majority of studies of positive interventions have thus far been conducted in Western, individualistic societies and may not generalize to other cultures. Indeed, the few studies that have included cross-cultural comparisons have suggested that people in non-Western cultures may experience positive interventions differently than people in Western cultures (e.g., Layous et al., 2013). For example, although Anglo Americans increased in well-being equally from writing a gratitude letter or writing about their best possible future selves, foreign-born Asians currently living in the United States benefited relatively more from the gratitude letter activity than from the best possible selves activity (Boehm et al., 2011). In addition, foreign-born Asians did not benefit as much from the positive interventions overall as did the Anglo American sample.

Perhaps, too, actively pursuing happiness is counterintuitive to people from Eastern cultures because they do not place a high premium on such activity. Indeed, people from China reported valuing low-arousal positive emotions (e.g., contentment) more and high-arousal positive emotions (e.g., joy) less than people from the United States (Tsai, Knutson, & Fung, 2006), indicating that actively pursuing hedonic well-being may not be consistent with Chinese people's values. Although only conducted in one culture, two studies (Chancellor, Layous, & Lyubomirsky, 2015; Otake et al., 2006) indicated that Japanese people show benefits in well-being from simply recounting the good things they have done, rather than actively engaging in activities to increase their happiness. Specifically, people who recalled the acts of kindness they had performed over the course of a week (Otake et al., 2006) and people who recounted three things that went well at work during the week for 6 weeks (Chancellor et al., 2015) reported higher happiness than people in the control conditions. These results suggest that more subtle positive interventions that do not require an active pursuit of happiness might be better suited to people in Eastern cultures who do not value the pursuit of happiness as much as do people in Western cultures (Suh & Koo, 2008).

## PRINCIPAL METHODS AND INTERVENTIONS

PPIs can be disseminated via a variety of modalities—within traditional psychotherapy or to the general public via books, websites, and smartphone apps. Major implementation efforts such as Live Happy (Parks et al., 2012) and Happify (Parks, 2015) on

smartphones represent the cutting edge for dissemination of PPIs. Indeed, one of the appeals of PPIs to treat mental health is their scalability and straightforward nature. Below, we provide an overview of the key interventions used to improve happiness (for more details, see Parks & Schueller, 2014).

Although think gratefully, do something nice for others, and savor the moment may seem self-explanatory, psychologists have developed specific prompts that engage happiness seekers and effectively increase well-being. For example, instead of telling people to think gratefully, researchers may ask participants to

> take a moment to think back over the past several years of your life and remember an instance when someone did something for you for which you are extremely grateful. For example, think of the people—parents, relatives, friends, teachers, coaches, teammates, employers, and so on—who have been especially kind to you but have never heard you express your gratitude.

Then people are asked to write a letter to this person expressing their thanks (usually for about 10 minutes, but they can write for as long as they want). Just writing the letter effectively increases well-being (e.g., Lyubomirsky et al., 2011), as does delivering it (Seligman et al., 2005).

In another method, researchers attempt to cultivate optimism about the future by asking people to visualize and write about their best possible future self (e.g., King, 2001). If people will be doing this activity for multiple weeks, the prompt could focus on the visualization of a different domain in each week. For example, adults may want to focus on their best possible family life 1 week with the following instructions:

> Please take a moment to think about your best possible family life in the future (say in the next 10 years). Imagine that everything has gone as well as it possibly could. Perhaps you have a supportive partner or strong relationships with your children. Furthermore, perhaps you now live close to your parent(s), friends, or sibling(s) and are able to spend a lot of time with them. Think of this as the realization of the best possible family life you could ever hope for yourself.

Other domains could include health, career, or romantic and social life. In youths and adolescents, the method could focus on academics or extracurricular activities.

Not all of the PPIs include writing and, indeed, the abovementioned activities could be done without writing if that suited a person better. PPIs focused on savoring typically do not ask people to write but rather to have a certain state of mind. For example, people could be asked to enjoy the moment and be aware of all of the good things happening around them. Often people go about their days glued to their smartphone or other technologies and might not even notice that the sun is shining or a stranger smiled at them as they walked down the street. Savoring can also involve remembering and replaying positive events in one's life. For example, one savoring method asked participants to list positive memories from their lives and

> choose one to reflect upon. Then sit down, take a deep breath, relax, close your eyes, and begin to think about the memory. Allow images related to the memory to come to mind. Try to picture the events associated with this memory in your mind. Use your mind to imagine the memory. Let your mind wander freely through the details of the memory, while you are imagining the memory. (Bryant et al., 2005, p. 242)

Another popular PPI—performing acts of kindness—is even less reflective and more behavioral. People receive the following instructions:

> In our daily lives, we all perform acts of kindness for others. These acts may be large or small and the person for whom the act is performed may or may not be aware of the act. Examples include helping your parents cook dinner, doing a chore for your sister or brother, helping a

> friend with homework, visiting an elderly relative, or writing a thank you letter. During one day this week (any day you choose), you are to perform five acts of kindness—all in one day. The acts do not need to be for the same person, the person may or may not be aware of the act, and the act may or may not be similar to the acts listed above. (Lyubomirsky, 2008, p. 127)

If writing about a best possible future or writing a letter of gratitude to someone important seems daunting to people (e.g., if they are extremely depressed), they could also start smaller by reflecting on good things that happened in their day. If they can answer the question "What went well today?" they may be on their way to an increased recognition and appreciation of the positive events in their lives.

Other work has combined PPIs together into packaged interventions, offering free access to several activities at once. For example, a smartphone app contains eight activities (savoring, remembering happy days, acts of kindness, strengthening social relationships, goal evaluation and tracking, gratitude journal, expressing gratitude, and thinking optimistically) and lets users decide which activities to use and how often (Parks et al., 2012).

Other PPIs use a more controlled approach, offering a series of activities one at a time in a fixed sequence. Group positive psychotherapy (PPT; Parks & Seligman, 2007), for example, asks clients to attend weekly group sessions. At each group session, participants hear about the scientific rationale for an activity, plan how they will use the activity during the following week, and track their participation on a worksheet. At the next session, they discuss their experience with the prior week's activity, troubleshoot any problems they might encounter, and turn in their worksheet before proceeding to discuss the activity for the next week. The activities include savoring (both individually and socially), gratitude (both a private nightly journal and a letter delivered to someone), optimism (a best possible selves activity), and using one's character strengths in new ways.

Individual PPT is similar in that it involves a number of different activities but distinctive in that activities may or may not be delivered in a fixed sequence. In PPT for smoking, for example, the therapist works through a fixed sequence of activities in order, one activity per week, much as in group PPT. However, in individual PPT for depression, the therapist draws from a pool of happiness activities at his or her own discretion (Seligman et al., 2006).

## RESEARCH EVIDENCE AND LANDMARK CONTRIBUTIONS

Perhaps the biggest contribution from the PPI literature to date is research evidence supporting the assertion that people can increase their happiness via simple and intentional activities (Lyubomirsky, Sheldon, & Schkade, 2005). A randomized controlled PPI embedded in a twin design (Haworth et al., 2015) has demonstrated that genetics do not prevent relative increases in happiness. Specifically, it showed that although the influence of genetics on well-being remained consistent throughout the study (48%), average levels of happiness increased over time as a result of the PPI. Analyses revealed that changes in well-being were due to new environmental influences rather than genetics. Therefore, although genetics explained a large proportion of individual differences in happiness before and after the intervention, they did not preclude people from benefiting from intervention.

A substantial body of randomized controlled trials of PPIs has accumulated, and meta-analyses have revealed consistent small to medium effects of PPIs on happiness and depression that hold up to 6 months later (Bolier et al., 2013; Sin & Lyubomirsky, 2009). An often-cited meta-analysis of 51 positive interventions revealed that positive interventions significantly increase well-being (mean $d = 0.61$) and alleviate depressive symptoms (mean $d = 0.65$; Sin & Lyubomirsky, 2009) compared with no treatment. To put this effect size into perspective, extensive meta-analyses of the psychotherapy research (Wampold & Imel, 2015) found a slightly higher average effect size ($d$s = 0.75–0.80) for psychotherapy versus no treatment. Although

most studies do not include follow-ups longer than 6 months, a recent study showed sustained effects of PPIs on happiness and depression 3.5 years later (Proyer et al., 2015).

With the knowledge that happiness can be meaningfully increased also came the call to include happiness-increasing strategies—in addition to symptom-reducing strategies—as an explicit goal of psychotherapy (Duckworth, Steen, & Seligman, 2005). The recent evidence supporting the efficacy of positive interventions has suggested that psychologists should also seek to promote thriving, possibly as an adjunct to existing therapies or as an independent approach. Experienced clinicians have long been incorporating these types of strategies in their practice, such as instilling hope, practicing interpersonal skills, or encouraging authenticity because of intuition alone, but they often were not taught these strategies in their clinical training (Duckworth et al., 2005). However, the tide is changing as increasing numbers of psychology training programs include positive psychological strategies in addition to the strategies from traditional therapeutic approaches (e.g., cognitive–behavioral therapy).

Although work examining the efficacy of PPIs for clinical populations is still preliminary, initial findings have been promising. One of the earliest articles to apply a PPI in a clinical sample piloted two different positive psychology–based interventions in depressed populations (Seligman et al., 2006). In the first study, a sample of mild to moderately depressed young adults took part in 6 weeks of group PPT (Parks & Seligman, 2007). Compared with the no-intervention control condition, the participants in the PPT group reported significantly fewer depressive symptoms and increased life satisfaction. These changes maintained through a 6-month follow-up.

In the second study, participants were college students visiting the counseling center who met criteria for major depressive disorder. If they agreed to the study, they were randomly assigned to an individual PPT or a treatment-as-usual condition, which was the standard eclectic psychotherapy offered by the counseling center, for 10 to 12 weeks. The study also had a matched antidepressant medication control group. In this intervention, rather than offering PPIs in a fixed sequence, the therapist worked from a list of 12 possible activities that were treated more like a quiver of arrows—a set of tools to be used by the therapist as appropriate to the situation, in no particular prescribed order. Compared with the treatment-as-usual condition, participants in the PPT condition showed significantly fewer depressive symptoms at immediate posttest. Interestingly, the PPT group did not differ significantly on depressive symptoms from the antidepressant medication group, suggesting that the performance of the two groups may have been comparable. Perhaps most interesting of all, the PPT group showed a (not quite statistically significant) advantage over the treatment-as-usual group in terms of adherence; participants in the treatment-as-usual group dropped out of treatment at a higher rate than did participants in the PPT group.

Another development in the past few years has been the adaptation and dissemination of PPIs to new clinical populations. For example, a series of daily PPIs conducted with a sample of suicidal inpatients improved optimism and hopelessness (Huffman et al., 2014), and a group-administered PPI with a sample of outpatients with schizophrenia increased well-being and mildly improved psychotic symptoms (Meyer et al., 2012). Similarly, a randomized controlled online PPI, which followed exactly the same instructions and progression of activities as the 6-week group intervention described in the Methods and Interventions section improved emotional and pain symptoms among people with chronic pain who completed activities compared with a measures-only control group (Hausmann et al., 2014). PPIs continue to be developed and tailored to specific audiences, such as people who want to quit smoking (Kahler et al., 2014) or people with anxiety (Taylor, Cissell, & Lyubomirsky, 2014).

PPIs are now also being used with children. As in adults, well-being in adolescents is related to fewer depressive symptoms (Valois et al., 2004), lower incidence of suicidal ideation (Valois et al., 2004), and less substance abuse (Zullig et al., 2001). A longitudinal study of middle and high school students revealed that greater life satisfaction promoted better coping with stressful situations and lower likelihood of externalizing behaviors, thus suggesting that life satisfaction was a protective factor (Suldo &

Huebner, 2004). Accordingly, exposing youths to positive interventions, and therefore instilling habits that reinforce well-being, can protect against psychopathology as well as other detrimental behaviors (e.g., substance abuse, violence). Fortunately, recent research has suggested that children as young as age 8 years can show benefits in well-being and in social relationships from positive interventions such as expressing gratitude (Froh et al., 2014) and performing kind acts (Layous et al., 2012).

## KEY ACCOMPLISHMENTS

Since its inception, positive psychology has successfully accomplished the following:

1. Taking numerous activities that target happiness and unifying them under a single umbrella of PPIs;
2. Testing packaged interventions in individual, group, and online settings using randomized controlled trials;
3. Demonstrating that PPIs can demonstrably increase happiness and well-being while also decreasing pathological symptoms;
4. Conducting a sufficient body of research on the efficacy of PPIs to warrant two meta-analyses;
5. Adapting PPIs for use in multiple clinical populations, such as people with chronic pain, severe depression, and schizophrenia and people who smoke;
6. Implementing PPIs in ways that make them accessible to the general public using websites and apps;
7. Creating an organization, the International Positive Psychology Association, which provides a biannual convention at which practitioners and scientists can meet and exchange information, whose recent report indicated that more than 50 countries were represented in its membership and conference attendance—allowing the science of happiness a very broad reach, indeed (at least 20 other regionally based positive psychology organizations exist as well);
8. Starting a number of specialized journals, including the *Journal of Positive Psychology,* the *Journal of Happiness Studies*, *Applied Psychology: Health and Well-Being,* and the fully online, open-access *International Journal of Well-Being;* and
9. Producing more than 18,000 publications identified by one analysis as originating from the positive psychology movement (Rusk & Waters, 2013) that have in a short time reached a frequency that is comparable to that of other disciplines (Rusk & Waters, 2013).

## FUTURE DIRECTIONS

Much research remains to be conducted to test the scalability and potential community-level benefits of large-scale PPI efforts. Many scholars have advocated for the widespread implementation of PPIs, but no studies to date have tested the feasibility of this type of dissemination nor the potential for success with a putatively diffuse dosage of a PPI to people of various levels of motivation to increase their happiness. In addition, researchers in the future will probably keep exploring the types of people who benefit from PPIs. For example, some evidence has suggested that the ideal PPI for any given individual will vary as a function of the individual's culture and clinical symptoms.

Future work will also focus on translating the PPIs tested in research into practical application. Although positive psychotherapy has a treatment manual to guide implementation of an immersive approach (Parks & Seligman, 2007), less is known about how to successfully incorporate individual PPIs into treatment as usual and whether this type of coupling would be beneficial for some patients. In contrast, some researchers have suggested that these types of strategies have long been used as part of a battery of clinical strategies but have just not been documented in a systematic way or have not been connected with the positive psychology literature (e.g., Duckworth et al., 2005). For example, behavioral activation helps people focus on approaching positive experiences in their lives rather than avoiding negative ones and is as effective as pharmacotherapy and cognitive therapy in treating severe depression (Dimidjian et al., 2006). Although behavioral activation sounds like a positive intervention, it is rarely mentioned in the positive psychological literature. Thus, one future direction is not

only to implement positive interventions in clinical practice but also to recognize and document in what capacities these strategies are already being used.

Boosting well-being is only the first step in how PPIs may benefit people. We foresee increased well-being having positive downstream consequences on people's relationships, health, work, and resilience. For example, research in the health context is starting to demonstrate that PPIs can help people cope with a chronic illness (Moskowitz et al., 2012) and institute healthy behaviors after a heart-related procedure (e.g., angioplasty; Peterson et al., 2012), but more work needs to be conducted to explore how PPIs can complement and enhance medical treatments. Similarly, randomized controlled trials are needed to explore whether PPIs—especially those conducted with youths—could reduce the likelihood of later mental disorders by mitigating risk factors and improving resiliency.

Finally, although the name *positive psychology* seems to set apart the techniques described in this chapter from psychology as usual, we believe another future direction is for positive psychology to be considered as one of many tools that clinicians and laypeople alike can use to improve mental health. To that end, we think psychologists—those who consider themselves positive and those who do not—will continue to explore areas of overlap and integration in clinical techniques and consider the myriad ways they can help people live their best possible lives.

## References


Boehm, J. K., Lyubomirsky, S., & Sheldon, K. M. (2011). A longitudinal experimental study comparing the effectiveness of happiness-enhancing strategies in Anglo Americans and Asian Americans. *Cognition and Emotion*, *25*, 1263–1272. http://dx.doi.org/10.1080/02699931.2010.541227

Bolier, L., Haverman, M., Westerhof, G. J., Riper, H., Smit, F., & Bohlmeijer, E. (2013). Positive psychology interventions: A meta-analysis of randomized controlled studies. *BMC Public Health*, *13*, 119–139. http://dx.doi.org/10.1186/1471-2458-13-119

Bryant, F. B., Smart, C. M., & King, S. P. (2005). Using the past to enhance the present: Boosting happiness through positive reminiscence. *Journal of Happiness Studies*, *6*, 227–260. http://dx.doi.org/10.1007/s10902-005-3889-4

Chancellor, J., Layous, K., & Lyubomirsky, S. (2015). Recalling positive events at work makes employees feel happier, move more, and talk less: A 6-week randomized controlled intervention at a Japanese workplace. *Journal of Happiness Studies*, *16*, 871–887.

Diener, M. L., & Lucas, R. E. (2004). Adults' desires for children's emotions across 48 countries: Associations with individual and national characteristics. *Journal of Cross-Cultural Psychology*, *35*, 525–547. http://dx.doi.org/10.1177/0022022104268387

Dimidjian, S., Hollon, S. D., Dobson, K. S., Schmaling, K. B., Kohlenberg, R. J., Addis, M. E., . . . Jacobson, N. S. (2006). Randomized trial of behavioral activation, cognitive therapy, and antidepressant medication in the acute treatment of adults with major depression. *Journal of Consulting and Clinical Psychology*, *74*, 658–670. http://dx.doi.org/10.1037/0022-006X.74.4.658

Duckworth, A. L., Steen, T. A., & Seligman, M. E. (2005). Positive psychology in clinical practice. *Annual Review of Clinical Psychology*, *1*, 629–651. http://dx.doi.org/10.1146/annurev.clinpsy.1.102803.144154

Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American Psychologist*, *56*, 218–226.

Fredrickson, B. L., & Branigan, C. (2005). Positive emotions broaden the scope of attention and thought-action repertoires. *Cognition and Emotion*, *19*, 313–332. http://dx.doi.org/10.1080/02699930441000238

Fredrickson, B. L., Cohn, M. A., Coffey, K. A., Pek, J., & Finkel, S. M. (2008). Open hearts build lives: Positive emotions, induced through loving-kindness meditation, build consequential personal resources. *Journal of Personality and Social Psychology*, *95*, 1045–1062. http://dx.doi.org/10.1037/a0013262

Froh, J. J., Bono, G., Fan, J., Emmons, R. A., Henderson, K., Harris, C., & Wood, A. M. (2014). Nice thinking! An educational intervention that teaches children to think gratefully. *School Psychology Review*, *43*, 132–152.

Hausmann, L. R. M., Parks, A., Youk, A. O., & Kwoh, C. K. (2014). Reduction of bodily pain in response to an online positive activities intervention. *Journal of Pain*, *15*, 560–567. http://dx.doi.org/10.1016/j.jpain.2014.02.004

Haworth, C., Nelson, S. K., Layous, K., Carter, K., Jacobs Bao, K., Lyubomirsky, S., & Plomin, R. (2015). *Heritability is no barrier to improving well-being*. Manuscript submitted for publication.

Hodges, S. D., Clark, B., & Myers, M. W. (2011). Better living through perspective taking. In R. Biswas-Diener (Ed.), *Positive psychology as a mechanism for social change* (pp. 193–218). Dordrecht, the Netherlands: Springer.

Huffman, J. C., DuBois, C. M., Healy, B. C., Boehm, J. K., Kashdan, T. B., Celano, C. M., . . . Lyubomirsky, S. (2014). Feasibility and utility of positive psychology exercises for suicidal inpatients. *General Hospital Psychiatry*, *36*, 88–94. http://dx.doi.org/10.1016/j.genhosppsych.2013.10.006

Kahler, C. W., Spillane, N. S., Day, A., Clerkin, E., Parks, A., Leventhal, A. M., & Brown, R. A. (2014). Positive psychotherapy for smoking cessation: Treatment development, feasibility and preliminary results. *Journal of Positive Psychology*, *9*, 19–29. http://dx.doi.org/10.1080/17439760.2013.826716

King, L. A. (2001). The health benefits of writing about life goals. *Personality and Social Psychology Bulletin*, *27*, 798–807. http://dx.doi.org/10.1177/0146167201277003

Langston, C. A. (1994). Capitalizing on and coping with daily-life events: Expressive responses to positive events. *Journal of Personality and Social Psychology*, *67*, 1112–1125. http://dx.doi.org/10.1037/0022-3514.67.6.1112

Layous, K., Chancellor, J., & Lyubomirsky, S. (2014). Positive activities as protective factors against mental health conditions. *Journal of Abnormal Psychology*, *123*, 3–12. http://dx.doi.org/10.1037/a0034709

Layous, K., Lee, H. C., Choi, I., & Lyubomirsky, S. (2013). Culture matters when designing a successful positive activity: A comparison of the United States and South Korea. *Journal of Cross-Cultural Psychology*, *44*, 1294–1303. http://dx.doi.org/10.1177/0022022113487591

Layous, K., Nelson, S. K., Oberle, E., Schonert-Reichl, K. A., & Lyubomirsky, S. (2012). Kindness counts: Prompting prosocial behavior in preadolescents boosts peer acceptance and well-being. *PLoS ONE*, *7*, e51380. http://dx.doi.org/10.1371/journal.pone.0051380

Lyubomirsky, S. (2008). *The how of happiness: A scientific approach to getting the life you want*. New York, NY: Penguin.

Lyubomirsky, S., Dickerhoof, R., Boehm, J. K., & Sheldon, K. M. (2011). Becoming happier takes both a will and a proper way: An experimental longitudinal intervention to boost well-being. *Emotion*, *11*, 391–402. http://dx.doi.org/10.1037/a0022575

Lyubomirsky, S., King, L., & Diener, E. (2005). The benefits of frequent positive affect: Does happiness lead to success? *Psychological Bulletin*, *131*, 803–855.

Lyubomirsky, S., & Layous, K. (2013). How do simple positive activities increase well-being? *Current Directions in Psychological Science*, *22*, 57–62. http://dx.doi.org/10.1177/0963721412469809

Lyubomirsky, S., Sheldon, K. M., & Schkade, D. (2005). Pursuing happiness: The architecture of sustainable change. *Review of General Psychology*, *9*, 111–131.

Mauss, I. B., Tamir, M., Anderson, C. L., & Savino, N. S. (2011). Can seeking happiness make people unhappy? Paradoxical effects of valuing happiness. *Emotion*, *11*, 807–815. http://dx.doi.org/10.1037/a0022010

McCullough, M. E., Root, L. M., & Cohen, A. D. (2006). Writing about the benefits of an interpersonal transgression facilitates forgiveness. *Journal of Consulting and Clinical Psychology*, *74*, 887–897. http://dx.doi.org/10.1037/0022-006X.74.5.887

Meyer, P. S., Johnson, D. P., Parks, A., Iwanski, C., & Penn, D. L. (2012). Positive living: A pilot study of group positive psychotherapy for people with severe mental illness. *Journal of Positive Psychology*, *7*, 239–248. http://dx.doi.org/10.1080/17439760.2012.677467

Moskowitz, J. T., Hult, J. R., Duncan, L. G., Cohn, M. A., Maurer, S., Bussolari, C., & Acree, M. (2012). A positive affect intervention for people experiencing health-related stress: Development and non-randomized pilot test. *Journal of Health Psychology*, *17*, 676–692. http://dx.doi.org/10.1177/1359105311425275

Nolen-Hoeksema, S., & Watkins, E. R. (2011). A heuristic for developing transdiagnostic models of psychopathology: Explaining multifinality and divergent trajectories. *Perspectives on Psychological Science*, *6*, 589–609. http://dx.doi.org/10.1177/1745691611419672

Otake, K., Shimai, S., Tanaka-Matsumi, J., Otsui, K., & Fredrickson, B. L. (2006). Happy people become happier through kindness: A counting kindness intervention. *Journal of Happiness Studies*, *7*, 361–375. http://dx.doi.org/10.1007/s10902-005-3650-z

Parks, A. C. (2015). Putting positive psychology into practice via self-help. In S. Joseph (Ed.), *Positive psychology in practice: Promoting human flourishing in work, health, education, and everyday life* (2nd ed., pp. 237–248). Hoboken, NJ: Wiley.

Parks, A. C., & Biswas-Diener, R. (2013). Positive interventions: Past, present and future. In T. Kashdan & J. Ciarrochi (Eds.), *Mindfulness, acceptance, and positive psychology: The seven foundations of well-being* (pp. 140–165). Oakland, CA: Context Press.

Parks, A. C., Della Porta, M. D., Pierce, R. S., Zilca, R., & Lyubomirsky, S. (2012). Pursuing happiness in everyday life: The characteristics and behaviors of online happiness seekers. *Emotion*, *12*, 1222–1234. http://dx.doi.org/10.1037/a0028587

Parks, A. C., Kleiman, E. M., Kashdan, T. B., Hausmann, L. R. M., Meyer, P., Day, A. M., . . . Kahler, C. W. (2015). Positive psychotherapeutic and behavioral interventions. In D. V. Jeste & B. W. Palmer (Eds.), *Positive psychiatry: A clinical handbook*

(pp. 147–166). Arlington, VA: American Psychiatric Publishing.

Parks, A. C., & Schueller, S. M. (Eds.). (2014). *The Wiley–Blackwell handbook of positive psychological interventions*. http://dx.doi.org/10.1002/9781118315927

Parks, A. C., & Seligman, M. E. P. (2007). *Eight-week group positive psychotherapy (PPT) manual*. Unpublished manual. (Available from Acacia C. Parks on request)

Parks, A. C., Titova, L., & Ferguson, Y. L. (2015). *Is valuing happiness a hindrance or an asset? Boundary conditions to the paradoxical effect of valuing happiness on the pursuit of well-being*. Manuscript in preparation.

Peterson, J. C., Charlson, M. E., Hoffman, Z., Wells, M. T., Wong, S. C., Hollenberg, J. P., . . . Allegrante, J. P. (2012). A randomized controlled trial of positive-affect induction to promote physical activity after percutaneous coronary intervention. *Archives of Internal Medicine*, *172*, 329–336. http://dx.doi.org/10.1001/archinternmed.2011.1311

Proyer, R. T., Wellenzohn, S., Gander, F., & Ruch, W. (2015). Toward a better understanding of what makes positive psychology interventions work: Predicting happiness and depression from the Person Intervention fit in a follow-up after 3.5 years. *Applied Psychology: Health and Well-Being*, *7*, 108–128. http://dx.doi.org/10.1111/aphw.12039

Quoidbach, J., Wood, A., & Hansenne, M. (2009). Back to the future: The effect of daily practice of mental time travel into the future on happiness and anxiety. *Journal of Positive Psychology*, *4*, 349–355. http://dx.doi.org/10.1080/17439760902992365

Rusk, R. D., & Waters, L. E. (2013). Tracing the size, reach, impact, and breadth of positive psychology. *Journal of Positive Psychology*, *8*, 207–221. http://dx.doi.org/10.1080/17439760.2013.777766

Seligman, M. E. P., Rashid, T., & Parks, A. C. (2006). Positive psychotherapy. *American Psychologist*, *61*, 774–788. http://dx.doi.org/10.1037/0003-066X.61.8.774

Seligman, M. E. P., Steen, T. A., Park, N., & Peterson, C. (2005). Positive psychology progress: Empirical validation of interventions. *American Psychologist*, *60*, 410–421. http://dx.doi.org/10.1037/0003-066X.60.5.410

Sergeant, S., & Mongrain, M. (2011). Are positive psychology exercises helpful for people with depressive personality styles? *Journal of Positive Psychology*, *6*, 260–272. http://dx.doi.org/10.1080/17439760.2011.577089

Sin, N. L., Della Porta, M. D., & Lyubomirsky, S. (2011). Tailoring positive psychology interventions to treat depressed individuals. In S. I. Donaldson, M. Csikszentmihalyi, & J. Nakamura (Eds.), *Applied positive psychology: Improving everyday life, health, schools, work, and society* (pp. 79–96). New York, NY: Routledge.

Sin, N. L., & Lyubomirsky, S. (2009). Enhancing well-being and alleviating depressive symptoms with positive psychology interventions: A practice-friendly meta-analysis. *Journal of Clinical Psychology*, *65*, 467–487. http://dx.doi.org/10.1002/jclp.20593

Suh, E. M., & Koo, J. (2008). Comparing subjective well-being across cultures and nations: The "what" and "why" questions. In M. Eid & R. J. Larsen (Eds.), *The science of subjective well-being* (pp. 414–427). New York, NY: Guilford Press.

Suldo, S. M., & Huebner, E. S. (2004). Does life satisfaction moderate the effects of stressful life events on psychopathological behavior during adolescence? *School Psychology Quarterly*, *19*, 93–105. http://dx.doi.org/10.1521/scpq.19.2.93.33313

Taylor, C. T., Cissell, S., & Lyubomirsky, S. (2014). *Positive valence system enhancement treatment for anxiety and depression*. Unpublished treatment manual.

Tsai, J. L., Knutson, B., & Fung, H. H. (2006). Cultural variation in affect valuation. *Journal of Personality and Social Psychology*, *90*, 288–307. http://dx.doi.org/10.1037/0022-3514.90.2.288

Tugade, M. M., & Fredrickson, B. L. (2004). Resilient individuals use positive emotions to bounce back from negative emotional experiences. *Journal of Personality and Social Psychology*, *86*, 320–333. http://dx.doi.org/10.1037/0022-3514.86.2.320

Uchida, Y., Norasakkunkit, V., & Kitayama, S. (2004). Cultural constructions of happiness: Theory and empirical evidence. *Journal of Happiness Studies*, *5*, 223–239. http://dx.doi.org/10.1007/s10902-004-8785-9

Valois, R. F., Zullig, K. J., Huebner, E. S., & Drane, J. W. (2004). Life satisfaction and suicide among high school adolescents. *Social Indicators Research*, *66*, 81–105. http://dx.doi.org/10.1023/B:SOCI.0000007499.19430.2f

Wampold, B. E., & Imel, Z. E. (2015). *The great psychotherapy debate: Research evidence for what works in psychotherapy* (2nd ed.). New York, NY: Routledge.

Zullig, K. J., Valois, R. F., Huebner, E. S., Oeltmann, J. E., & Drane, J. W. (2001). Relationship between perceived life satisfaction and adolescents' substance abuse. *Journal of Adolescent Health*, *29*, 279–288. http://dx.doi.org/10.1016/S1054-139X(01)00269-5

CHAPTER 24

# TELEPSYCHOLOGY AND eHEALTH

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Information and communication technologies have developed rapidly and entered people's private and social lives at a level one could not have imagined two decades ago. Currently one out of three people globally has access to Internet, with rates of more than two of three people in North America and Europe (Internet World Stats, 2015). The penetration rate for mobile phones worldwide in 2015 is even higher (around 93%), and more than half of people in the United States and European Union use a smartphone (eMarketeer, 2014). This digital revolution has also had a profound impact on the way psychological treatments are delivered, evaluated, and reimbursed.

Indeed, eHealth is perceived by many as one of the most promising strategies to overcome the many challenges health care is facing (Emmelkamp et al., 2014). This vision is represented in national and international eHealth policy recommendations such as in Australia, the Netherlands, and the United States and in clinical treatment guidelines, such as those of the U.K. National Institute for Health and Clinical Excellence (2006). The aim of these guidelines is to support the successful translation of eHealth into routine care practice. The American Psychological Association (APA; 2013) refers to this domain as *telepsychology,* which it defines within the context of its guidelines "as the provision of psychological services using telecommunications technologies" (para. 1).

In this chapter, we describe and illustrate eHealth as applied to the prevention and treatment of mental disorders. We therefore use the concept of eMental health. Other eHealth aspects of mental health care delivery, such as electronic patient records, are addressed elsewhere in this handbook. We also summarize the research base for and conclusions regarding eMental health and its limitations and contraindications and conclude with directions for the near future.

## DESCRIPTION AND DEFINITION

Multiple terms have been introduced to denote information and communication technologies in health care delivery, with the generic eHealth being the most widely used. eHealth may thus encompass sequentially or simultaneously various modes of intervention such as the Internet and PCs or laptops, smartphones, and virtual reality applications, for example, via Oculus Rift or secured videoconferencing among health professionals or between professionals and patients.

eMental health entails the development, delivery, and study of interventions to individuals with mental disorders and behavioral health problems by means of digital media, especially the Internet (Riper et al., 2010). We refer to the delivery of these interventions as *Internet interventions* (Andersson, 2009). Internet interventions encompass the continuum of mental care, ranging from screening and prevention to treatment, relapse prevention, and support in daily functioning.

Internet interventions have thus far mainly been applied to the treatment of common mental disorders such as unipolar depression, anxiety disorders,

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insomnia, or substance use disorders by means of cognitive–behavioral therapy (CBT; Schmidt & Wykes, 2012). The use of Internet interventions for complex disorders such as bipolar disorder (Hollandare et al., 2015) or comorbid disorders such as diabetes and depression (van Bastelaar et al., 2011) is of a more recent nature. CBT was among the first treatments to be offered online because its cost effectiveness in face-to-face treatments has been established for a broad range of mental disorders (Cuijpers et al., 2013). Its structured therapeutic format is suitable for delivery in a web-based format. Throughout this chapter, we use the generic abbreviation *iCBT* (Internet-based CBT) for CBT interventions delivered digitally. These interventions may include CD-ROM, mobile applications, and videoconferencing.

## PRINCIPLES AND APPLICATIONS

The underlying principle of Internet interventions is that psychological therapies and consultations can be provided partly or completely from a distance either with therapeutic support (guided self-help) or fully automated (unguided self-help). Like face-to-face therapies, quality therapeutic alliances between patients and therapists can be established in guided Internet treatments (Preschl, Maercker, & Wagner, 2011). This also holds for privacy protection and data security if legal information and communication technology exchange of data requirements are implemented (Rozental et al., 2014).

eMental health aims to (a) improve access for underserved and difficult-to-reach populations such as youths, elderly individuals, and immigrants and to facilitate convenient access to known populations such as adults with depression; (b) provide cost-effective and evidence-based treatments; (c) enhance satisfaction of and convenience for patients; and (d) improve patients' self-management skills.

Internet therapies, especially guided CBT self-help interventions for depressive disorders, work on the same therapeutic principles as their face-to-face counterparts (Brown & Lewinsohn, 1984). Thus far, stand-alone Internet interventions have mainly been delivered to self-identified volunteers at risk in the general population. Most participants referred themselves to these interventions after being informed about their existence by newspaper advertisements, leaflets, other communication channels, and occasionally through referral by a mental health professional. Integration of Internet interventions into routine primary or specialized mental health care practices is indeed not well implemented (see the Limitations and Contraindications section).

One of the first models to integrate Internet interventions into routine care was based on a stepped-care approach. Internet interventions are perceived as an adequate first step (after watchful waiting) for depression and anxiety, to subsequently be followed by a more intense face-to-face treatment if needed (Bower et al., 2013). Another application of Internet interventions is their integration in protocol-based face-to-face CBT. This integrated format is defined as "blended" treatment delivery. It aims to improve clinical effectiveness and convenience for patients and therapists and decrease costs (Kooistra et al., 2014).

When no face-to-face therapeutic support is provided, the individual works through the online standardized treatment with or without automated feedback. This type of intervention is often focused on individuals with subthreshold mental health problems. It aims to alleviate these problems and prevent full-blown psychological disorders, such as major depression. When online professional support is provided (guided self-help), it is typically based on coaching and facilitation rather than engaging in an explicit therapeutic relationship (Cuijpers & Schuurmans, 2007). These self-help treatments empower patients by teaching them how to apply CBT principles themselves. They may also persuade them to seek appropriate treatment at an early stage.

Guided self-help interventions for common mental and behavioral health typically consist of five to eight sessions. Support can be provided asynchronically in time such as via email or synchronically in time through telephone contact, online chat, or secured videoconferencing. Both individual and group therapy can take place online, but the latter is still scarce.

Coaching can be provided by trained counselors, social workers, public health nurses, psychology

students, or even laypeople with no loss of support quality or treatment satisfaction by participants (Titov et al., 2010). A meta-analytic study found no difference in depression treatment outcome among a variety of trained professionals who delivered these therapies (Richards & Richardson, 2012).

Online psychotherapies may also entail more intensive treatment. These intensive treatments (usually between nine and 18 sessions) follow specialized care protocols and are provided for more severe psychological disorders. Here, the working alliance is of a therapeutic nature, and the therapies are provided by licensed psychologists or psychiatrists (Ruwaard et al., 2011). Of a more recent nature is the provision of online support in daily functioning for chronic psychiatric patients who live (semi) independently (de Wit et al., 2015).

Assessing client eligibility for standalone iCBT typically occurs through self-administered, or therapist-assisted, online screening instruments or on the basis of diagnostic interviews by telephone or face-to-face contact. Validated online instruments, such as the Center for Epidemiologic Studies Depression Scale, can be used to screen for psychological symptoms such as depression in a satisfactory manner (Andersson & Titov, 2014). However, they cannot yet replace the gold standard of formal diagnosis.

In addition to screening, these online instruments are also used to assess baseline symptoms, monitor clinical progress, and assess treatment outcome. Online self-administered monitoring includes the potential to apply adaptive testing, meaning that only those questions that are relevant to the individual patients will be asked, thereby reducing their and therapists' time need for accurate monitoring.

### Advantages

Clinical utility and cost effectiveness are among the most proclaimed and studied advantages of Internet interventions; they are discussed later in this chapter. Here we focus briefly on other advantages often mentioned. We should highlight that although many of these advantages are proclaimed, few studies have verified them (Musiat, Goldstone, & Tarrier, 2014).

Patients engaging in Internet interventions tend to report more convenience than in face-to-face interventions with respect to time, location, and anonymity. Internet interventions are often available around the clock, and individuals can follow these treatments from the comfort of their home or any other setting of their preference. These advantages may especially benefit those who live in remote areas or those who are less mobile for a variety of reasons such as physical challenges. They may also be attractive to those with certain psychological problems, such as social phobias, that may by their nature constrain their social interactions.

Unguided treatments are often free of charge, which counts as a benefit for many especially for those who lack health insurance coverage or those who fear stigmatization due to their psychological problems. Timely access to treatment is yet another advantage of Internet interventions. This may serve to decrease the gap between the need for and actual delivery of professional care, which may in turn delay or prevent unnecessary worsening of psychological problems. As a result of easy access to evidence-based psychological information, self-help interventions, and self-monitoring of mood and activities, patients have a number of tools available to support them in their self-management of their disease and engage in informed decision making. Along this line of reasoning, Internet interventions and the use of social media may reduce the stigma associated with many mental disorders. The anonymity of the Internet also facilitates reaching out to difficult-to-reach groups who may avoid mental health services out of fear, lack of interest, or preference, such as youths and immigrants.

## LIMITATIONS AND CONTRAINDICATIONS

Internet interventions and the current research state-of-the-art are characterized by a number of limitations and future challenges. Here we highlight the most important ones.

### Need for Outcome Research in Routine Practice

Few studies to date have been conducted on the clinical and cost effectiveness of Internet interventions for mental disorders in primary and specialized care settings. The generalizability (external validity)

of iCBT findings to patient populations in routine practice is thereby limited, for example, by the characteristics of participants who are included in these trials, who are often self-referred, middle aged, female, highly educated, and recruited from the community and have a single primary mental disorder diagnosis (Crisp & Griffiths, 2014). Patient populations in routine care are heterogenous when compared to randomized controlled trial populations in terms of sociodemographic characteristics and often have a high prevalence of comorbidity in addition to their primary diagnosis. More studies are necessary to investigate in depth the impact of iCBT for routine care populations.

## Translational Challenges

Even when tested for safety and efficacy, the uptake of Internet interventions in routine practice and by patients is still limited. This relative low use of eMental health interventions holds for the continuum of care with the exception of unguided online psychoeducation services for the general population. This low uptake has been observed in the United States (Carper, McHugh, & Barlow, 2013) and in iCBT frontrunner countries such as Australia (Klein, 2010) and the Netherlands. For example, in the Netherlands it was estimated that only 5% of total mental health service provision in 2012 was based on Internet interventions (Riper et al., 2013). The integration of iCBT into clinical guidelines is also a long-term process; few iCBT interventions are yet included in such guidelines (see, e.g., National Institute for Health and Clinical Excellence, 2009, for depression).

Several factors may contribute to this relatively low uptake of eMental health. First, although the penetration rate of Internet access and mobile phones has grown rapidly, not all have access to the Internet and thereby to online psychological interventions. Even when patients, therapists, and the general public do have access, they may not be fully aware of the potentials of e-Mental health or may lack the skills to use these services. Second, little is yet known about the acceptability or dislike of Internet interventions by patients and health professionals alike (Musiat et al., 2014). Their acceptability is an important requirement for successful upscaling of iCBT.

Research participants often express high levels of acceptance and satisfaction with iCBT and find it at least as acceptable as face-to-face interventions (Kaltenthaler et al., 2008). These high levels of acceptance may be, however, an over- or an underestimation because little is known about the acceptability of iCBT among study noncompleters or patients in (nonresearch) routine care practices. Unfamiliarity with eMental health interventions may also lead to low levels of acceptance. For example, a survey of 55 patients who sought treatment for anxiety and depression showed they preferred face-to-face therapy over Internet treatments and reported low willingness to use the latter approach (Carper et al., 2013). The respondents in another survey (Musiat et al., 2014) held similar opinions even when they were aware of the potential advantages of iCBT. However, another study showed that respondents' opinions change in favor of Internet interventions on the basis of their actual experience with them (Hilty et al., 2013).

Therapists also differ in their acceptance of eMental health interventions, which may subsequently promote or constrain their use. A number of psychologists still doubt the effectiveness of Internet interventions or perceive them as only suitable for patients with mild to moderate psychological complaints. Others fear that their patients will not like it, see its value mainly as an add-on to regular treatment, or fear that they will lose their jobs as a result of Internet interventions.

High organizational start-up costs related to the creation of a technological infrastructure and trained workforce have contributed to the relatively low rate of upscaling. Some initiatives have tried to overcome this constraint by hallmarking evidence-based interventions, such as those by the International Society for Research on Internet Interventions (http://www.isrii.org), the International Society for Mental Health Online Mental Health Online (http://www.smho.org), and BEACON (https://beacon.anu.edu.au).

## Negative Effects

Few studies have yet investigated or reported on the potential negative effects of iCBT (Rozental et al., 2014). Ebert et al. (2015) is one of the first attempts

to address such potential adverse effects. Ebert et al. investigated, by means of a meta-analysis of individual patient data (18 randomized controlled studies, 2,709 participants), negative effects of guided iCBT interventions for depressed adults. Adverse effects, in terms of increased depressive symptoms, appeared significantly lower in the intervention than in the control conditions (3.36 vs. 7.6; RR = 0.47). These results suggest that iCBT is not associated with an increased risk for worsening of depression. More research into adverse effects and contraindications of eMental health interventions is needed, not only in terms of depressive symptom exacerbation but also regarding quality-of-life measures and delayed help-seeking behavior.

## METHODS AND INTERVENTIONS

The majority of eMental health interventions are based on CBT principles and have focused on the screening, prevention, and treatment of adult depression, anxiety disorders, and substance use disorders. Internet interventions have become rapidly available for other mental disorders, too. However, the overall robustness of evidence of the latter still needs to be proven. Currently available studies have described the development or evaluation of iCBT for eating disorders (Beintner, Jacobi, & Taylor, 2012), comorbid disorders such as diabetes and depression (Nobis et al., 2015), prevention of posttraumatic stress disorders (Freedman et al., 2015), treatment of psychosis (Alvarez-Jimenez et al., 2014), and medically unexplained conditions such as tinnitus or chronic somatic conditions (van Beugen et al., 2014). iCBT for youths and adolescents has been developed and successfully evaluated, especially for health-risk behaviors such as problem drinking and tobacco smoking (e.g., Riper et al., 2009). Randomized controlled studies on iCBT for depressed or anxious youths are still few in number. A recent meta-analysis showed that iCBT might be effective in reducing clinical complaints among youths, but more studies are needed (Ebert et al., 2015).

### eMental Health Strategies

There are at least five eMental health strategies, outlined in the following paragraphs. The first are interventions delivered over the Internet, which can be monitored on a PC or tablet computer. Compared with other eMental health strategies, these web-based interventions have been developed, evaluated, and implemented mostly in routine practices, especially for depression, anxiety disorders, and substance use disorders.

Another technique is virtual reality based on exposure techniques, which has been applied for a number of anxiety disorders, such as phobias and posttraumatic stress. These applications often make use of highly sophisticated technological devices and software applications and are applied under the supervision of a psychotherapist at the clinic. The clinical impact of virtual reality exposure techniques for anxiety disorders is promising (Dutra et al., 2008). Their applicability to and implementation in routine practice is still low, especially because of the high developmental costs involved in these applications and devices.

Consultation and psychological treatment provided by secure interactive video conferencing is another eMental health treatment application, originating in telemedicine. Of interest here as well is the use of video conferencing as a stepped-down strategy, supporting patients from a distance, for example, regarding medication adherence after a period of in- or outpatient face-to-face treatment. Several studies have shown promising results regarding its feasibility and clinical outcomes, such as for depression (Valdagno et al., 2014). Video conferencing is increasingly applied by other health professionals as well, such as psychologists. Publicly available tools such as Skype are not recommended because these platforms cannot guarantee data exchange security and privacy protection.

Providing psychotherapy, or components of it, such as daily mood and activity ratings, by means of mobile devices such as cellular phones, smartphones, and sensors is the fastest growing eMental health strategy. These developments relate to a broad spectrum of mental disorders including bipolar disorders. Mobile e-Health applications, also referred to as *mHealth applications,* have been developed and delivered by various providers, ranging from single entrepreneurs to mental health service organizations or patients themselves.

Serious games provide another promising eMental health strategy, albeit these developments are in their infancy. As applied to psychology, these games are labeled *serious* because they have a therapeutic goal (e.g., SPARX, a serious game against depression among youths; Merry et al., 2012), but they are engaging and trigger motivations to play and thereby to follow therapy and adhere to it. As an alternative or adjunct to treatment as usual, serious games may be promising new low-intensity treatments. They may enable reach out to target groups who are difficult to involve (such as youths or populations with low socioeconomic status) or to those for whom face-to-face treatments appear less attractive.

Among the five strategies discussed, Internet interventions based on the use of a PC or tablet have been evaluated and implemented the most. We therefore discuss the effectiveness of these interventions in more detail in the next section.

## RESEARCH EVIDENCE AND CONTRIBUTIONS

The effectiveness of Internet interventions for mental disorders and behavioral health has been a topic of scientific inquiry for more than a quarter of a century. Since the first study on iCBT with patients with phobia (Ghosh, Marks, & Carr, 1984) and a randomized iCBT controlled trial on adult depression (Selmi et al., 1990), a large number of meta-analyses on iCBT for mental disorders have been conducted. These studies have focused mainly on depression, panic and social phobias, chronic pain, and substance use disorders.

### Effectiveness of Guided Internet Cognitive–Behavioral Therapy

The results of meta-analytic studies on acute depression and anxiety all point to significant clinical effectiveness of guided self-help iCBT when compared with nontreatment, such as waitlist control or assessment-only groups. Effect sizes for guided iCBT for the alleviation of depressive symptoms are in the moderate range (*d*s = 0.59–0.79; Richards & Richardson, 2012). For acute anxiety disorders, overall large effect sizes for guided iCBT have been reported (*d*s = 0.83–0.92; Olthuis et al., 2015). Guided self-help iCBT therefore corresponds well with face-to-face CBT, as illustrated by a meta-analytic study of adult face-to-face CBT for treatment of depression ($g$ = 0.53; Cuijpers et al., 2013) as well as CBT for anxiety disorders ($g$ = 0.73; Hofmann & Smits, 2008). In addition to alleviating psychological symptoms, iCBT has also been shown to induce clinically significant change and remission, for example, in people with depression (Richards & Richardson, 2012).

A few studies have assessed the long-term outcomes of iCBT. For example, So et al. (2013) could include only five randomized controlled trials in their meta-analysis that assessed follow-up for depression measures beyond 6 months. They did not find significant long-term effects of iCBT on decrease in depressive symptoms ($d$ = –0.05), but given the small number of studies conducted, these results should be interpreted with caution.

Few studies have compared the clinical effectiveness of iCBT directly with face-to-face CBT within a single trial setting (head-to-head comparisons). These direct comparisons provide a higher level of evidence than indirect comparisons between results of individual trials or meta-analyses. A meta-analysis (Andersson et al., 2014) of direct comparisons between iCBT and face-to-face therapies indicated that the clinical impact of iCBT equals that of face-to-face therapies for these disorders in the short term. These results, too, need to be interpreted with caution because of the limited number of direct comparative studies and short-term follow-ups.

The significant clinical effects of guided iCBT relate to a variety of problem severity levels, ranging from subclinical profiles (Spek et al., 2007) to major diagnostic profiles. iCBT is thus suitable not just for mild to moderate psychological problems, as shown by a meta-analysis of patients diagnosed with major depression or anxiety disorders (Andrews et al., 2010).

### Effectiveness of Unguided Self-Administered Internet Cognitive–Behavioral Therapy

Unguided Internet interventions are clinically effective as well, although their effect sizes are in the small range and substantially lower than those

for guided Internet interventions: for depression, $d = 0.28$ (Cuijpers et al., 2011) and for anxiety disorders, $d = 0.24$ (Spek et al., 2007). Social phobias appear to be an exception here (Olthuis et al., 2015) because no significant difference was found between these two formats in terms of a decrease in social phobia specifically or in general anxiety symptoms. This nondifference may be caused by the specific symptoms of social phobias, one of them being the avoidance of social contact, which is possible in unguided iCBT. However, the nondifference may be an artifact because of the low quality of evidence generated by the studies included in the review.

From a public health perspective, unguided iCBTs may be an attractive option because they can be delivered on a large scale at relatively low cost. Despite its limited clinical effectiveness, unguided iCBT may result in substantial public health gain, especially in low-income countries in which the mental health care infrastructure may be limited.

## Prevention of Onset and Relapse of Mental Disorders

Prevention of diagnosed depression among adult populations with face-to-face psychotherapies is feasible, as shown by a meta-analysis (van Zoonen et al., 2014) that indicated a 21% decrease in incidence rate of depression in comparison with control groups. iCBT is also expected to prevent the onset of depression (Buntrock et al., 2014).

iCBT has been recently studied as a relapse prevention strategy. A study (Hollandare et al., 2013) compared a group receiving iCBT with a nonintervening control group for partly remitted depressed patients. After 2 years, significantly fewer iCBT participants than controls had experienced a depression relapse (13.7% vs. 60.9%, respectively). Another study (Kok et al., 2015) evaluated the impact of iCBT among patients with recurrent depression who had been fully remitted for at least 2 months at the start of the study. They found, at posttreatment, a significant moderate effect on decrease in residual depressive symptoms for the iCBT plus treatment-as-usual group compared with the only-treatment-as-usual group (Cohen's $d = 0.44$).

## Cost Effectiveness

Mental disorders not only cause individual suffering and loss of quality of life for the affected individuals, but they also bring substantial economic costs to society at levels that are comparable to those of somatic disorders (Smit et al., 2006). One of the main advantages attributed to iCBT is its potential cost effectiveness when compared with nonintervening, face-to-face CBT or treatment as usual. Savings may be achieved through reduced therapist time for the delivery of iCBT, reduced travel costs for patients, and fewer work absences because no therapeutic visits are required and the patient can follow the treatment outside office hours. The economic benefit of iCBT has been evaluated mainly from a societal perspective. An economic evaluation from such a perspective enables the comparison of different treatments in terms of their clinical effectiveness and associated direct and indirect medical and nonmedical costs.

A systematic review (Hedman, Ljótsson, & Lindefors, 2012) concluded that from a societal perspective iCBT for depression, social phobia, and panic disorders appears to be cost effective when compared with nonintervening and with conventional CBT as well. Another way of looking at potential economic benefit is simulating the introduction of iCBT in the general health care system. Such an economic simulation showed that the implementation of evidence-based iCBT that aims to prevent onset of first and later episodes of depression will lead to a more cost-effective health care system overall (Lokkerbol et al., 2014).

## Limitations of Studies

A number of constraints characterize the current evidence base of iCBT. In this section, we summarize several of them.

High dropout rates and low treatment adherence constrain the generalizations that can be made from the current evidence base. Human support can substantially decrease drop out because rates are higher for unguided than for guided interventions. Study drop out has ranged from 78% for unguided to around 28% for therapist-supported depression interventions (Richards & Richardson, 2012). Little is known about participants who drop out—to what

extent they differ from study completers and why they drop out of studies. It may be caused by an increase in complaints as well as by remission.

Low treatment adherence has also been observed in many iCBT randomized controlled trials. Many of these studies have shown that a number of participants never start or do not adhere properly to iCBT. Estimates of treatment adherence have ranged from 25% for unguided interventions to 72% for guided interventions for depression (Richards & Richardson, 2012). For anxiety disorders, these estimates have ranged from 50% adherence for unguided therapies to 75% adherence for guided ones (Nordgreen et al., 2012). These adherence rates thus appear lower for iCBT than for face-to-face interventions, although the extent to which these rates differ substantially is still debated (van Ballegooijen et al., 2014).

Sufficient studies are lacking to predict and explain study drop out and treatment adherence as such and their correlation of these with treatment outcome. Consequently, knowledge about who can benefit most from Internet interventions and why is also lacking.

### Contributions

Despite these limitations in the evidence base for Internet interventions, it still has compelling contributions. There is now ample evidence that iCBT interventions are acceptable for adults in the community and patients in care settings alike. Internet interventions appear to be effective for a number of common mental disorders in terms of reduction in psychological symptoms, remission, and prevention of relapse. From an economic perspective, these interventions may be attractive because they can be delivered at a larger scale and at a lower cost than traditional CBT.

## FUTURE DIRECTIONS

iCBT is modeled successfully around face-to-face encounters between individuals or groups of patients and their therapists. This model of treatment delivery is now being extended as eMental health developments enable the provision of prevention and treatment of mental disorders from a distance. iCBT may be an attractive additional way of delivering mental health care due to the growing demand for psychotherapeutic help, the lack of availability of mental health services, and efforts to control rising health care costs.

Not all future directions can be predicted; rapid technological developments may influence Internet interventions in ways that cannot be foreseen. For example, in less than 5 years the cost of devices that are necessary to deliver exposure therapy by virtual reality has decreased rapidly. The availability of newer virtual reality is currently inspiring psychotherapists worldwide to reflect on new avenues for exposure treatment. In the future, routine practice will be further shaped by iCBT and telepsychology in general. Professional and curriculum skills training for therapists and scholars alike will be developed and further expanded.

Stand-alone and blended treatments for mental disorders have yet to find their full way to routine primary and specialized care settings. Without doubt, the majority of future psychotherapies will be based on both face-to-face and Internet components. However, the optimum balance between these two components has yet to be decided. The research and practice agenda for the years to come will be shaped by the development of a variety of blended treatments and the assessment of their clinical and cost effectiveness in these primary and specialized care settings. The effectiveness of these blended treatments will be compared with face-to-face treatment as usual, including pharmacological treatments. The use of these treatments for a wide array of mental disorders such as bipolar disorder will be assessed and evaluated, beyond the known effective Internet-based therapies for depression and social phobia.

Internet interventions will continue to expand beyond iCBT. There is now evidence that other therapeutic strategies may be feasible and effective as well. Examples are web-based interpersonal psychotherapy (Donker et al., 2013) and acceptance and commitment therapy (Lappalainen et al., 2014) for depression and online unguided positive psychological interventions for the improvement of mental well-being (Bolier et al., 2013). More studies will be conducted to assess the robustness of these early findings and whether these different

psychotherapeutic approaches are equally effective when delivered online.

Research will increasingly focus on personalization by investigating for which groups of patients iCBT works best and why. CBT and iCBT have proven to be effective, but they are not the most appropriate treatment for all patients. Research will focus more on predictors and moderators of iCBT outcomes and their change mechanisms (mediators) for different groups of patients. If successful, patients, therapists, and policymakers will improve informed decisions regarding effective treatment possibilities. In this way, patients' sociodemographic profiles, psychopathology, and stages (e.g., subclinical, first episode, recurrent, or chronic), as well as needs and preferences, can be taken into account

These studies will increasingly use biophysiological markers (such as heart rate) and neurological brain markers. Measuring these markers will be much easier in the near future because wearable and user-friendly devices are becoming available and substantially cheaper (see, e.g., Mansson et al., 2015).

Mental health care will increasingly be organized and delivered through the multiple functionalities of mobile devices, such as smartphones, tablets, sensors, and software applications (apps). Mental health care apps, mostly for patients, are already offered over the digital counter, with an estimated more than 8,000 delivered via the Google platform in 2015. Most of these, however, have been developed outside routine mental health care services, and little is yet known about their effects or by whom or how they are used. The sheer existence of so many health apps has led to a number of initiatives to get a handle on them (Hollis et al., 2015). For example, in 2015 the National Health Service began to develop a health app library; PatientView offers a website on which users can rate their favorite health app (http://myhealthapps.net) and has published a directory of health apps evaluated by consumers (PatientView, 2012).

Mobile devices have yet to find their way into routine mental health care practice, but their applicability is currently a dominant driver of research into iCBT and related psychotherapies. Their applicability may be as simple as appointment reminders by text messaging or as complex as functionalities for measuring and interpreting multiple daily mood episodes and activities by patients themselves. Research will intensify the focus on the possibilities of mobile devices—the assessment, treatment, and monitoring of mental disorders in real life and real time (Trull & Ebner-Priemer, 2014). Such monitoring offers, for example, depressed patients and their therapists insight into individual mood and activity trajectories and treatment progress over time.

Routine iCBT delivery will become more driven by technology, data, and treatment outcome profiles. Efforts will be undertaken to close the gap between the results of iCBT research and their translation into routine clinical practice and vice versa. Studies investigating the clinical and cost effectiveness of eMental health will increasingly focus on specific groups, such as elderly individuals, youths, and comorbid populations. The level of integration within the larger continuum of mental health care will probably be addressed from a science of implementation.

Finally, we foresee patient-centered information and communication technology platforms connecting multiple aspects of care for patients with mental health disorders. The first signs of such platforms are visible in mental health projects supported, for example, by the European Union Horizon 2020 program. These platforms facilitate collaborative care developments in which patients, multiple professional caregivers, and significant others meet and exchange relevant data. Many of these platforms are now being developed and evaluated and will find their way into routine care over the next decade. This will lead to increased ethical considerations regarding the Internet in terms of protected and safe data exchange and guaranteeing patients and therapists privacy in the rapidly changing digital landscape.

## References

Alvarez-Jimenez, M., Alcazar-Corcoles, M. A., González-Blanch, C., Bendall, S., McGorry, P. D., & Gleeson, J. F. (2014). Online, social media and mobile technologies for psychosis treatment: A systematic review on novel user-led interventions. *Schizophrenia Research*, *156*, 96–106. http://dx.doi.org/10.1016/j.schres.2014.03.021

American Psychological Association. (2013). *Guidelines for the practice of telepsychology*. Washington, DC: Author.

Andersson, G. (2009). Using the Internet to provide cognitive behaviour therapy. *Behaviour Research and Therapy*, *47*, 175–180. http://dx.doi.org/10.1016/j.brat.2009.01.010

Andersson, G., Cuijpers, P., Carlbring, P., Riper, H., & Hedman, E. (2014). Guided Internet-based vs. face-to-face cognitive behavior therapy for psychiatric and somatic disorders: A systematic review and meta-analysis. *World Psychiatry: Official Journal of the World Psychiatric Association*, *13*, 288–295. http://dx.doi.org/10.1002/wps.20151

Andersson, G., & Titov, N. (2014). Advantages and limitations of Internet-based interventions for common mental disorders. *World Psychiatry: Official Journal of the World Psychiatric Association*, *13*, 4–11. http://dx.doi.org/10.1002/wps.20083

Andrews, G., Cuijpers, P., Craske, M. G., McEvoy, P., & Titov, N. (2010). Computer therapy for the anxiety and depressive disorders is effective, acceptable and practical health care: A meta-analysis. *PLoS ONE*, *5*, e13196. http://dx.doi.org/10.1371/journal.pone.0013196

Beintner, I., Jacobi, C., & Taylor, C. B. (2012). Effects of an Internet-based prevention programme for eating disorders in the USA and Germany—A meta-analytic review. *European Eating Disorders Review*, *20*, 1–8. http://dx.doi.org/10.1002/erv.1130

Bolier, L., Haverman, M., Kramer, J., Westerhof, G. J., Riper, H., Walburg, J. A., . . . Bohlmeijer, E. (2013). An Internet-based intervention to promote mental fitness for mildly depressed adults: Randomized controlled trial. *Journal of Medical Internet Research*, *15*, e200. http://dx.doi.org/10.2196/jmir.2603

Bower, P., Kontopantelis, E., Sutton, A., Kendrick, T., Richards, D. A., Gilbody, S., . . . Liu, E. T. (2013). Influence of initial severity of depression on effectiveness of low intensity interventions: Meta-analysis of individual patient data. *BMJ*, *346*, f540. http://dx.doi.org/10.1136/bmj.f540

Brown, R. A., & Lewinsohn, P. M. (1984). A psychoeducational approach to the treatment of depression: Comparison of group, individual, and minimal contact procedures. *Journal of Consulting and Clinical Psychology*, *52*, 774–783. http://dx.doi.org/10.1037/0022-006X.52.5.774

Buntrock, C., Ebert, D. D., Lehr, D., Cuijpers, P., Riper, H., Smit, F., & Berking, M. (2014). Evaluating the efficacy and cost-effectiveness of web-based indicated prevention of major depression: Design of a randomised controlled trial. *BMC Psychiatry*, *14*, 25. http://dx.doi.org/10.1186/1471-244X-14-25

Carper, M. M., McHugh, R. K., & Barlow, D. H. (2013). The dissemination of computer-based psychological treatment: A preliminary analysis of patient and clinician perceptions. *Administration and Policy in Mental Health and Mental Health Services Research*, *40*, 87–95. http://dx.doi.org/10.1007/s10488-011-0377-5

Crisp, D. A., & Griffiths, K. M. (2014). Participating in online mental health interventions: Who is most likely to sign up and why? *Depression Research and Treatment*, *2014*, 790457. http://dx.doi.org/10.1155/2014/790457

Cuijpers, P., Berking, M., Andersson, G., Quigley, L., Kleiboer, A., & Dobson, K. S. (2013). A meta-analysis of cognitive–behavioural therapy for adult depression, alone and in comparison with other treatments. *Canadian Journal of Psychiatry*, *58*, 376–385.

Cuijpers, P., & Schuurmans, J. (2007). Self-help interventions for anxiety disorders: An overview. *Current Psychiatry Reports*, 9, 284–290. http://dx.doi.org/10.1007/s11920-007-0034-6

de Wit, J., Dozeman, E., Ruwaard, J., Alblas, J., & Riper, H. (2015). Web-based support for daily functioning of people with mild intellectual disabilities or chronic psychiatric disorders: A feasibility study in routine practice. *Internet Interventions*, *2*, 161–168. http://dx.doi.org/10.1016/j.invent.2015.02.007

Donker, T., Bennett, K., Bennett, A., Mackinnon, A., van Straten, A., Cuijpers, P., . . . Griffiths, K. M. (2013). Internet-delivered interpersonal psychotherapy versus Internet-delivered cognitive behavioral therapy for adults with depressive symptoms: Randomized controlled noninferiority trial. *Journal of Medical Internet Research*, *15*, e82. http://dx.doi.org/10.2196/jmir.2307

Dutra, L., Stathopoulou, G., Basden, S. L., Leyro, T. M., Powers, M. B., & Otto, M. W. (2008). A meta-analytic review of psychosocial interventions for substance use disorders. *American Journal of Psychiatry*, *165*, 179–187. http://dx.doi.org/10.1176/appi.ajp.2007.06111851

Ebert, D. D., Zarski, A.-C., Christensen, H., Stikkelbroek, Y., Cuijpers, P., Berking, M., & Riper, H. (2015). Internet and computer-based cognitive behavioral therapy for anxiety and depression in youth: A meta-analysis of randomized controlled outcome trials. *PLoS ONE*, *10*, e0119895. http://dx.doi.org/10.1371/journal.pone.0119895

eMarketeer. (2014). *Worldwide smartphone usage to grow 25% in 2014*. Retrieved from http://www.emarketer.com/Article/Worldwide-Smartphone-Usage-Grow-25-2014/1010920

Emmelkamp, P. M. G., David, D., Beckers, T., Muris, P., Cuijpers, P., Lutz, W., . . . Vervliet, B. (2014).

Advancing psychotherapy and evidence-based psychological interventions. *International Journal of Methods in Psychiatric Research*, *23*, 58–91. http://dx.doi.org/10.1002/mpr.1411

Freedman, S. A., Dayan, E., Kimelman, Y. B., Weissman, H., & Eitan, R. (2015). Early intervention for preventing posttraumatic stress disorder: An Internet-based virtual reality treatment. *European Journal of Psychotraumatology*, *6*, 25608. http://dx.doi.org/10.3402/ejpt.v6.25608

Ghosh, A., Marks, I. M., & Carr, A. C. (1984). Controlled study of self-exposure treatment for phobics: Preliminary communication. *Journal of the Royal Society of Medicine*, *77*, 483-487.

Hedman, E., Ljótsson, B., & Lindefors, N. (2012). Cognitive behavior therapy via the Internet: A systematic review of applications, clinical efficacy and cost-effectiveness. *Expert Review of Pharmacoeconomics and Outcomes Research*, *12*, 745–764. http://dx.doi.org/10.1586/erp.12.67

Hilty, D. M., Ferrer, D. C., Parish, M. B., Johnston, B., Callahan, E. J., & Yellowlees, P. M. (2013). The effectiveness of telemental health: A 2013 review. *Telemedicine and E-Health*, *19*, 444–454. http://dx.doi.org/10.1089/tmj.2013.0075

Hofmann, S. G., & Smits, J. A. (2008). Cognitive–behavioral therapy for adult anxiety disorders: A meta-analysis of randomized placebo-controlled trials. *Journal of Clinical Psychiatry*, *69*, 621–632.

Hollandare, F., Anthony, S. A., Randestad, M., Tillfors, M., Carlbring, P., Andersson, G., & Engstrom, I. (2013). Two-year outcome of Internet-based relapse prevention for partially remitted depression. *Behaviour Research and Therapy*, *51*, 719–722. http://dx.doi.org/10.1016/j.brat.2013.08.002

Hollandare, F., Eriksson, A., Lovgren, L., Humble, M. B., & Boersma, K. (2015). Internet-based cognitive behavioral therapy for residual symptoms in bipolar disorder type II: A single-subject design pilot study. *JMIR Research Protocols*, *4*, e44. http://dx.doi.org/10.2196/resprot.3910

Hollis, C., Morriss, R., Martin, J., Amani, S., Cotton, R., Denis, M., & Lewis, S. (2015). Technological innovations in mental healthcare: Harnessing the digital revolution. *British Journal of Psychiatry*, *206*, 263–265. http://dx.doi.org/10.1192/bjp.bp.113.142612

Internet World Stats. (2015). *Usage and population statistics*. Retrieved from http://www.Internetworldstats.com/stats.htm

Kaltenthaler, E., Sutcliffe, P., Parry, G., Beverley, C., Rees, A., & Ferrite, M. (2008). The acceptability to patients of computerized cognitive behaviour therapy for depression: A systematic review. *Psychological Medicine*, *38*, 1521–1530. http://dx.doi.org/10.1017/s0033291707002607

Klein, B. (2010). E-interventions and psychology: Time to log on. *InPsych*. Retrieved from https://www.psychology.org.au/publications/inpsych/2010/feb/klein

Kok, G., Burger, H., Riper, H., Cuijpers, P., Dekker, J., van Marwijk, H., . . . Bockting, C. L. H. (2015). The three-month effect of mobile Internet-based cognitive therapy on the course of depressive symptoms in remitted recurrently depressed patients: Results of a randomized controlled trial. *Psychotherapy and Psychosomatics*, *84*, 90–99. http://dx.doi.org/10.1159/000369469

Kooistra, L. C., Wiersma, J. E., Ruwaard, J., van Oppen, P., Smit, F., Lokkerbol, J., . . . Riper, H. (2014). Blended vs. face-to-face cognitive behavioural treatment for major depression in specialized mental health care: Study protocol of a randomized controlled cost-effectiveness trial. *BMC Psychiatry*, *14*, 290. http://dx.doi.org/10.1186/s12888-014-0290-z

Lappalainen, P., Granlund, A., Siltanen, S., Ahonen, S., Vitikainen, M., Tolvanen, A., & Lappalainen, R. (2014). ACT Internet-based vs face-to-face? A randomized controlled trial of two ways to deliver acceptance and commitment therapy for depressive symptoms: An 18-month follow-up. *Behaviour Research and Therapy*, *61*, 43–54. http://dx.doi.org/10.1016/j.brat.2014.07.006

Lokkerbol, J., Adema, D., Cuijpers, P., Reynolds, C. F., 3rd, Schulz, R., Weehuizen, R., & Smit, F. (2014). Improving the cost-effectiveness of a healthcare system for depressive disorders by implementing telemedicine: A health economic modeling study. *American Journal of Geriatric Psychiatry*, *22*, 253–262. http://dx.doi.org/10.1016/j.jagp.2013.01.058

Mansson, K. N., Frick, A., Boraxbekk, C. J., Marquand, A. F., Williams, S. C., Carlbring, P., . . . Furmark, T. (2015). Predicting long-term outcome of Internet-delivered cognitive behavior therapy for social anxiety disorder using fMRI and support vector machine learning. *Translational Psychiatry*, *5*, e530. http://dx.doi.org/10.1038/tp.2015.22

Merry, S. N., Stasiak, K., Shepherd, M., Frampton, C., Fleming, T., & Lucassen, M. F. (2012). The effectiveness of SPARX, a computerised self help intervention for adolescents seeking help for depression: Randomised controlled non-inferiority trial. *BMJ*, *344*, e2598. http://dx.doi.org/10.1136/bmj.e2598

Musiat, P., Goldstone, P., & Tarrier, N. (2014). Understanding the acceptability of e-mental health—Attitudes and expectations towards

computerised self-help treatments for mental health problems. *BMC Psychiatry*, *14*, 109. http://dx.doi.org/10.1186/1471-244x-14-109

National Institute for Health and Clinical Excellence. (2006). Depression and anxiety—Computerised cognitive behaviour therapy (CCBT) (NICE Technology Appraisal TA97). London, England: Author.

National Institute for Health and Clinical Excellence. (2009). Depression in adults: The treatment and management of depression in adults (NICE Clinical Guideline 9). London, England: Author.

Nobis, S., Lehr, D., Ebert, D. D., Baumeister, H., Snoek, F., Riper, H., & Berking, M. (2015). Efficacy of a web-based intervention with mobile phone support in treating depressive symptoms in adults with type 1 and type 2 diabetes: A randomized controlled trial. *Diabetes Care*, *38*, 776–783. http://dx.doi.org/10.2337/dc14-1728

Nordgreen, T., Havik, O. E., Ost, L. G., Furmark, T., Carlbring, P., & Andersson, G. (2012). Outcome predictors in guided and unguided self-help for social anxiety disorder. *Behaviour Research and Therapy*, *50*, 13–21. http://dx.doi.org/10.1016/j.brat.2011.10.009

Olthuis, J. V., Watt, M. C., Bailey, K., Hayden, J. A., & Stewart, S. H. (2015). Therapist-supported Internet cognitive behavioural therapy for anxiety disorders in adults. *Cochrane Database of Systematic Reviews*, *3*, CD011565. http://dx.doi.org/10.1002/14651858.cd011565

PatientView. (2012). *European directory of health apps 2012–2013*. London, England: Author.

Preschl, B., Maercker, A., & Wagner, B. (2011). The working alliance in a randomized controlled trial comparing online with face-to-face cognitive–behavioral therapy for depression. *BMC Psychiatry*, *11*, 189. http://dx.doi.org/10.1186/1471-244x-11-189

Richards, D., & Richardson, T. (2012). Computer-based psychological treatments for depression: A systematic review and meta-analysis. *Clinical Psychology Review*, *32*, 329-342.

Riper, H., Andersson, G., Christensen, H., Cuijpers, P., Lange, A., & Eysenbach, G. (2010). Theme issue on e-mental health: A growing field in Internet research. *Journal of Medical Internet Research*, *12*, 5. http://dx.doi.org/10.2196/jmir.1713

Riper, H., van Ballegooijen, W., Kooistra, L., Wit, D. J., & Donker, T. (2013). *Preventie en e-mental health: Onderzoek dat leidt, technologie die verleidt, preventie die bereikt en beklijft kennissynthese* [Prevention and e-mental health: Research, technology, and evidence-based prevention]. Amsterdam, the Netherlands: ZonMw Preventie.

Riper, H., van Straten, A., Keuken, M., Smit, F., Schippers, G., & Cuijpers, P. (2009). Curbing Problem Drinking with Personalized-Feedback Interventions A Meta-Analysis. *American Journal of Preventive Medicine*, *36*, 247-255. http://dx.doi.org/10.1016/j.amepre.2008.10.016

Rozental, A., Andersson, G., Boettcher, J., Ebert, D. D., Cuijpers, P., Knaevelsrud, C., . . . Carlbring, P. (2014). Consensus statement on defining and measuring negative effects of Internet interventions. *Internet Interventions*, *1*, 12–19. http://dx.doi.org/10.1016/j.invent.2014.02.001

Ruwaard, J., Lange, A., Schrieken, B., & Emmelkamp, P. (2011). Efficacy and effectiveness of online cognitive behavioral treatment: A decade of interapy research. *Studies in Health Technology and Informatics*, *167*, 9–14.

Schmidt, U., & Wykes, T. (2012). E-mental health—A land of unlimited possibilities. *Journal of Mental Health*, *21*, 327–331. http://dx.doi.org/10.3109/09638237.2012.705930

Selmi, P. M., Klein, M. H., Greist, J. H., Sorrell, S. P., & Erdman, H. P. (1990). Computer-administered cognitive–behavioral therapy for depression. *American Journal of Psychiatry*, *147*, 51–56.

Smit, F., Cuijpers, P., Oostenbrink, J., Batelaan, N., de Graaf, R., & Beekman, A. (2006). Costs of nine common mental disorders: Implications for curative and preventive psychiatry. *Journal of Mental Health Policy and Economics*, *9*, 193–200.

So, M., Yamaguchi, S., Hashimoto, S., Sado, M., Furukawa, T. A., & McCrone, P. (2013). Is computerised CBT really helpful for adult depression? A meta-analytic re-evaluation of CCBT for adult depression in terms of clinical implementation and methodological validity. *BMC Psychiatry*, *13*, 113. http://dx.doi.org/10.1186/1471-244x-13-113

Spek, V., Cuijpers, P., Nykicek, I., Riper, H., Keyzer, J., & Pop, V. (2007). Internet-based cognitive behaviour therapy for symptoms of depression and anxiety: A meta-analysis. *Psychological Medicine*, *37*, 319–328. http://dx.doi.org/10.1017/s0033291706008944

Titov, N., Andrews, G., Davies, M., McIntyre, K., Robinson, E., & Solley, K. (2010). Internet treatment for depression: A randomized controlled trial comparing clinician vs. technician assistance. *PloS One*, *5*, e10939. http://dx.doi.org/10.1371/journal.pone.0010939

Trull, T. J., & Ebner-Priemer, U. (2014). The role of ambulatory assessment in psychological science. *Current Directions in Psychological Science*, *23*, 466–470. http://dx.doi.org/10.1177/0963721414550706

Valdagno, M., Goracci, A., di Volo, S., & Fagiolini, A. (2014). Telepsychiatry: New perspectives and open issues. *CNS Spectrums*, *19*, 479–481. http://dx.doi.org/10.1017/s1092852913000916

van Ballegooijen, W., Cuijpers, P., van Straten, A., Karyotaki, E., Andersson, G., Smit, J. H., & Riper, H. (2014). Adherence to Internet-based and face-to-face cognitive behavioural therapy for depression: A meta-analysis. *PloS One*, *9*, e100674. http://dx.doi.org/10.1371/journal.pone.0100674

van Bastelaar, K., Cuijpers, P., Pouwer, F., Riper, H., & Snoek, F. J. (2011). Development and reach of a web-based cognitive behavioural therapy programme to reduce symptoms of depression and diabetes-specific distress. *Patient Education and Counseling*, *84*, 49–55. http://dx.doi.org/10.1016/j.pec.2010.06.013

van Beugen, S., Ferwerda, M., Hoeve, D., Rovers, M. M., Spillekom-van Koulil, S., van Middendorp, H., & Evers, A. W. (2014). Internet-based cognitive behavioral therapy for patients with chronic somatic conditions: A meta-analytic review. *Journal of Medical Internet Research*, *16*, e88. http://dx.doi.org/10.2196/jmir.2777

van Zoonen, K., Buntrock, C., Ebert, D. D., Smit, F., Reynolds, C. F., 3rd, Beekman, A. T., & Cuijpers, P. (2014). Preventing the onset of major depressive disorder: A meta-analytic review of psychological interventions. *International Journal of Epidemiology*, *43*, 318–329. http://dx.doi.org/10.1093/ije/dyt175

CHAPTER 25

# PREVENTION OF MENTAL DISORDERS

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Few would argue the merits of prevention when considering mental health conditions. Mental health care expenditures have been calculated at $57.5 billion annually (using 2006 dollar estimates), which yields an average annual expenditure of $1,591 for each adult and $1,931 for each child (National Institute of Mental Health, 2013). The human cost of mental illness cannot be so easily computed, although the emotional toll of mental health conditions on the individual, the family, and the community are immense. Psychology has maintained an active interest in prevention since the late 1960s (e.g., Winett, 1998). Recently, this area has just begun to establish an empirical base and to establish effective interventions.

In this chapter, we review two central perspectives on prevention, noting their areas of overlap and difference, and discuss the notable implications of each approach for the construction and evaluation of efforts in this domain. We outline key principles that underlie prevention efforts, with relevant examples. Last, we review literature from specific areas on efforts to prevent the development of three mental health conditions: posttrauma psychopathology, eating disorders, and depression. As we note throughout this chapter, prevention lies at the intersection of psychology, public health, and epidemiology and could perhaps be considered a transdisciplinary field. Given the multifaceted costs of mental health disorders, we believe that prevention will play an increasingly salient role in the future of clinical psychology.

## DESCRIPTION AND DEFINITION

Prevention can be clustered into two general approaches, a public health approach and a developmental approach. Both define prevention similarly, namely as "those interventions that occur before the initial onset of a disorder" (Mrazek & Haggerty, 1994, p. 23). As such, prevention inherently focuses on reducing the risk of developing a disorder, a goal that can be approached in many different ways, such as strengthening factors that buffer against risk, reducing or eliminating risky behavior, and addressing biological variables that set the stage for a disorder. However, once the target population involves individuals who satisfy diagnostic criteria for a mental health disorder, an intervention cannot be viewed as preventive but is rather conceptualized as treatment (Clark, 2004).

Although the distinction between prevention and intervention seems clear when stated in this way, in application there is often considerable ambiguity. For example, the distinction between treatment and prevention becomes blurred in a developmental approach because many mental health conditions show early onset (Koretz & Mościcki, 1997). As well, an intervention can be designed to reduce the risk of secondary comorbid disorders among individuals with a target condition; in this instance, it is unclear whether the intervention would be conceptualized as prevention or treatment (Clark, 2004).

In the field of prevention science, a range of definitions exist, many of which blur the boundary

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between prevention and treatment. The public health perspective maintains perhaps the clearest distinction between these two domains, as discussed next.

## Public Health Perspective

The public health approach to prevention assumes a population vantage point, considering changes in psychological and behavioral processes, as well as environmental factors, at the level of the specified population. Specified populations can be defined in any number of ways, such as a specific country, a specific branch of the military, or a specific state-based university system. As an example of a public health prevention approach, many states have enacted a mandatory seat belt law, aimed at reducing the likelihood of fatalities should a motor vehicle accident occur. Fines are enforced, ranging from $15 to $200 (Governors Highway Safety Association, 2013), which are intended to increase individual seat belt use.

Public health approaches to the prevention of mental health conditions focus on population-level interventions, with varying definitions of the target population. Unifying themes of public health approaches to prevention include the identification and elimination of the noxious agent that causes a target problem, strengthening resistance to the noxious agent, and preventing transmission of the noxious agent across the population (Perry et al., 1996).

Several aspects of prevention are subsumed under this approach to address individual differences from a population-based perspective (Winslow et al., 2013). Health promotion interventions aim to facilitate health and wellness of the general public. These interventions are not designed to address risk factors for specific mental health conditions per se but rather to focus on building strengths among members of the target population. Some authors believe that health promotion programs are less stigmatizing to individuals (e.g., National Research Council & Institute of Medicine, 2009), although it is unclear whether health promotion interventions show generalization effects to the prevention of mental health symptomatology. Health promotion efforts may target the public's level of knowledge and awareness of actions that can be taken to prevent or intervene in the development of a health condition. When applied to mental health conditions, this has been referred to as *mental health literacy,* defined as "knowledge and beliefs about mental disorders which aid their recognition, management or prevention" (Jorm, 2012, p. 231).

Recently, the field has seen an increase in attention to mental health literacy. For example, mental health literacy for anxiety disorders is quite varied. Among a sample of 583 randomly selected community members, higher levels of mental health literacy concerning obsessive–compulsive disorder were associated with higher levels of education, higher levels of income, and being age 35 years or younger (Coles, Heimberg, & Weiss, 2013). Clearly, individuals who are younger, well educated, and working in higher-income jobs are more likely to understand the meaning of specific symptoms of this condition, suggesting that they could conceivably be more amenable to prevention. Understanding influences on mental health literacy has implications for public information campaigns, as well as different types of prevention programs.

In addition to health promotion, there are three types of public health prevention: (a) universal, (b) selective, and (c) indicated. Universal prevention, previously referred to as *primary prevention,* is designed to prevent a given disorder in a population that has not been identified as being at risk. Selective prevention targets individuals identified as being at risk for a disorder on the basis of exposure to specific stressors, family history, or other known risk factors, and indicated prevention focuses on individuals who have developed the beginning signs or symptoms of a condition (National Research Council & Institute of Medicine, 2009).

Universal prevention programs, previously referred to as primary prevention, address an entire target population and aim to reduce the incidence of mental health conditions. Universal prevention programs are highly dependent on reliable scientific evidence that elaborates both risk and resilience factors for a specific disease or condition. Because universal prevention is applied to all members of the population, issues concerning their cost–benefit become salient.

Selective prevention, previously known as *secondary prevention,* is designed to target

individuals who are at risk to develop a specific problem. The focus of these efforts is to decrease risk or strengthen resilience among selected individuals. Many selective prevention programs target children and adolescents, as we discuss in the next section.

Indicated prevention most closely resembles psychological treatment within this framework, given its focus on individuals who are beginning to develop a specific mental health condition. The focus of indicated prevention programs, previously referred to as *tertiary prevention,* is to prevent further progression of a specific condition or to reduce the likelihood of problems developing secondary to the condition. Indicated prevention programs are often situated in more traditional mental care environments, unlike universal and selective prevention efforts.

Several core principles pervade the public health approach to prevention. A first principle is the emphasis on cost effectiveness, ease of delivery, and low potential for harm (O'Connell, Boat, & Warner, 2009). Many programs developed under this approach use technologies such as websites and other low-intensity mediums as methods of delivery. Moreover, e-health interventions have been shown to be acceptable to consumers and are believed to reduce the stigma that may be associated with direct face-to-face services. These interventions can be accessed globally, which is important when one considers developing nations where mental health services are scant, thus increasing the importance of prevention. Education-based interventions are particularly well suited for the prevention of high-prevalence conditions, such as depression or anxiety. They can also be helpful in situations in which a large number of individuals have been exposed to a common stressor.

For example, the National Child Traumatic Stress Network (2013) offers a number of educational modules focusing on topics such as childhood exposure to interparental domestic violence. Current estimates hold that approximately 25% of women in the United States will be a victim of domestic violence during their lifetime (e.g., Tjaden & Thoennes, 2000). As such, childhood exposure to parental abuse and violence occurs at a high rate. The modules presented by the National Child Traumatic Stress Network are designed for use by parents, teachers, and other caregivers. Because children exposed to interparental domestic violence have a greater than average likelihood of being involved in a violent romantic relationship as an adult (Olsen, Parra, & Bennett, 2010), education offered by the National Child Traumatic Stress Network is intended to help caretakers intervene with children, with the goal of preventing their exposure to domestic violence in adulthood. Exposure to domestic violence is a stressor associated with a large number of mental health conditions (e.g., posttraumatic stress disorder, depression, generalized anxiety; Beck et al., 2014).

A second principle is the concept of linking or phasing different approaches to prevention. Although universal prevention targets the entire population, it can be linked with either selective or indicated programs in creative ways that maximize cost efficiency. For example, the Navy and Marine Corps have established the Navy–Marine Corps stress continuum model, which provides educational information to all marines, sailors, leaders, and family members before, during, and after deployment (Nash et al., 2011). Individuals can use these educational modules to identify themselves as symptomatic after deployment-related exposure to extreme stress and pursue a form of mental health first aid (e.g., Naval Center Combat and Operational Stress Control, 2013). In this instance, a universal prevention effort is linked with an indicated effort, which streamlines the types of interventions that are received.

Many public health approaches to the prevention of mental health conditions follow a medical model. Although it was simple to begin fluorinating the water supply to reduce tooth decay in the United States (e.g., Bailey et al., 2008), interventions to address mental health conditions are not as straightforward. Most mental health conditions have multiple contributors to their etiology, rendering it difficult to directly apply the core concepts from public health prevention. For example, no one noxious agent causes depression (or any other mental health condition). Despite this apparent complication, some of the core principles behind the public health approach have been used productively in application to the prevention of mental health conditions.

## Developmental Perspective

In contrast to the public health perspective, the developmental perspective regards the essential task of preventing mental health problems as one of intervention during the course of child and adolescent development in ways that eliminate the appearance of psychopathology (e.g., Ialongo et al., 2006). As such, this perspective is grounded in scientific knowledge about developmental influences on psychopathology and takes a structural approach to normal and abnormal development. In this perspective, the individual is posited to proceed through a series of developmental reorganizations, occurring from birth to adulthood; at each step, the individual is challenged by developmentally based tasks (e.g., forming attachment bonds, emergence of a sense of self, adapting to school, developing emotion regulation skills). Psychopathology is viewed as the result of a series of poorly met challenges, which become "progressive liabilities" (Ialongo et al., 2006, p. 970). Within this model, prevention is conceptualized as interventions designed to promote developmental competencies and to remedy developmental incompetencies in a fashion that allows normal development to resume. Emphasis is placed on an individual's strengths and liabilities rather than on psychiatric symptoms per se (e.g., Winett, 1998). Because a variety of mental health conditions can result from the same psychological stressors, the developmental perspective focuses on creating programs to help individuals competently deal with stressors.

Numerous studies have documented the association between childhood adversities and adult mental health problems (Catania et al., 2011). In particular, adversities in the child's family of origin, such as child abuse, poverty, death of a parent, or parental mental illness, are associated with the persistence of mental health problems (McLaughlin et al., 2010). The long-term impact of childhood adversities has been shown to be larger for mood disorders and substance abuse, relative to anxiety disorders, in the United States (McLaughlin et al., 2010). Globally, a World Health Organization survey of 21 countries found that childhood adversities account for approximately 30% of the variance in adult mental health disorders (Kessler et al., 2010). Given these data, prevention within this conceptual approach targets children from birth to early adulthood.

A key assumption underlying the developmental perspective on prevention is the concept of continuity versus discontinuity (e.g., Catania et al., 2011). Because of the continuity between childhood adversities and mental health problems in adulthood, there are numerous opportunities during early development to intervene and, one hopes, create discontinuity in this developmental trajectory.

The environment is also an important component within the developmental perspective, particularly when conceptualizing how to build resilience and competency. Prevention can be better addressed by inclusion of environmental factors (Biglan et al., 2012). There is considerable evidence on the deleterious impact of specific toxic environmental conditions, including aversive social conditions (e.g., familial abuse, teasing) and biological challenges (e.g., dietary deficiencies, the presence of lead-based paint), on mental health and behavioral problems. Similarly, research has documented the impact of poverty on mental, emotional, and behavioral health of children and youths; both family poverty and neighborhood poverty have an impact on mental health during development and often presage continued mental health difficulties in adulthood (Yoshikawa, Aber, & Beardslee, 2012).

Two principles of the developmental perspective on prevention are the concepts of multifinality and equifinality (Cicchetti & Rogosch, 1996). Multifinality indicates that a range of varied outcomes can occur during the process of development, despite exposure to a common early risk factor (e.g., parental domestic violence). In contrast, the principle of equifinality recognizes that a common dysfunctional outcome can occur from various etiologies and developmental processes. As such, researchers and practitioners working with a developmentally anchored approach to prevention acknowledge that there are many pathways to the onset of mental health disorders and emphasize that different causal processes likely operate for each individual. More important, exposure to a risk factor in early life does not necessarily predict later mental health problems in adulthood, because the individual may develop resiliencies that affect his or her adaptation. The

identification of "self-righting" processes is essential in development of prevention efforts within this approach (Cicchetti & Rogosch, 1997).

Another cornerstone of prevention within the developmental approach is appreciation for the complex interplay of risk and resilience or protective factors during growth and development. In particular, prevention programs that evolve from a developmental approach aim to reduce the effect of risk factors while enhancing the effect of resilience or protective factors. Consideration of the strength of each type of factor (in the form of empirically derived effect sizes) is a core component in the design of empirically based prevention programs. As an example, a prevention program was designed to change the developmental course of children with early-onset aggressive behavior (August et al., 2001). This program included multiple components, designed both for risk reduction (e.g., response cost consequation of aggressive behavior and positive reinforcement of desired behavior to reduce coercive parental control processes) and protection enhancement (e.g., fostering strong positive bonding between children and their parents, teachers, and peers), both integrated into a single program and offered at high intensity. Although greater discussion of programs designed to prevent the development of interpersonal violence can be found in Chapter 28 of this volume, August et al.'s (2001) program exemplifies the careful interplay of addressing both risk and resilience or protective factors.

### Comparison of the Two Approaches

In considering these two approaches to prevention, areas of both similarity and difference appear. Both approaches consider factors that increase risk for target conditions, as well as protective factors. As well, both approaches can address the individual or some facet of the individual's interpersonal environment, such as the family or the school system. Both the public health and the developmental approach can address social processes, environmental circumstances, or both.

Despite these similarities, these two approaches to prevention have several key differences, mostly noted with respect to ideology. The public health approach is heavily reliant on the medical model and designs preventive efforts to address the specific symptoms of a given disorder. By contrast, the developmental approach eschews a focus on diagnostics, preferring to conceptualize prevention as building resilience and facilitating self-correction in natural developmental processes. Although one can juxtapose these two ideologies, many interventions have integrated them and include components derived from both conceptual approaches, as illustrated in the next section.

## MAJOR ACCOMPLISHMENTS AND KNOWLEDGE BASE

After a congressional mandate in the early 1990s, the Institute of Medicine published a landmark report on the prevention of mental disorders (Mrazek & Haggerty, 1994). This report highlighted the role of malleable risk and protective factors, especially at key stages of development, in preventing five serious mental disorders: Alzheimer's disease, schizophrenia, alcohol use disorder, depression, and conduct disorder. In addition, a preventive intervention research cycle was proposed, and an agenda for future work in the field was outlined.

Subsequently, three stages of the prevention research cycle have been described (Reiss & Price, 1996): (1) longitudinal studies to test etiological models of disorders to determine risk and protective factors, (2) randomized controlled trials (RCTs) and effectiveness trials of preventive interventions, and (3) implementation and dissemination of effective preventions into the community. For each of the disorders reviewed below, a large body of research exists on risk and resilience, Step 1 of the cycle. However, we focus on the growing number of studies making up Step 2, those that examine complete preventive interventions in efficacy and effectiveness trials. The field of prevention science has only recently developed interventions for mental disorders that are ready for dissemination; therefore, Step 3 has been identified as a priority for prevention researchers over the next decade (e.g., Muñoz, Beardslee, & Leykin, 2012).

In this section, we review several major accomplishments in the prevention of mental disorders, based on a sampling of empirical work in three

areas: posttraumatic stress disorder, eating disorders, and depression. Recognizing that the literature on the prevention of mental disorders is large, we selected these areas for two reasons. First, prevention work in each of these areas has made impressive strides, with clear demonstration of efficacy and effectiveness in some cases. Second, the work that has been conducted in these areas illustrates the two approaches to prevention discussed previously. Whereas most research on preventing posttraumatic psychopathology has stemmed from the public health perspective, research on eating disorders prevention has taken a developmental approach. Although prevention of depression is one of the oldest applications of this field, we discuss it last because it integrates the public health and developmental perspectives in ways that we believe will be useful in shaping future research.

## Prevention of Posttraumatic Psychopathology

Reduction of the likelihood of psychopathology after a traumatic stressor exemplifies the public health perspective on prevention. Exposure to trauma is nearly universal, with as many as 90% of adults having experienced a traumatic event (Breslau et al., 1998), defined as an event that involves actual or threatened death, serious injury, or sexual violation that is either witnessed or directly experienced (American Psychiatric Association, 2013). The most common traumas include learning of the sudden, unexpected death of a loved one; interpersonal violence (e.g., being beaten, raped, or mugged); serious motor vehicle accidents; and natural disasters (Breslau, 2009). Although most trauma survivors report high levels of distress shortly after the event, mental health problems tend to be transient, with resilience being the most common long-term outcome (Bonanno, Westphal, & Mancini, 2011).

Even so, a significant minority (approximately 10%; Breslau, 2009) of trauma survivors develop posttraumatic stress disorder (PTSD), a chronic and disabling condition marked by intrusive psychological reexperiencing of the traumatic event, persistent avoidance of stimuli associated with the trauma, negative alterations in mood and cognition, and alterations in physiological arousal and reactivity (American Psychiatric Association, 2013). These emotional disturbances can be remarkably persistent. Median time to remission of PTSD is more than 2 years, with more than one third of cases persisting for more than 5 years (Breslau, 2009).

Given the intractable nature of the disorder and its significant costs, prevention of PTSD is a major public health priority, especially after traumatic events that affect large segments of the population. Preventive interventions have balanced costs and benefits across the three tiers of prevention: universal, selective, and indicated. For PTSD, universal prevention is applied to an entire subgroup of the population at high risk of trauma exposure (e.g., members of the Army community; Casey, 2011). Selective preventive interventions can be applied to individuals at risk for PTSD by virtue of trauma exposure in general or because of exposure to a particular type of trauma. For example, some types of trauma are associated with greater conditional risk of PTSD relative to other traumas (e.g., an estimated 50% of rape survivors develop PTSD; Breslau, 2009). Finally, indicated preventions target individuals with subclinical symptoms of PTSD or with acute stress disorder (ASD). Although a diagnosable disorder in itself, ASD is often treated primarily as an indicator of prodromal PTSD, because as many as 80% of people with ASD in the month after a traumatic event meet diagnostic criteria for PTSD 6 months later (Harvey & Bryant, 1998). At present, the only universal prevention program that has been implemented on a large scale, the Army's Comprehensive Soldier Fitness program (Casey, 2011), has not been empirically evaluated. However, selective and indicated preventive interventions have shown promising results, despite some early setbacks.

One of the first attempts to prevent PTSD, psychological debriefing, has been the subject of extensive debate since the widespread implementation of Critical Incident Stress Debriefing (CISD; Mitchell & Everly, 1996). CISD is a selective intervention applied to individuals who have been exposed to a traumatic event. Designed to be implemented as part of a larger crisis response to community members affected by a trauma, CISD involves facilitator-led debriefing groups that last approximately 3 hours, held 2 days to 1 week after the crisis. The guiding

principles of CISD include expressing cognitive and emotional reactions to the event in a supportive context while receiving psychoeducation about normal responses to trauma and adaptive ways to cope. Unfortunately, early claims about the effectiveness of CISD have not withstood scientific scrutiny using RCTs (Litz et al., 2002). In fact, an alarming number of studies have suggested that CISD can have iatrogenic effects by interfering with natural recovery processes after trauma (McNally, Bryant, & Ehlers, 2003). Other controversies include when and to whom the intervention is given, with concerns raised about information provided being too much, too soon, without time to habituate to strong feelings of anxiety, as well as the possibility of individuals being mandated or feeling coerced to participate (Litz et al., 2002; McNally et al., 2003). Because of the body of studies showing that CISD is not superior to natural recovery from trauma and may impede recovery, it has been characterized by some as a potentially harmful therapy (e.g., Lilienfeld, 2007) and is no longer recommended by agencies such as the International Society for Traumatic Stress Studies (Foa et al., 2009).

Other forms of psychological debriefing have shown promise at reducing psychological problems after trauma. Public health prevention is particularly well suited to military settings, in which the risk of PTSD is high and the noxious agent (i.e., combat trauma) responsible for the disorder is clearly identified. One prevention program, Battlemind Debriefing, has been used with military service members to mitigate maladaptive responses to a potentially traumatic event while on deployment (Adler, Castro, & McGurk, 2009). A related program is Battlemind Training, a group psychoeducational intervention designed to facilitate adjustment to life after a combat deployment (Adler, Bliese, et al., 2009).

Battlemind Debriefing is a selective prevention program for soldiers exposed to combat stress that can be implemented in three modes: time driven, which is scheduled at regular intervals during long deployments; event driven, which is scheduled at a commander's request after a specific traumatic incident; and postdeployment (Adler, Castro, & McGurk, 2009). Battlemind Debriefing was developed to address the shortcomings of previous versions of debriefing such as CISD and to capitalize on the unique nature of group cohesion and peer support within military deployments in preventing PTSD. It minimizes the historical review and emotional reexperiencing of traumatic events, so as not to reexpose participants to trauma, and instead emphasizes resilience to provide a model and expectation for healthy coping. Throughout the process, social support from military peers and leaders is presented as a vital strategy for easing the transition from combat to home life.

In one study, 2,297 U.S. veterans returning from combat deployment in Iraq were randomized by platoon to Battlemind Debriefing, Battlemind Training, or standard postdeployment stress education. Four-month follow-up showed that soldiers in the Battlemind Debriefing group showed reduced symptoms of PTSD, depression, and sleep difficulties (relative to the stress education group), but only for those who had been exposed to high levels of combat stress (Adler, Bliese, et al., 2009). Although more studies are needed, Battlemind Debriefing shows promise as a selective prevention for PTSD and other postdeployment difficulties for combat veterans.

For civilian populations, psychological first aid (PFA) has largely replaced debriefing as the early preventive intervention of choice after trauma. PFA, developed within the public health perspective, is a selective prevention designed to address acute needs, reduce distress, and promote short- and long-term functioning after a large-scale traumatic event such as a natural disaster or mass violence (Ruzek et al., 2007). The intervention is designed to be cost effective, easy to deliver, and minimize the risk of harm to participants in order to safely reach as many people affected by the trauma as possible. The goals of PFA are organized around eight core actions: contacting and engaging with affected individuals, enhancing safety and comfort, stabilizing emotions, information gathering to assess current needs, offering practical assistance with those needs, connecting with social support, providing information about coping, and linking survivors with collaborative services (Ruzek et al., 2007). Only at this last stage does the selective prevention phase into an indicated prevention, when trauma

survivors identified as having mental health treatment needs are referred to appropriate providers. Owing to organizational problems in the wake of mass trauma and difficulties measuring the constructs of interest (i.e., promotion of a sense of safety and comfort), no large-scale investigations of PFA's efficacy have yet been conducted (Vernberg et al., 2008). However, the essential elements of PFA (promoting a sense of safety, calming, self-efficacy, connectedness, and hope) have strong research support for intervention after a mass trauma (Hobfoll et al., 2007).

Finally, cognitive–behavioral therapy (CBT) interventions have been used as indicated prevention for PTSD. As prevention, CBT typically includes psychoeducation, anxiety management techniques, exposure to reminders of the traumatic event, and restructuring of dysfunctional posttraumatic cognitions. Bryant et al. (1998, 2008) have conducted a series of studies aimed at using brief CBT (i.e., four to six sessions) for trauma survivors with ASD to prevent later incidence of diagnosable PTSD. These studies have consistently demonstrated CBT's superiority to supportive counseling, with one study showing 17% of participants in the CBT group meeting diagnostic criteria for PTSD at 6-month follow-up, compared with 67% of participants who received supportive counseling (Bryant et al., 1998). Benefits of the CBT prevention program were maintained up to 4 years after the intervention, with 8% of the CBT group having a diagnosis of PTSD compared with 25% of the supportive counseling group (Bryant, Moulds, & Nixon, 2003).

Dismantling studies have compared the relative efficacy of exposure, cognitive restructuring, and other components of CBT (e.g., anxiety management), with results suggesting that exposure is the most powerful agent of change. For instance, one RCT (Bryant et al., 2008) found that postintervention rates of PTSD were twice as high for ASD sufferers treated with cognitive restructuring alone (63%) than they were for those who were treated with exposure alone (33%). However, cognitive restructuring was still superior to a wait-list control group, which showed a 77% incidence of PTSD after 6 weeks. Finally, a meta-analysis of 25 studies evaluating multiple-session early interventions (i.e., within 3 months of the trauma) concluded that CBT was effective prevention for chronic PTSD, but only when used as an indicated prevention (Roberts et al., 2009). Effects were largest for participants meeting diagnostic criteria for either ASD or acute PTSD, followed by individuals with subthreshold symptoms. Multisession CBT was not effective as a selective intervention, applied to all trauma-exposed participants regardless of symptoms.

In conclusion, several interventions born of the public health tradition show promise for the prevention of posttraumatic psychopathology. Despite the disappointing findings for CISD, other interventions for traumas such as Battlemind Debriefing (Adler, Bliese, et al., 2009) and PFA (Ruzek et al., 2007) are emerging as effective selective prevention programs that can reach large numbers of trauma survivors. As an indicated prevention for symptomatic individuals or those meeting diagnostic criteria for ASD, exposure-based CBT is the intervention of choice for reducing the incidence of chronic PTSD (Bryant et al., 2008). Taken together, these prevention programs can significantly reduce the public health impact of PTSD and improve resilience for millions of trauma survivors worldwide.

## Prevention of Eating Disorders

In contrast to the population-based prevention programs for PTSD, programs for eating disorders have predominantly taken a developmental perspective, which is better suited to the disorders' relatively low prevalence and typical onset during adolescence. Two primary eating disorders have been recognized: anorexia nervosa (AN), which is characterized by severely restricted calorie intake leading to abnormally low weight, and bulimia nervosa (BN), which is characterized by a pattern of binge eating followed by inappropriate compensatory behavior (e.g., self-induced vomiting) intended to prevent weight gain. In both AN and BN, self-evaluation is unduly influenced by body weight or shape, body image is distorted, and sufferers typically report an intense fear of being or becoming fat (American Psychiatric Association, 2013). However, the majority of individuals presenting for eating disorder treatment do not meet the full criteria for AN or BN and have instead been characterized as having an atypical

eating disorder or eating disorder not otherwise specified (Fairburn & Harrison, 2003).

Eating disorders are a key target for developmental prevention research because of their early age of onset, chronic course, significant medical and psychological comorbidities, and high prevalence in some segments of the population, such as among female high school and college students (Hudson et al., 2007). Stice, Becker, and Yokum (2013) have described three stages of eating disorder prevention efforts: first-generation programs that focused on psychoeducation about the harmful effects of eating disorders, second-generation programs that focused on education about specific risk factors such as body dissatisfaction and endorsement of harmful cultural ideals of thinness, and third-generation programs informed by social psychology principles to indirectly reduce distorted beliefs about eating and one's body or promote healthy eating.

First-generation eating disorder prevention programs that took a public health perspective generally had disappointing results, indicating the need for more targeted efforts, both in terms of addressing specific risk factors and moving from a universal to a selected population (Pearson, Goldklang, & Striegel-Moore, 2002). Second- and third-generation programs, in contrast, stem from the developmental perspective on prevention and have been implemented among samples selected on the basis of demographic risk factors (i.e., adolescent or young adult women, mainly Caucasian and high in socioeconomic status; Fairburn & Harrison, 2003). Second-generation preventive interventions showed modest but temporary reductions of the targeted risk factors (e.g., Stewart et al., 2001). Currently, two broad third-generation approaches have received strong support in both efficacy and effectiveness research: dissonance-based and healthy weight eating disorder prevention programs (Stice et al., 2013).

To date, the largest body of evidence has supported dissonance-based preventive interventions such as the Body Project, as described by Stice and Presnell (2007). Dissonance-based interventions aim to change harmful attitudes about the thinness ideal by having participants engage in activities inconsistent with that ideal. For female adolescents, the thinness ideal represents a toxic condition in the social environment that presents a developmental challenge. Participants in dissonance-based programs are instructed to act in a way that is contrary to holding an internalized thinness ideal, such as by writing a letter to a younger girl providing advice on resisting harmful cultural standards of female beauty, engaging in counterattitudinal role-plays, and committing to some form of social activism designed to promote healthy body image. Dissonance-based interventions are most effective when participants voluntarily assume the counterattitudinal stance and when their actions are performed in front of others (e.g., in a small-group intervention). These interventions are thought to be more effective than psychoeducational approaches because the change is internally motivated by challenging a person's self-concept rather than having information provided by an external source. Because forming a stable and positive sense of self is one of the crucial developmental tasks of young adulthood, this aspect of dissonance-based programs is especially conducive to resilience.

In the largest trial of a dissonance-based eating disorder prevention, 481 teenage girls who reported high levels of body dissatisfaction were randomly assigned to the dissonance-based intervention, a healthy weight intervention, an expressive writing condition, or an assessment-only control condition (Stice et al., 2006). Girls in the dissonance-based intervention ($n = 115$) participated in three weekly 1-hour sessions in groups of six to 10 members. The intervention included both in-session exercises and between-session homework assignments focused on helping participants critically evaluate the thinness ideal, enhance their motivation to change poor body image, engage in self-affirming activities, and challenge behaviors resulting from body dissatisfaction (e.g., wearing a sleeveless shirt for an individual concerned about exposing fat on her upper arms). Postintervention and both 6-month and 1-year follow-up assessments showed that girls receiving the dissonance intervention exhibited greater reductions in internalization of the thinness ideal, dieting, and eating disorder symptoms than participants in the expressive writing or assessment-only control groups (Stice et al., 2006). Furthermore, over a

3-year follow-up period, participants in the dissonance intervention groups showed a 60% reduction in incidence of eating disorders (6% diagnosed with AN, BN, or eating disorder not otherwise specified, compared with 15% of the assessment-only control group), suggesting that the changes produced by the dissonance program were clinically meaningful and long lasting (Stice et al., 2008).

The second preventive intervention that has been shown to significantly reduce the risk of onset of eating disorders, the healthy weight intervention, was originally developed as a placebo control for RCTs of dissonance-based programs (Stice et al., 2006). Healthy weight interventions teach participants to monitor their dietary intake and physical activity patterns and to commit to changing unhealthy habits through homework assignments in order to reach a healthy weight for their body type. In the large 2006 study by Stice et al., 117 girls were randomly assigned to the healthy weight intervention group. They also participated in three weekly 1-hour group sessions in which the focus was on learning to balance their energy intake with their energy needs. The thinness ideal was defined to contrast with the healthy ideal, and participants were led to develop individualized plans for modifying their diet and exercise habits. Homework consisted of self-monitoring eating and exercise and to make specific, measurable healthy changes to these habits. Similar to the dissonance intervention, motivational interviewing was used to encourage participants to generate personally meaningful reasons for attaining the healthy ideal. Group activities focused on providing support and troubleshooting difficulties with the homework assignments. Assessments done at the 1-month postintervention visit and at the 6-month and 1-year follow-up visits indicated that, compared with the control conditions, participants in the healthy weight group showed significant reductions in internalization of the thinness ideal, dieting, and eating disorder symptoms. Although the dissonance-based group showed larger effects on these variables than the healthy weight group at posttest, group differences for the active interventions disappeared by 6-month and 1-year follow-ups (Stice et al., 2006). Over the 3-year follow-up, effects for the healthy weight intervention at preventing onset of eating disorders were identical to those of the dissonance intervention, representing a 61% reduction in incidence (Stice et al., 2008).

In addition, the healthy weight intervention is important because it reduced the incidence of obesity as well as of eating disorders and was superior to the dissonance intervention on this outcome (Stice et al., 2006, 2008). During the 1-year follow-up period, 1% of the girls in the healthy weight group developed obesity compared with 3% of the dissonance group participants, 9% of the expressive writing control participants, and 12% of the assessment-only controls (Stice et al., 2006). By the 3-year follow-up, the healthy weight intervention participants showed a 55% reduction in the incidence of obesity onset compared with the assessment-only control group (Stice et al., 2008). Remarkably, one 3-hour preventive intervention successfully decreased incidence of both eating disorders and obesity over a 3-year period.

Since the initial studies, the healthy weight program has been modified to enhance its potency as an active intervention. Specifically, it now allows for delivery by peer facilitators, emphasizes the importance of the nutrient density of one's diet, and elaborates the focus on the healthy ideal to address concerns about inadvertently promoting the thinness ideal because of the program's focus on weight (Becker et al., 2010). New sorority members ($N = 106$) were randomly assigned to participate in either a healthy weight or a dissonance-based intervention. Both interventions consisted of two 2-hour peer-led group sessions. At the postintervention assessment, the dissonance-based group showed a significantly greater reduction in eating disorder risk factors (internalization of the thinness ideal, negative affect, and bulimic symptoms) than the healthy weight group. However, group differences disappeared by 14-month follow-up, and both interventions showed significant and lasting reductions in eating disorder pathology (Becker et al., 2010). In sum, both dissonance-based and healthy weight interventions have been supported by efficacy research for eating disorder prevention. These programs focus on individual risk and resilience factors to intervene in a common developmental challenge for young women in the United States

and other industrialized nations, the formation of a positive body image and rejection of a culturally endorsed thinness ideal. Both of these interventions have been studied in real-world settings, although the dissonance-based intervention has received more attention.

## Prevention of Depression

Finally, we review the research on the prevention of depression, because it is not only one of the oldest targets of prevention science, but it also represents an integration of the public health and developmental perspectives. Because of its comparatively early age of onset, high rate of comorbidity with other mental and physical illnesses, and increased mortality risk, depression is an obvious target for prevention efforts (Kessler et al., 2003). Indeed, a report by the World Health Organization (2004) found that unipolar depression is responsible for up to one third of the disability caused by psychiatric illnesses worldwide and thus is the most important disorder to prevent. Major depressive disorder is a highly prevalent and disabling condition that affects approximately 16% of Americans during their lifetime (Kessler et al., 2003). Other forms of depression, such as dysthymia and subthreshold or "minor" depression, affect an additional 10% of the population and are also associated with significant functional impairment (Judd, Schettler, & Akiskal, 2002).

Substantial research has shown that major depressive episodes and, by extension, major depressive disorder, can be prevented. For example, a meta-analysis of RCTs of preventive interventions found that they reduced the incidence of depression by an average of 22% (Cuijpers et al., 2008). In general, selective and indicated preventions appear more effective than universal preventions, although the authors of the meta-analysis noted that only two universal prevention studies met their inclusion criteria. As Muñoz et al. (2012) illustrated, with a 1-year incidence of less than 2% in a community sample, approximately 35,000 participants would be needed to show even a 22% reduction in incidence. Therefore, most universal prevention studies, even of a condition as common as depression, are severely underpowered. Selective and indicated preventions used with high-risk populations are more likely to show effects.

Another issue relevant to the prevention of depression is the importance of length of follow-up in determining whether the intervention successfully reduced incidence or instead delayed the onset of disorder (Cuijpers et al., 2008). Because few studies include follow-up periods longer than 2 years, it is difficult to answer this question. However, even a 1- or 2-year delay in the onset of a depressive disorder may significantly mitigate the disease burden suffered by an individual and the individual's broader interpersonal system. Thus, prevention of depression aims to reduce the public health impact of the most common and most costly mental health disorder, in part by delaying the development of the first episode. In the following section, we highlight some of the preventive interventions for depression that have received the strongest empirical support to date.

The earliest successful prevention program for depressive disorders, Coping With Depression (CWD), was initially developed by Lewinsohn et al. (1984) as both treatment and prevention for mood dysregulation. This approach, based on social learning theory, aims to improve negative cognitions, increase self-efficacy of mood management, and promote behavioral activation (Cuijpers et al., 2009). In its original format, CWD was a 12-session psychoeducational group treatment designed to provide participants with a toolbox of cognitive and behavioral strategies applied to four main modules: relaxation training, increasing pleasant activities, changing negative cognitions, and improving social skills (Lewinsohn et al., 1984). However, CWD is a flexible approach that has successfully been delivered in a variety of formats, including in individual or group therapy, as an online intervention, or through a self-help manual with paraprofessional support (Cuijpers et al., 2009). Prevention of depression with the CWD program has been tested in participants with subclinical symptoms of depression to examine incidence of depressive disorders at follow-up. A meta-analysis of six preventive intervention studies of CWD found that the program reduced the incidence of depression by 38% (Cuijpers et al., 2009).

Following the success of depression preventions intended for a wide range of clientele, developmental psychopathology researchers began to modify prevention programs to address specific risk periods in an individual's life. Because major depression is highly prevalent in adolescence, and because early onset of a first depressive episode predicts increased risk of recurrent episodes, developmental preventive interventions for adolescents are especially needed (Lewinsohn et al., 2000). Building from the cognitive–behavioral techniques in the CWD protocol, Clarke et al. (1993) developed a school-based depression prevention program for adolescents. Adolescents (average age across studies was approximately 14–15 years) participate in six to 15 small-group sessions lasting 45 to 90 minutes each, with a focus on building skills in cognitive restructuring and problem solving (Clarke et al., 2001; Garber et al., 2009). Initial universal prevention studies did not show any significant reduction in the incidence of depressive episodes. However, subsequent investigation of indicated preventions demonstrated clinically significant reductions in both incidence rates and continuous measures of depressive symptoms compared with a usual-care control (Clarke et al., 2001). For example, in a large-scale replication study of adolescents who were at risk of a major depressive episode (by virtue of having a depressed parent and reporting subclinical depressive symptoms or past depression), the CBT prevention reduced incidence by 11%, with an effect size comparable to the mean treatment effect for medications in adolescent depression (Garber et al., 2009).

Furthermore, longitudinal studies have shown maintenance of the preventive effect, with 14% of participants in the experimental group experiencing a depressive episode, compared with 23% of control participants, over a 2-year follow-up (Stice et al., 2010). This program has also been adapted and successfully applied to the prevention of geriatric depression among nursing home residents (Konnert, Dobson, & Stelmach, 2009), illustrating its relevance to another stage of life representing increased risk.

Because children of depressed parents are at increased risk of developing depression themselves (Clarke et al., 2001), another promising developmental preventive approach is to target the family as a unit. For example, family education programs have been used in which both parents and children are taught about risk and resilience for mood disorders, and families are encouraged to relate this information to their own experience (Beardslee et al., 2007). Children are also encouraged to decrease their sense of self-blame about the parent's depression and to engage in rewarding relationships and activities.

Theorizing that depression-induced disruptions in parenting may contribute to child and adolescent depression, Compas et al. (2009, 2011) conducted a series of studies examining a family intervention for negative parenting behaviors such as withdrawal and intrusiveness and irritability. Parents and children in families with a history of parental depression participate in a cognitive–behavioral group intervention in which parents are taught parenting skills such as expressing warmth and providing structure and children and adolescents are taught techniques for managing stress associated with their parent's disorder. These studies have demonstrated decreased internalizing and externalizing symptoms among the children, as well as improvements in parenting behaviors and children's coping skills (Compas et al., 2009). Over a 2-year follow-up period, children in families that had participated in the group cognitive–behavioral intervention were less likely to develop a diagnosis of major depressive disorder by an odds ratio of 2.91 (Compas et al., 2011). The public health significance of this reduction in incidence is immense and suggests that selective interventions for other at-risk groups may have a similar impact.

In particular, prevention programs have been implemented for adults at risk of depression as a result of medical problems or other life stressors. These programs combine strategies from the developmental and public health perspectives to address large segments of the population with selective or indicated preventions for individuals with certain depression risk factors. For example, de Jonge et al. (2009) used medical case complexity to select rheumatology or diabetes patients who were at especially high risk for depression. They found that individual

intervention with a psychiatric nurse, focused on coping with the illness and improving treatment compliance, resulted in reduced incidence of major depressive disorder (36.4%, compared with 63.2% in the usual-care control group).

Several preventive interventions for depression in pregnant or postpartum women have also received substantial empirical support. For example, a large-scale universal prevention trial in the United Kingdom trained community nurse specialists (who made home visits to all mothers and infants in the postnatal period) to screen for depressive symptoms and, if needed, to provide informal counseling based on cognitive–behavioral or humanistic psychotherapy principles (Brugha et al., 2011). This intervention resulted in an almost 30% reduction in incidence of women who scored above the cutoff for a likely major depressive episode on a postpartum depression measure. In the United States, several studies have supported the use of the *Mamás y Bebés* ("Mothers and Babies") program (Muñoz et al., 2007), a cognitive–behavioral protocol based on the CWD, for low-income racial or ethnic minority mothers. Finally, in addition to CBT, brief programs based on interpersonal psychotherapy have also been successfully implemented among pregnant women at high risk for depression as a result of financial stress (Zlotnick et al., 2006).

Overall, the work in depression presents an illustrative case of integrating the dominant approaches to the prevention of mental health problems. Because of its high prevalence and significant economic, social, and personal costs, depression is an important disease to prevent. *Coping With Depression* and other CBT-based programs have been shown to be effective indicated preventive interventions (Muñoz et al., 2012). The developmental perspective adds to the public health approach by addressing risk factors for depression at key stages of childhood, adolescence, and older adulthood, as exemplified by well-validated prevention programs for individuals at various ages and families. By reliably reducing incidence of depression by approximately one fifth to one fourth, these programs as a group represent a notable success story of prevention science.

## FUTURE DIRECTIONS

The prevention of mental health problems has received considerable attention in the past 2 decades and has achieved several notable successes, including the development of effective strategies to prevent depression and eating disorders. Prevention targeting other mental disorders has not proceeded at quite the same pace, although as illustrated by the work in posttrauma symptoms, efforts are proceeding. In considering the current state of affairs, several directions for the future emerge.

First, prevention science has focused most energetically on high-incidence mental disorders. Conditions that are relatively common (such as depression) have commanded scientific attention, and relatively low-incidence disorders (such as psychotic disorders) have not. Although not highly prevalent, schizophrenia is a chronic, long-term disorder that is associated with considerable functional impairment and the need for ongoing mental health care. Research has suggested a negative association between the duration of the interval of untreated psychosis and long-term functional outcomes (e.g., Perkins et al., 2005). As such, interventions designed to address individuals who are in the emergent process of developing schizophrenia (termed the *prodromal stage*) are needed. A shift from indicated to selective prevention could easily reduce the cost of care for individuals with schizophrenia and potentially result in an enhanced quality of life for these people (e.g., Brown & McGrath, 2011). It seems timely for prevention efforts to turn their focus to low-incidence disorders that are chronic and costly.

Second, as illustrated in our discussion of prevention efforts for eating disorders, the evolution of prevention programs for mental disorders is often iterative within psychology. Because mental disorders are typically heterogeneous in etiology, it is not possible to target one known cause in designing a prevention program. Rather, development of prevention programs relies on risk and resilience for specific mental health conditions, with incorporation of new knowledge over time. Large-scale trials are unusual, given this iterative process. This state is one of the cardinal features that differentiate

the prevention of mental health conditions from the prevention of physical health conditions (see Chapter 27, this volume).

Third, unlike public health campaigns designed to save lives through the mandated use of seat belts or other prevention programs that target physical illness, prevention programs for mental disorders are rarely simple. In the future, psychologists should consider prevention programs that can be delivered without the considerable involvement of trained mental health professionals. The peer-led program previously described to address weight concerns (Becker et al., 2010) is one example of such an effort. Integration of both mental and physical disorders has been suggested to enhance prevention (e.g., Catania et al., 2011). In this model, mental health prevention programs could be introduced into primary health care settings, with a heavy emphasis on both health promotion and universal prevention. To reach individuals in developing countries, as well as individuals who do not seek mental health services within the United States, this type of partnering will be necessary.

Fourth, prevention efforts to date have tended to understate the importance of social factors, such as poverty, homelessness, family violence, and unwanted pregnancies (Albee & Joffe, 2004). Rather, most current prevention mental health programs focus on either individual-level targets (e.g., undesired cognitions, emotions, or behaviors) or biological factors (being the genetic offspring of a depressed mother). Prevention programs should address social injustice and strive for equality in access to resources, both tangible and intangible. It seems probable that increased emphasis on programs to develop equitable, nurturing environments will enhance prevention efforts.

Last, prevention science offers a range of new roles and work environments for psychologists. For example, prevention programs have been staged in schools, churches, and recreational camps and via the Internet. Depending on the structure of the program, the mental health professional can serve as consultant, developer, or coach in each of these settings. As mental health services expand beyond traditional care settings, prevention offers an array of exciting new options for emerging professionals.

In sum, prevention has emerged as a viable science and practice, with an established track record in addressing several mental health disorders. Although a young science, prevention offers considerable promise in addressing mental health disorders both nationally and globally.

## References


Adler, A. B., Bliese, P. D., McGurk, D., Hoge, C. W., & Castro, C. A. (2009). Battlemind debriefing and battlemind training as early interventions with soldiers returning from Iraq: Randomization by platoon. *Journal of Consulting and Clinical Psychology*, *77*, 928–940. http://dx.doi.org/10.1037/a0016877

Adler, A. B., Castro, C. A., & McGurk, D. (2009). Time-driven battlemind psychological debriefing: A group-level early intervention in combat. *Military Medicine*, *174*, 21–28. http://dx.doi.org/10.7205/MILMED-D-00-2208

Albee, G. W., & Joffe, J. M. (2004). Mental illness is NOT "an illness like any other." *Journal of Primary Prevention*, *24*, 419–436. http://dx.doi.org/10.1023/B:JOPP.0000024799.04666.8b

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: Author.

August, G. J., Realmuto, G. M., Hektner, J. M., & Bloomquist, M. L. (2001). An integrated components preventive intervention for aggressive elementary school children: The early risers program. *Journal of Consulting and Clinical Psychology*, *69*, 614–626. http://dx.doi.org/10.1037/0022-006X.69.4.614

Bailey, W., Duchon, K., Barker, L., & Maas, W.; Centers for Disease Control and Prevention. (2008). Populations receiving optimally fluoridated public drinking water—United States, 1992–2006. *Morbidity and Mortality Weekly Report*, *57*, 737–741.

Beardslee, W. R., Wright, E. J., Gladstone, T. R. G., & Forbes, P. (2007). Long-term effects from a randomized trial of two public health preventive interventions for parental depression. *Journal of Family Psychology*, *21*, 703–713. http://dx.doi.org/10.1037/0893-3200.21.4.703

Beck, J. G., Clapp, J. D., Jacobs-Lentz, J., McNiff, J., Avery, M., & Olsen, S. A. (2014). The association of mental health conditions with employment, interpersonal, and subjective functioning after intimate partner violence. *Violence Against Women*, *20*, 1321–1337. http://dx.doi.org/10.1177/1077801214552855

Becker, C. B., Wilson, C., Williams, A., Kelly, M., McDaniel, L., & Elmquist, J. (2010). Peer-facilitated cognitive dissonance versus healthy weight eating

disorders prevention: A randomized comparison. *Body Image*, *7*, 280–288. http://dx.doi.org/10.1016/j.bodyim.2010.06.004

Biglan, A., Flay, B. R., Embry, D. D., & Sandler, I. N. (2012). The critical role of nurturing environments for promoting human well-being. *American Psychologist*, *67*, 257–271. http://dx.doi.org/10.1037/a0026796

Bonanno, G. A., Westphal, M., & Mancini, A. D. (2011). Resilience to loss and potential trauma. *Annual Review of Clinical Psychology*, *7*, 511–535. http://dx.doi.org/10.1146/annurev-clinpsy-032210-104526

Breslau, N. (2009). The epidemiology of trauma, PTSD, and other posttrauma disorders. *Trauma, Violence, and Abuse*, *10*, 198–210. http://dx.doi.org/10.1177/1524838009334448

Breslau, N., Kessler, R. C., Chilcoat, H. D., Schultz, L. R., Davis, G. C., & Andreski, P. (1998). Trauma and posttraumatic stress disorder in the community: The 1996 Detroit Area Survey of Trauma. *Archives of General Psychiatry*, *55*, 626–632. http://dx.doi.org/10.1001/archpsyc.55.7.626

Brown, A. S., & McGrath, J. J. (2011). The prevention of schizophrenia. *Schizophrenia Bulletin*, *37*, 257–261. http://dx.doi.org/10.1093/schbul/sbq122

Brugha, T. S., Morrell, C. J., Slade, P., & Walters, S. J. (2011). Universal prevention of depression in women postnatally: Cluster randomized trial evidence in primary care. *Psychological Medicine*, *41*, 739–748. http://dx.doi.org/10.1017/S0033291710001467

Bryant, R. A., Harvey, A. G., Dang, S. T., Sackville, T., & Basten, C. (1998). Treatment of acute stress disorder: A comparison of cognitive–behavioral therapy and supportive counseling. *Journal of Consulting and Clinical Psychology*, *66*, 862–866. http://dx.doi.org/10.1037/0022-006X.66.5.862

Bryant, R. A., Mastrodomenico, J., Felmingham, K. L., Hopwood, S., Kenny, L., Kandris, E., . . . Creamer, M. (2008). Treatment of acute stress disorder: A randomized controlled trial. *Archives of General Psychiatry*, *65*, 659–667. http://dx.doi.org/10.1001/archpsyc.65.6.659

Bryant, R. A., Moulds, M. L., & Nixon, R. V. (2003). Cognitive behaviour therapy of acute stress disorder: A four-year follow-up. *Behaviour Research and Therapy*, *41*, 489–494. http://dx.doi.org/10.1016/S0005-7967(02)00179-1

Casey, G. W., Jr. (2011). Comprehensive soldier fitness: A vision for psychological resilience in the U.S. Army. *American Psychologist*, *66*, 1–3. http://dx.doi.org/10.1037/a0021930

Catania, L. S., Hetrick, S. E., Newman, L. K., & Purcell, R. (2011). Prevention and early intervention for mental health problems in 0-25 year olds: Are there evidence-based models of care? *Advances in Mental Health*, *10*, 6–19. http://dx.doi.org/10.5172/jamh.2011.10.1.6

Cicchetti, D., & Rogosch, F. (1996). Equifinality and multifinality in developmental psychopathology. *Development and Psychopathology*, *8*, 597–600. http://dx.doi.org/10.1017/S0954579400007318

Cicchetti, D., & Rogosch, F. A. (1997). The role of self-organization in the promotion of resilience in maltreated children. *Development and Psychopathology*, *9*, 797–815. http://dx.doi.org/10.1017/S0954579497001442

Clark, D. A. (2004). Design considerations in prevention research. In D. A. Dozois & K. S. Dobson (Eds.), *The prevention of anxiety and depression: Theory, research, and practice* (pp. 73–98). http://dx.doi.org/10.1037/10722-004

Clarke, G. N., Hawkins, W., Murphy, M., & Sheeber, L. (1993). School-based primary prevention of depressive symptomatology in adolescents: Findings from two studies. *Journal of Adolescent Research*, *8*, 183–204. http://dx.doi.org/10.1177/074355489382004

Clarke, G. N., Hornbrook, M., Lynch, F., Polen, M., Gale, J., Beardslee, W., . . . Seeley, J. (2001). A randomized trial of a group cognitive intervention for preventing depression in adolescent offspring of depressed parents. *Archives of General Psychiatry*, *58*, 1127–1134. http://dx.doi.org/10.1001/archpsyc.58.12.1127

Coles, M. E., Heimberg, R. G., & Weiss, B. D. (2013). The public's knowledge and beliefs about obsessive compulsive disorder. *Depression and Anxiety*, *30*, 778–785. http://dx.doi.org/10.1002/da.22080

Compas, B. E., Forehand, R., Keller, G., Champion, J. E., Rakow, A., Reeslund, K. L., . . . Cole, D. A. (2009). Randomized controlled trial of a family cognitive–behavioral preventive intervention for children of depressed parents. *Journal of Consulting and Clinical Psychology*, *77*, 1007–1020. http://dx.doi.org/10.1037/a0016930

Compas, B. E., Forehand, R., Thigpen, J. C., Keller, G., Hardcastle, E. J., Cole, D. A., . . . Roberts, L. (2011). Family group cognitive–behavioral preventive intervention for families of depressed parents: 18- and 24-month outcomes. *Journal of Consulting and Clinical Psychology*, *79*, 488–499. http://dx.doi.org/10.1037/a0024254

Cuijpers, P., Muñoz, R. F., Clarke, G. N., & Lewinsohn, P. M. (2009). Psychoeducational treatment and prevention of depression: The "Coping With Depression" course thirty years later. *Clinical Psychology Review*, *29*, 449–458. http://dx.doi.org/10.1016/j.cpr.2009.04.005

Cuijpers, P., van Straten, A., Smit, F., Mihalopoulos, C., & Beekman, A. (2008). Preventing the onset of depressive disorders: A meta-analytic review of psychological interventions. *American Journal of Psychiatry*, *165*, 1272–1280. http://dx.doi.org/10.1176/appi.ajp.2008.07091422

de Jonge, P., Bel Hadj, F., Boffa, D., Zdrojewski, C., Dorogi, Y., So, A., . . . Stiefel, F. (2009). Prevention of major depression in complex medically ill patients: Preliminary results from a randomized, controlled trial. *Psychosomatics*, *50*, 227–233. http://dx.doi.org/10.1176/appi.psy.50.3.227

Fairburn, C. G., & Harrison, P. J. (2003). Eating disorders. *Lancet*, *361*, 407–416. http://dx.doi.org/10.1016/S0140-6736(03)12378-1

Foa, E. B., Keane, T. M., Friedman, M. J., & Cohen, J. A. (2009). *Effective treatments for PTSD: Practice guidelines from the International Society for Traumatic Stress Studies* (2nd ed.). New York, NY: Guilford Press.

Garber, J., Clarke, G. N., Weersing, V. R., Beardslee, W. R., Brent, D. A., Gladstone, T. R., . . . Iyengar, S. (2009). Prevention of depression in at-risk adolescents: A randomized controlled trial. *JAMA*, *301*, 2215–2224. http://dx.doi.org/10.1001/jama.2009.788

Governors Highway Safety Association. (2013). *Seat belt laws*. Retrieved from http://www.ghsa.org/html/stateinfo/laws/seatbelt_laws.html

Harvey, A. G., & Bryant, R. A. (1998). The relationship between acute stress disorder and posttraumatic stress disorder: A prospective evaluation of motor vehicle accident survivors. *Journal of Consulting and Clinical Psychology*, *66*, 507–512. http://dx.doi.org/10.1037/0022-006X.66.3.507

Hobfoll, S. E., Watson, P., Bell, C. C., Bryant, R. A., Brymer, M. J., Friedman, M. J., . . . Ursano, R. J. (2007). Five essential elements of immediate and mid-term mass trauma intervention: Empirical evidence. *Psychiatry*, *70*, 283–315. http://dx.doi.org/10.1521/psyc.2007.70.4.283

Hudson, J. I., Hiripi, E., Pope, H. G., Jr., & Kessler, R. C. (2007). The prevalence and correlates of eating disorders in the National Comorbidity Survey Replication. *Biological Psychiatry*, *61*, 348–358. http://dx.doi.org/10.1016/j.biopsych.2006.03.040

Ialongo, N. S., Rogosuch, F. A., Cicchetti, D., Toth, S. L., Buckley, J., Petras, H., & Neiderhiser, J. (2006). A developmental psychopathology approach to the prevention of mental health disorders. In D. Cicchetti & D. J. Cohen (Eds.), *Developmental psychopathology*: *Vol. 1. Theory and method* (2nd ed., pp. 968–1018). Hoboken, NJ: Wiley.

Jorm, A. F. (2012). Mental health literacy: Empowering the community to take action for better mental health. *American Psychologist*, *67*, 231–243. http://dx.doi.org/10.1037/a0025957

Judd, L. L., Schettler, P. J., & Akiskal, H. S. (2002). The prevalence, clinical relevance, and public health significance of subthreshold depressions. *Psychiatric Clinics of North America*, *25*, 685–698. http://dx.doi.org/10.1016/S0193-953X(02)00026-6

Kessler, R. C., Berglund, P., Demler, O., Jin, R., Koretz, D., Merikangas, K. R., . . . Wang, P. S.; National Comorbidity Survey Replication. (2003). The epidemiology of major depressive disorder: Results from the National Comorbidity Survey Replication (NCS-R). *JAMA*, *289*, 3095–3105. http://dx.doi.org/10.1001/jama.289.23.3095

Kessler, R. C., McLaughlin, K. A., Green, J. G., Gruber, M. J., Sampson, N. A., Zaslavsky, A. M., . . . Williams, D. R. (2010). Childhood adversities and adult psychopathology in the WHO World Mental Health Surveys. *British Journal of Psychiatry*, *197*, 378–385. http://dx.doi.org/10.1192/bjp.bp.110.080499

Konnert, C., Dobson, K., & Stelmach, L. (2009). The prevention of depression in nursing home residents: A randomized clinical trial of cognitive–behavioral therapy. *Aging and Mental Health*, *13*, 288–299. http://dx.doi.org/10.1080/13607860802380672

Koretz, D. S., & Mościcki, E. K. (1997). An ounce of prevention research: What is it worth? *American Journal of Community Psychology*, *25*, 189–195. http://dx.doi.org/10.1023/A:1024662228463

Lewinsohn, P. M., Antonuccio, D. O., Breckenridge, J. S., & Teri, L. (1984). *The Coping With Depression course: A psychoeducational intervention for unipolar depression*. Eugene, OR: Castalia.

Lewinsohn, P. M., Rohde, P., Seeley, J. R., Klein, D. N., & Gotlib, I. H. (2000). Natural course of adolescent major depressive disorder in a community sample: Predictors of recurrence in young adults. *American Journal of Psychiatry*, *157*, 1584–1591. http://dx.doi.org/10.1176/appi.ajp.157.10.1584

Lilienfeld, S. O. (2007). Psychological treatments that cause harm. *Perspectives on Psychological Science*, *2*, 53–70. http://dx.doi.org/10.1111/j.1745-6916.2007.00029.x

Litz, B. T., Gray, M. J., Bryant, R. A., & Adler, A. B. (2002). Early intervention for trauma: Current status and future directions. *Clinical Psychology: Science and Practice*, *9*, 112–134. http://dx.doi.org/10.1093/clipsy.9.2.112

McLaughlin, K. A., Green, J. G., Gruber, M. J., Sampson, N. A., Zaslavsky, A. M., & Kessler, R. C. (2010). Childhood adversities and adult psychiatric disorders in the National Comorbidity Survey Replication II: Associations with persistence of *DSM–IV* disorders. *Archives of General Psychiatry*, *67*, 124–132. http://dx.doi.org/10.1001/archgenpsychiatry.2009.187

McNally, R. J., Bryant, R. A., & Ehlers, A. (2003). Does early psychological intervention promote recovery from posttraumatic stress? *Psychological Science in the Public Interest*, *4*, 45–79.

Mitchell, J. T., & Everly, G. S. (1996). *Critical incident stress debriefing: An operations manual for the prevention of traumatic stress among emergency services and disaster workers* (2nd ed.). Ellicott City, MD: Chevron.

Mrazek, P. J., & Haggerty, R. J. (Eds.). (1994). *Reducing risks for mental disorders: Frontiers for preventive intervention research*. Washington, DC: National Academy Press.

Muñoz, R. F., Beardslee, W. R., & Leykin, Y. (2012). Major depression can be prevented. *American Psychologist*, *67*, 285–295. http://dx.doi.org/10.1037/a0027666

Muñoz, R. F., Le, H.-N., Ippen, C. G., Diaz, M. A., Urizar, G. G., Jr., Soto, J., . . . Lieberman, A. F. (2007). Prevention of postpartum depression in low-income women: Development of the Mamás y Bebés/Mothers and Babies Course. *Cognitive and Behavioral Practice*, *14*, 70–83. http://dx.doi.org/10.1016/j.cbpra.2006.04.021

Nash, W. P., Krantz, L., Stein, N., Westphal, R. J., & Litz, B. (2011). The evolving challenges of mental health prevention in the military, and two approaches to meet them: Army Battlemind and the Navy–Marine Corps Stress Continuum. In J. Ruzek, J. Vasterling, P. Schnurr, & M. Friedman (Eds.), *Caring for veterans with deployment-related stress disorders: Iraq, Afghanistan, and beyond* (pp. 193–214). http://dx.doi.org/10.1037/12323-009

National Child Traumatic Stress Network. (2013). *Children and domestic violence*. Retrieved from http://www.nctsn.org/content/children-and-domestic-violence

National Institute of Mental Health. (2013). *Mental healthcare cost data for all Americans (2006)*. Retrieved from http://www.nimh.nih.gov/health/statistics/cost/mental-healthcare-cost-data-for-all-americans-2006.shtml

Naval Center Combat and Operational Stress Control. (2013). *Service members*. Retrieved from http://www.med.navy.mil/sites/nmcsd/nccosc/serviceMembersV2/Pages/default.aspx

O'Connell, M. E., Boat, T., & Warner, K. E. (Eds.); Committee on the Prevention of Mental Disorders and Substance Abuse Among Children, Youth, and Young Adults: Research Advances and Promising Interventions, Board on Children, Youth, and Families; Division of Behavioral and Social Sciences, and Education, Institute of Medicine; National Research Council. (2009). *Preventing mental, emotional, and behavioral disorders among young people: Progress and possibilities*. Retrieved from http://www.nap.edu/catalog.php?record_id=12480

Olsen, J. P., Parra, G. R., & Bennett, S. A. (2010). Predicting violence in romantic relationships during adolescence and emerging adulthood: A critical review of the mechanisms by which familial and peer influences operate. *Clinical Psychology Review*, *30*, 411–422. http://dx.doi.org/10.1016/j.cpr.2010.02.002

Pearson, J., Goldklang, D., & Striegel-Moore, R. H. (2002). Prevention of eating disorders: Challenges and opportunities. *International Journal of Eating Disorders*, 31, 233–239. http://dx.doi.org/10.1002/eat.10014

Perkins, D. O., Gu, H., Boteva, K., & Lieberman, J. A. (2005). Relationship between duration of untreated psychosis and outcome in first-episode schizophrenia: A critical review and meta-analysis. *American Journal of Psychiatry*, *162*, 1785–1804. http://dx.doi.org/10.1176/appi.ajp.162.10.1785

Perry, M. J., Albee, G. W., Bloom, M., & Gullotta, T. P. (1996). Training and career paths in primary prevention. *Journal of Primary Prevention*, *16*, 357–371. http://dx.doi.org/10.1007/BF02411741

Reiss, D., & Price, R. H. (1996). National research agenda for prevention research: The National Institute of Mental Health Report. *American Psychologist*, *51*, 1109–1115. http://dx.doi.org/10.1037/0003-066X.51.11.1109

Roberts, N. P., Kitchiner, N. J., Kenardy, J., & Bisson, J. I. (2009). Systematic review and meta-analysis of multiple-session early interventions following traumatic events. *American Journal of Psychiatry*, *166*, 293–301. http://dx.doi.org/10.1176/appi.ajp.2008.08040590

Ruzek, J. I., Brymer, M. J., Jacobs, A. K., Layne, C. M., Vernberg, E. M., & Watson, P. J. (2007). Psychological first aid. *Journal of Mental Health Counseling*, *29*, 17–49. http://dx.doi.org/10.17744/mehc.29.1.5racqxjueafabgwp

Stewart, D. A., Carter, J. C., Drinkwater, J., Hainsworth, J., & Fairburn, C. G. (2001). Modification of eating attitudes and behavior in adolescent girls: A controlled study. *International Journal of Eating Disorders*, *29*, 107–118. http://dx.doi.org/10.1002/1098-108X(200103)29:2<107::AID-EAT1000>3.0.CO;2-1

Stice, E., Becker, C. B., & Yokum, S. (2013). Eating disorder prevention: Current evidence-base and future directions. *International Journal of Eating Disorders*, *46*, 478–485. http://dx.doi.org/10.1002/eat.22105

Stice, E., Marti, C. N., Spoor, S., Presnell, K., & Shaw, H. (2008). Dissonance and healthy weight eating disorder prevention programs: Long-term effects

from a randomized efficacy trial. *Journal of Consulting and Clinical Psychology*, *76*, 329–340. http://dx.doi.org/10.1037/0022-006X.76.2.329

Stice, E., & Presnell, K. (2007). *The body project: Promoting body acceptance and preventing eating disorders: Facilitator guide*. New York, NY: Oxford University Press.

Stice, E., Rohde, P., Gau, J. M., & Wade, E. (2010). Efficacy trial of a brief cognitive–behavioral depression prevention program for high-risk adolescents: Effects at 1- and 2-year follow-up. *Journal of Consulting and Clinical Psychology*, *78*, 856–867. http://dx.doi.org/10.1037/a0020544

Stice, E., Shaw, H., Burton, E., & Wade, E. (2006). Dissonance and healthy weight eating disorder prevention programs: A randomized efficacy trial. *Journal of Consulting and Clinical Psychology*, *74*, 263–275. http://dx.doi.org/10.1037/0022-006X.74.2.263

Tjaden, P. G., & Thoennes, N. (2000). *Extent, nature, and consequences of intimate partner violence*. http://dx.doi.org/10.1037/e300342003-001

Vernberg, E. M., Steinberg, A. M., Jacobs, A. K., Brymer, M. J., Watson, P. J., Osofsky, J. D., . . . Ruzek, J. I. (2008). Innovations in disaster mental health: Psychological first aid. *Professional Psychology: Research and Practice*, *39*, 381–388. http://dx.doi.org/10.1037/a0012663

Winett, R. A. (1998). Prevention: A proactive–developmental–ecological perspective. In T. H. Ollendick & M. Hersen (Eds.), *Handbook of child psychopathology* (3rd ed., pp. 637–671). http://dx.doi.org/10.1007/978-1-4615-5905-4_26

Winslow, E. B., Sandler, I. N., Wolchik, S. A., & Carr, C. (2013). Building resilience in all children: A public health approach. In S. Goldstein & R. B. Brooks (Eds.), *Handbook of resilience in children* (pp. 459–480). http://dx.doi.org/10.1007/978-1-4614-3661-4_27

World Health Organization. (2004). *Prevention of mental disorders: Effective interventions and policy options: Summary report*. Geneva, Switzerland: Author.

Yoshikawa, H., Aber, J. L., & Beardslee, W. R. (2012). The effects of poverty on the mental, emotional, and behavioral health of children and youth: Implications for prevention. *American Psychologist*, *67*, 272–284. http://dx.doi.org/10.1037/a0028015

Zlotnick, C., Miller, I. W., Pearlstein, T., Howard, M., & Sweeney, P. (2006). A preventive intervention for pregnant women on public assistance at risk for postpartum depression. *American Journal of Psychiatry*, *163*, 1443–1445. http://dx.doi.org/10.1176/ajp.2006.163.8.1443

CHAPTER 26

# PREVENTION OF SUBSTANCE ABUSE

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Substance abuse is a serious public health problem that warrants the attention of clinical psychologists and other health professions because of its widespread nature and deleterious impact on individuals, families, communities, and the larger society. For individuals, substance abuse contributes to a variety of negative health and behavioral outcomes, such as unintentional injuries, traffic fatalities, sexual assault, interpersonal aggression, neurocognitive deficits, and psychiatric problems (Newcomb & Locke, 2005). Because of the costs related to crime, incarceration, drug enforcement, lost productivity, and treatment, it is estimated that the societal economic impact associated with substance use and abuse, including alcohol and nicotine products, is more than half a trillion dollars in the United States alone (Volkow & Li, 2005).

Treatment is an essential ingredient in efforts to combat the problem of substance abuse, but treatment can be expensive and labor intensive, and progress is often undermined by high recidivism rates. Moreover, it is estimated that fewer than 15% of individuals who develop a substance abuse problem receive treatment (Gerada, 2005). Given this reality, it is clear that an emphasis on treatment alone is not sufficient. Rather, a more comprehensive strategy is needed to effectively address the problem of substance abuse—a strategy that embraces a continuum-of-care perspective involving prevention as well as treatment and maintenance (Institute of Medicine, 1994).

A variety of health and mental health professionals are needed to provide comprehensive services across the continuum of care for substance abuse. In addition to their role as psychotherapists treating substance abuse, clinical psychologists can help combat the problem of substance abuse as prevention practitioners, researchers, and teachers. Furthermore, clinical psychologists can serve an important function as opinion leaders and authoritative sources of information in their communities concerning evidence-based prevention.

Early efforts to prevent substance abuse relied on providing information to educate individuals about the harmful effects of smoking, particularly in terms of increased risk for cancer, heart disease, stroke, and emphysema. Approaches to deter the use of alcohol have typically emphasized the adverse health, social, and legal consequences of use. These educational approaches have given way over the years to prevention approaches that place greater emphasis on psychosocial factors promoting substance use and abuse.

Considerable research conducted over the past 3 decades has tested the effectiveness of these approaches and provided strong empirical support for a growing body of evidence-based prevention approaches. The strongest evidence of effectiveness has been shown for comprehensive skills-building preventive interventions that address an array of shared psychosocial risk and protective factors associated with onset and escalation of substance use and related risk behaviors (such as aggression, delinquency, and school dropout).

Evidence suggesting that different problem behaviors stem from a set of common psychosocial

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risk and protective factors is consistent with the concept of an addiction syndrome—the notion that specific addictive behaviors or disorders are an outward expression of the same underlying shared developmental antecedents (Shaffer, 2012). Furthermore, some evidence-based substance abuse prevention programs that focus on skills building or competence enhancement have incorporated elements of cognitive–behavioral therapy. Instead of using these cognitive–behavioral skills in a clinical setting to remediate established disorders, they are taught in schools and other educational settings as proactive coping skills to enhance personal competence, reduce risk, and increase resilience.

In this chapter, we focus on educational and skills training preventive interventions for alcohol, tobacco, and other drugs, particularly programs that target individuals in school, family, and community settings. First, we briefly review the epidemiology of substance use disorders (SUDs). Because the majority of substance abuse prevention efforts focus on young people, we describe the typical developmental progression of use and abuse to inform the timing, content, and settings of prevention initiatives. Next, we review important risk and protective factors for substance abuse along with the primary theoretical conceptualizations that have guided the development of preventive interventions. After describing some initial ineffective strategies for prevention, we summarize the large body of research on what is effective in substance abuse prevention, including a review of major meta-analytic studies and systematic reviews that illustrate the characteristics of programs that work. Finally, we discuss future directions in substance abuse prevention research, theory, and practice.

## DESCRIPTION AND DEFINITION

In the sections that follow, we provide descriptions and definitions of substance use, abuse, and dependence. We also discuss the age of onset and developmental progression of substance use as well as developmental factors influencing risk for engaging in substance use. Finally, we describe and define different types of prevention.

### Substance Use, Abuse, and Dependence

The use of psychoactive substances progresses on a continuum ranging from initial onset and occasional use, to escalation in both frequency and amount, to more problematic patterns of use that may ultimately culminate in substance abuse and dependence. Interventions to prevent substance abuse are typically designed to reach individuals when they are either nonusers or early-stage users at the beginning of the developmental progression, well before the emergence of a full-blown SUD.

In the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* (*DSM–5;* American Psychiatric Association, 2013), psychoactive SUDs include the use of alcohol; amphetamines; cannabis; cocaine; hallucinogens; inhalants; opioids; phencyclidine; sedatives, hypnotics, and anxiolytics; and polysubstances (use of more than one substance).

Historically, the *DSM* has differentiated between substance abuse and dependence. *Substance abuse* is characterized by a maladaptive pattern of psychoactive substance use that is recurrent despite significant impairment or distress and adverse consequences such as failure to fill major role obligations, continued use in hazardous situations, and recurrent legal, social, or interpersonal problems resulting from use. *Substance dependence* is a more serious level of abuse that is characterized by a number of cognitive, behavioral, and physiological symptoms combined with evidence of tolerance and withdrawal. *Tolerance* refers to a need for markedly increased amounts of the substance to achieve intoxication or the desired effect or markedly diminished effect with continued use of the same amount of the substance. *Withdrawal* is manifested by either withdrawal symptoms or the use of a psychoactive substance to avoid withdrawal symptoms, which vary by substance but may include increased heart rate, insomnia, fatigue, and irritability.

In the *DSM–5,* the distinction between abuse and dependence has been eliminated; there is now a single SUD diagnosis that is measured on a continuum from mild to moderate to severe, depending on the number of criteria met. The World Health Organization's (1992) *ICD–10 Classification of Mental and Behavioural Disorders* is used internationally for monitoring and surveillance, morbidity and

mortality statistics, and insurance reimbursement purposes. The *DSM–5* is considered to be fully compatible with *ICD–10* codes.

There have been a number of large-scale epidemiological studies on alcohol and SUDs in the United States and globally. In the general population of adults in the United States, annual prevalence rates of alcohol and substance use dependence were reported to be 12% and 2% to 3%, respectively (Merikangas & McClair, 2012). In an analysis of data from the National Survey on Drug Use and Health, rates of SUD were generally greater among men, Native Americans, adults ages 18 to 44, those of lower socioeconomic status, individuals residing in the western United States, and those who were never married or were widowed, separated, or divorced (Compton et al., 2007). National epidemiologic surveys have indicated that drug use disorders are strongly associated with alcohol use disorders as well as a variety of other mood, anxiety, and personality disorders (Compton et al., 2007).

In the most recent National Survey on Drug Use and Health survey (Substance Abuse and Mental Health Services Administration, 2014), the rate of substance dependence or abuse for respondents age 12 or older was 10.8% for males and 5.8% for females. However, among youths ages 12 to 17, the rate of substance dependence or abuse was equivalent among boys (5.3%) and girls (5.2%). A striking increase in prevalence rates of SUD is typically observed from during the years from early adolescence to young adulthood, demonstrating that adolescence is a key period for the development of SUDs.

From a global perspective, alcohol use disorder is more prevalent than illicit drug use disorder, and rates of disorder are higher among men than women, corresponding to patterns found in the United States. According to the World Health Organization (2010), the highest prevalence rates of alcohol use disorder are in Eastern and Central Europe (highest rates in Russia; 16.3% in men, 2.6% in women), the Western Pacific (highest rates in South Korea; 13.1% in men, 0.4% in women), the Americas (highest rates in Colombia; 10.3% in men, 2.6% in women), and Southeast Asia (highest rates in Thailand; 10.2% in men, 1.0% in women). Alcohol use disorders are much less prevalent in African and Eastern Mediterranean regions, in part because of religious and cultural restrictions. With respect to illicit drug use disorder, the highest prevalence rates are found in the Americas (as much as 4%) and in selected countries in the Eastern Mediterranean, Europe, and Western Pacific. However, many lower and middle income countries do not have national surveillance systems regarding the epidemiology of SUDs, making it difficult to precisely estimate prevalence rates.

## Age of Onset and Progression

Substance abuse prevention initiatives are designed to be implemented before and during the key years of substance use onset, escalation, and peak levels of use. Therefore, it is important to understand the typical age of onset and developmental progression for substance use to determine the most appropriate timing for prevention initiatives.

The majority of adults who develop substance abuse disorders or problematic levels of use initially begin to use one or more psychoactive substances before adulthood. Research has shown that adults with substance abuse problems typically begin to use one or more substances during their adolescent years, and few individuals do so after their 20s (Chen & Kandel, 1995). Consequently, most substance abuse prevention efforts focus on children, adolescents, and young adults. An exception is workplace substance abuse prevention programs, which are often implemented as part of broader health promotion initiatives for employees of all ages.

Although trajectories of substance use and abuse vary considerably at the individual level, from a population perspective there is a typical developmental progression that describes how many people become involved with substance abuse. In addition to progressing from nonuse to increased frequency and amount of use, substance use also progresses from some substances to others. Generally, substance use starts with substances that are legal for adults and widely available, such as alcohol and tobacco (Komro et al., 2007). Wide availability also plays a role in the onset of other types of substance use among teens, including the use of inhalants

(glues, spray paints, deodorants, hair spray) and the nonmedical use of prescription drugs (pain killers, stimulants, tranquilizers) or over-the-counter medications (cough and cold medicines). Later, adolescents or young adults may begin to use substances that are illegal, less widely used, and more difficult to obtain, including marijuana, cocaine, hallucinogens, and other illicit drugs. Substances used at the beginning of this developmental progression are often referred to as gateway substances because these substances are used first and, in a statistical sense, often precede the use of other substances (Kandel, 2002). However, rather than being causal in nature, this progression can best be understood in terms of a risk paradigm: The use of any one substance increases the risk of using another, with one's risk of greater drug involvement increasing at each additional step in the developmental progression.

Given the typical developmental progression of substance use initiation, prevention programs designed for elementary and middle school students typically focus on alcohol and tobacco use. However, programs that are effective in preventing the use of these substances may also disrupt the developmental progression to other forms of substance use, including the use of other substances and the progression from occasional use to abuse and dependence.

## Developmental Factors and Periods of Risk

Young people typically experiment with a wide range of behaviors and lifestyle patterns during adolescence as part of the process of developing a sense of identity and autonomy, separating from parents, gaining acceptance and popularity with peers, seeking fun and adventure, and rebelling against authority. As they begin to make independent decisions about their own health behaviors, including substance use, teenagers are influenced by a variety of societal messages, media portrayals, peer influences, and role models. Youths who are less successful in conventional pursuits and developmental tasks may be more vulnerable to the negative social influences that encourage substance use and other risk behaviors. In addition, many adolescents characteristically have a sense of invulnerability to danger (Hill, Duggan, & Lapsley, 2012), which may lead them to minimize the risks associated with substance use and overestimate their ability to avoid negative consequences. Indeed, brain imaging research has suggested that the areas of the adolescent brain critical for regulating behavior and controlling impulses continue to mature into early adulthood, and areas of the brain associated with social interaction and affective functioning are highly active among adolescents (Steinberg, 2008).

Furthermore, changes in cognitive development shift from concrete operational thinking, which is rigid and literal, to formal operational thinking, which is more relative, abstract, and hypothetical (Piaget, 1962). Formal operational thinking facilitates the discovery of inconsistencies or logical flaws in arguments made by parents and teachers. Thus, adolescents may formulate counterarguments to antidrug messages, which may lead to rationalizations for ignoring potential risks. This is particularly true if substance use is believed to have significant social or personal benefits. Thus, for a variety of reasons, simplistic approaches exhorting adolescents to just say no to drugs are not likely to be effective.

A great deal of research on substance abuse has focused on adolescents and young adults because the use of alcohol, tobacco, and other drugs typically begins during the early years of adolescence. However, a developmental perspective on substance use etiology and prevention is relevant throughout the life span. Prevalence rates for substance use typically peak during young adulthood, a time of new freedoms and relatively few responsibilities, and then begin to decline as young adults adopt new adult responsibilities related to career, relationships, or parenting (Bachman et al., 1997). Major life transitions that occur over the life span, such as starting or leaving school, entering or leaving a job, getting married or divorced, or becoming a parent, may be related to substance use or abuse because these events that can cause stress and test an individual's ability to adapt and self-regulate; they may expose an individual to new people and situations, and these affiliations can contribute to increases or decreases in substance use (Griffin, 2010).

### Types of Prevention

Prevention has traditionally been classified along a spectrum consisting of primary, secondary, and tertiary prevention. Primary prevention is intended to target individuals before they have developed a disorder or disease. In the case of substance abuse, primary prevention efforts are designed for a general population of individuals who have not yet begun to smoke tobacco, drink alcohol, or use other drugs. The purpose of primary prevention approaches to substance abuse is to target the etiologic factors that research has identified as promoting or maintaining substance use.

Secondary prevention is intended to target individuals who are further along the developmental continuum and have already developed a particular disorder (e.g., already smoke cigarettes). Screening and early intervention are common secondary prevention approaches intended to identify and intervene early in the cycle of a disorder to prevent further progression.

Tertiary prevention is intended to target individuals who already have an established disorder in an effort to prevent it from progressing to the point of disability. A difficulty inherent in this classification system, particularly in the case of tertiary prevention, is that it does not adequately distinguish between prevention and treatment, because both types of activities involve the care of individuals with a well-established disorder.

The Institute of Medicine (Mrazek & Haggerty, 1994) proposed a new framework for classifying intervention programs on a continuum of care that includes prevention, treatment, and maintenance. In this framework, prevention is used to describe interventions that occur only before the onset of a disorder. Prevention is further divided into universal, selective, and indicated interventions. These categories are based on the populations to whom the interventions are directed. Universal prevention programs focus on the general population, aiming to deter or delay the onset of a risk behavior or medical condition. Selective prevention programs target selected subgroups of the population believed to be at high risk because of the presence of specific biological, social, psychological, or other risk factors. Selective interventions for substance abuse prevention might include pregnant women, children of drug users, or residents of high-risk neighborhoods, individuals who may have an elevated level of risk because of their membership in the selected group. Indicated prevention programs are designed for those already engaging in the behavior or showing early danger signs, or who are engaging in related high-risk behaviors. The Institute of Medicine framework has been widely adopted, and the terminology is now applied to substance abuse.

## PRINCIPLES AND APPLICATIONS

Substance abuse prevention involves a variety of activities conducted in different settings and implemented by different types of providers. Research testing these approaches has led to the formulation of several key principles of prevention.

### Substance Abuse Prevention Approaches

Substance abuse prevention consists of a variety of activities and intervention modalities. Some have taken the form of school assembly programs, classroom-based curricula, and family-based preventive interventions; others include mass media campaigns, public service announcements, and policy initiatives such as required health warning labels and minimum purchasing age requirements (Paglia & Room, 1999). Table 26.1 summarizes the major prevention modalities in substance abuse.

**Information dissemination.** One of the first approaches to prevent the use of tobacco, alcohol, and illicit drugs involved efforts to increase health knowledge and awareness of the adverse health, social, and legal consequences of using one or more of these substances. Prevention approaches using this approach include public information campaigns using printed and illustrated materials (e.g., pamphlets, posters, billboards, magazine ads) and public service announcements. Most prevention programs delivered in schools (often referred to as *tobacco education, alcohol education,* and *drug education*) are based on the information dissemination approach and include classroom curricula, educational films, or guest speakers such as law enforcement or health professionals. In addition to providing students with factual information about the adverse consequences

TABLE 26.1

**Overview of Major Substance Abuse Preventive Approaches**

| Approach | Focus | Methods |
|---|---|---|
| Information dissemination | Increase knowledge of drugs and awareness of the adverse health, social, and legal consequences of drug use; promote antidrug use attitudes | Didactic instruction, discussion, audio and video presentations, displays of substances, posters, pamphlets, school assembly programs |
| Fear arousal | Arouse fear by highlighting dangers or harms of drug use through vivid descriptions of potentially severe negative consequences | Didactic instruction, discussion, vivid audio and video presentations, displays of substances, posters, pamphlets |
| Social influence approach | Increase awareness of social influences encouraging smoking, drinking alcohol, or using drugs that come from peers, adults, advertising, and the media (movies, television, music) | Class discussion; advertising and media analysis skills; use of same-age or older peer leaders |
| Resistance skills training | Develop skills for resisting substance use influences; refusal skills | Behavioral rehearsal; extended practice via behavioral homework |
| Normative education | Establish nonsubstance use norms; change the often inaccurate perception among youths that substance use is prevalent, socially acceptable, and harmless | Local or national surveys that show actual prevalence rates of substance use |
| Competence enhancement | Increase decision making, personal behavior change, anxiety reduction, communication, social and assertive skills; application of generic skills to resist substance use influences | Class discussion; cognitive–behavioral skills training (instruction, demonstration, practice, feedback, reinforcement) |



of substance use, they also frequently educate students about the pharmacology of various psychoactive substances (often with an equal emphasis on positive and negative effects), street names for commonly abused illicit drugs, how the drugs are packaged and sold, and modes of administration.

Information dissemination approaches assume that substance use stems from insufficient knowledge of the adverse consequences of using these substances and that, once educated about the negative consequences, individuals will develop more negative attitudes about these behaviors and make a rational and logical decision not to smoke cigarettes, drink alcoholic beverages, or use marijuana and other psychoactive substances. Although informational approaches can increase knowledge and, in some cases, change attitudes regarding substance use, they fail when it comes to changing substance use intentions or behavior. Increased knowledge alone is not sufficient to change behavior. Even though the information dissemination approach to substance abuse prevention has not been demonstrated to decrease substance use, it continues to be widely used in many school, community, and media prevention initiatives.

**Fear arousal.** Closely related to information dissemination approaches are prevention approaches that rely on fear arousal methods. These approaches are often used in combination with information dissemination approaches and are intended to deter substance use by dramatizing the negative consequences of substance use in an effort to evoke fear in the target audience (often youths) and scare them into not smoking, drinking, or using drugs. Two common examples are school or media prevention efforts that rely on showing students graphic pictures of cancerous lungs (cigarette smoking) or auto fatalities resulting from drunk driving (alcohol). However, research in health communications has found that fear appeals used either alone or in combination with informational approaches are generally not effective in changing behavior, although these approaches may also contribute to change in attitudes.

**Social influence approach.** A major breakthrough in substance abuse prevention occurred as a result

of pioneering work by Richard Evans, a psychologist at the University of Houston. In a departure from approaches that relied on health knowledge, fear arousal, or both Evans (1976) focused instead on the social and psychological factors associated with the initiation of cigarette smoking. This research led to a new prevention paradigm that not only emphasized the importance of psychosocial factors but also emphasized developing and testing theory-based interventions using well-designed studies and rigorous research methods.

The approach developed by Evans (1976) was based on persuasive communications theory (McGuire, 1968) and the notion of "psychological inoculation." Similar to the concept of inoculation in the prevention of infectious disease, psychological inoculation was intended to expose students to persuasive communications designed to modify their attitudes, beliefs, and behavior. Psychological inoculation was intended to expose individuals to a weak dose of "germs" (persuasive messages from peers and the media) to stimulate the development of psychological "antibodies" (attitudes, beliefs, normative expectations) and thereby increase resistance to future exposure to persuasive messages in a stronger, more virulent form. Exposing adolescents to weak and then progressively stronger persuasive messages to smoke was a key element of this approach. Students were also taught to be prepared to respond to peer pressure to smoke with counterarguments and refusal skills.

The initial success of this approach attracted considerable interest and stimulated a flurry of studies testing variations on the social influence prevention model. More recent approaches to school-based substance abuse prevention can be classified into approaches that emphasize social resistance skills training, normative education, and competence enhancement.

**Resistance skills training.** Variations of the social influence approach developed by Evans (1976) have also been tested. These preventive interventions were also designed to increase awareness of social influences to smoke, drink, or use illicit drugs. However, a distinguishing characteristic of these interventions is that they placed a greater emphasis on teaching skills for resisting peer and media influences to smoke, drink, or use drugs. This prevention approach is based on a conceptual model that gives central importance to the role that social influences play in the onset of substance use among adolescents. According to this model, adolescents begin to smoke, drink, or use drugs as the result of social influences from the family, peers, and the media that promote and support substance use. All social influences are a product of the interaction between an individual's learning history and forces in the family, peer group, local community, and larger society (Bandura, 1977). Positive expectations related to substance use (e.g., increased alertness, lower anxiety, higher social status) are influenced initially by the social learning processes—the observation and imitation of significant others such as parents, siblings, peers, and media personalities. Later, expectations are further shaped by direct experience.

**Normative education.** Another prevention approach that recognizes the primacy of social influences is referred to as *normative education.* This approach can either be used alone or in combination with the resistance skills approach. Evans, Hansen, and Mittlemark (1977) observed that adolescents' estimates of the prevalence of cigarette smoking were consistently higher than the actual rates, giving adolescents the impression that smoking was a normative behavior—essentially something that everyone did. To address this disparity, educational content and activities were developed to correct those inaccurate perceptions. Teaching students about the actual rates of smoking, drinking, or use of other drugs is intended to reduce perceptions of the high prevalence and social acceptability of substance use, thereby establishing normative expectations consistent with lower substance use. For example, one strategy is to conduct a classroom activity in which students are first asked to estimate the rate of tobacco, alcohol, or other drug use. After that, they are presented with information concerning the actual rates. This can be done by providing students with information from national prevalence data or conducting their own local (classroom, school, or community) survey and then presenting the results in class. In addition to debunking the

myth that substance use is prevalent and socially acceptable, normative education activities aim to modify the perception that substance use is harmless.

**Competence enhancement.** A more comprehensive approach that incorporates elements of resistance skills and normative education is referred to as *competence enhancement.* A distinguishing feature is its emphasis on teaching general life skills to increase resilience by enhancing personal and social competence and promoting positive youth development. The theoretical foundation for this approach includes social learning theory (Bandura, 1977) and problem behavior theory (Jessor & Jessor, 1977). Substance abuse and other problem behaviors are conceptualized as behaviors that are socially learned. For example, competence enhancement posits that adolescents with lower personal and social competence are more susceptible to social influences promoting substance use and that those individuals are more motivated to engage in substance use as an alternative to more adaptive coping strategies (Botvin, 2000).

Competence enhancement teaches some combination of the following self-management and social skills. Self-management skills include critical thinking and problem solving, decision making, skills for resisting peer and media influences, goal-setting and self-directed behavior change, and adaptive coping strategies for managing stress and anxiety. Social skills include skills for meeting new people and making friends, communication skills, and assertive skills. These cognitive–behavioral skills are taught in class using skills training methods that usually include instruction, demonstration (teacher, peer leader, and video), behavioral rehearsal, feedback, reinforcement by the teacher, and practice outside of class through homework assignments. Many of the skills taught are derived from cognitive–behavioral therapy and are intended to prevent the development of potential problems while also helping young people successfully navigate developmental tasks, increase resilience, and facilitate healthy psychosocial development. They also use concepts, principles, and techniques from clinical psychology such as shaping through goal setting, successive approximation, self-monitoring, self-reinforcement, cognitive restructuring, progressive relaxation, and mindfulness.

The skills taught are designed to enable adolescents to effectively handle the many challenges they confront in everyday life. For example, students are taught to resist peer pressure to engage in substance use (such as how to refuse an offer to smoke or drink at a party). Evidence has suggested that broad-based skills training approaches may not be effective unless they also contain material that specifically targets substance use (Caplan et al., 1992). Therefore, this approach usually includes elements of the resistance skills or normative education approaches. Together, they target a wide range of risk and protective factors for substance abuse.

## Prevention Modalities

There are several major prevention modalities that include approaches designed to be delivered in schools, families, communities, and workplaces. Each is briefly described below.

**School-based prevention.** Much of the development and testing of evidence-based approaches to drug abuse prevention among children and adolescents has taken place in school settings. School-based efforts are efficient from both an implementation and an evaluation perspective because schools offer access to nearly all young people, classrooms provide an excellent setting for implementing preventive interventions, and students can typically be assessed and followed over time with greater precision than in studies with community samples.

**Family-based prevention.** Contemporary family-based prevention approaches for adolescent substance use provide parents with the skills to nurture, bond, and communicate with children; monitor their children's activities and friendships; establish and enforce family rules regarding substance use; and help their children develop prosocial skills and social resistance skills. Whether they focus on parents alone or the entire family, these programs often aim to improve family functioning, communication skills, and rule setting with regard to substance use (Lochman & van den Steenhoven, 2002).

**Community-based prevention.** Substance abuse prevention programs delivered in community settings often have multiple components such as a school program, a family or parenting component, a mass media campaign, or all of these. Given the broad scope of activities involved, these interventions require a significant amount of resources. Program components may be managed by a coalition of stakeholders including parents, educators, and community leaders.

**Workplace prevention.** To address the issue of alcohol, tobacco, and other forms of substance use among employees in the workplace, a number of substance abuse prevention programs designed for work settings have been developed and tested. Workplace prevention programs often integrate prevention into broader health promotion programming that emphasizes stress management and coping techniques for reducing risk factors associated with substance use while promoting other behaviors such as proper nutrition and weight management (Bennett & Lehman, 2003; Cook & Schlenger, 2002).

The emergence of the multidisciplinary field of prevention science has integrated previously disparate areas of research and practice and contributed to advances in the prevention of mental and physical health problems. Prevention science incorporates elements of psychology, education, and public health and identifies risk factors and protective mechanisms through rigorous research with target populations and uses findings to inform the development of evidence-based preventive interventions.

## Principles of Prevention Science

The application of principles from prevention science has significantly advanced substance abuse prevention. From a prevention perspective, a thorough understanding of the behavioral epidemiology of substance use, combined with knowledge of key risk and protective mechanisms, has been critical to the development of effective prevention of adolescent substance use. Although the immediate goal of substance abuse prevention efforts is to delay the onset and escalation of substance use among youths, these efforts are often part of a broader strategy to promote the positive development of children, adolescents, and young adults.

**Use developmentally appropriate approaches.** Effective prevention programs aim to promote protective factors, reduce risk factors, and help young people to engage successfully with their peers, families, schools, and communities so that they can ultimately become healthy productive adults. Thus, it is helpful to understand how developmental factors can influence the onset and progression of substance use. As noted previously, the onset of substance use typically occurs during early adolescence and progresses in a logical and predictable sequence throughout the adolescent years and into young adulthood. Most individuals start by using alcohol and tobacco, progressing on to the use of marijuana and, for some, other illicit substances.

The key implication for prevention is that prevention programs intended, for example, for elementary and middle school students should focus on the use of substances (alcohol and tobacco) that occur at the beginning of this developmental progression and should use universal prevention approaches targeting the entire population in this age group. Not only does this involve aiming preventive interventions at the two most widely used substances in the United States, but the focus on early-stage substance use also offers the potential to disrupt the developmental progression that may otherwise lead to using dependency-producing illicit substances and more severe forms of drug involvement. For older adolescents, selective interventions (targeting individuals already at risk for substance use) and indicated interventions (targeting individuals already using drugs) are the most appropriate.

**Target multiple risk and protective factors.** Effective preventive interventions are designed to target an array of risk and protective factors associated with the etiology of substance abuse, which include demographic and sociocultural factors, genetic and neurobiological factors, personality and individual characteristics, and family and peer influences (Scheier, 2010). No single factor or pathway serves as a necessary and sufficient condition leading to substance use and abuse. Rather, substance use is the result of a multivariate

mix of factors. Some of these are malleable, and others are not.

Demographic factors (e.g., age, gender, social class), cultural factors (e.g., acculturation), and environmental influences (e.g., community disorganization, availability of drugs) can have an impact on substance use and abuse. Environmental influences including neighborhood disorganization, violence, drug availability, and poverty increase adolescent and adult substance abuse and other problem behaviors (Cerdá et al., 2010). For example, low socioeconomic status neighborhoods are often characterized by high adult unemployment, high rates of mobility, and a lack of informal social networks and controls, and these factors can contribute to substance abuse.

Genetic factors are thought to be influential in some individuals who abuse psychoactive substances (Conner et al., 2010). Research has shown that children of parents with alcohol and drug problems are significantly more likely to develop substance abuse problems than children whose parents do not have alcohol or drug problems, even among identical twins reared apart. The pharmacology of commonly abused substances varies, although animal research has indicated that several drugs of abuse (cocaine, amphetamine, morphine, nicotine, and alcohol), each with different molecular mechanisms of action, affect the brain in a similar way by increasing strength at excitatory synapses on midbrain dopamine neurons (Saal et al., 2003).

Social factors are the most powerful influences promoting the initiation of tobacco, alcohol, and drug abuse during adolescence. This domain includes family factors, peer influences, and media influences (Bahr, Hoffmann, & Yang, 2005). Family influences include the attitudes and behaviors of parents and siblings in regard to substance use, and research has demonstrated that parents' use of alcohol, marijuana, and other illicit drugs and parental attitudes that are not explicitly against use often translate into higher levels of use among children and adolescents. Other family factors include the quantity and quality of parenting practices (monitoring, communication, and involvement) and family structure (e.g., two-parent vs. single-parent families). In terms of peer influences, associating with peers who engage in substance use is likely to promote substance use, establish substance use as normative behavior, and provide opportunities to learn and practice substance use behaviors. Finally, substance users are often portrayed in the mass media (e.g., in movies, TV shows, music videos) as popular, sophisticated, successful, and sexy. Furthermore, the modeling of substance use and abuse by media personalities and positive messages about substance use in popular music, movies, and other media are powerful influences promoting substance use.

Personal factors associated with adolescent substance abuse include holding favorable attitudes or expectancies regarding substance use, believing that it is normative or highly prevalent, and being unaware of the negative consequences of use (Piko, 2001). Poor social competence skills (e.g., the ability to use a variety of interpersonal negotiation strategies and to communicate clearly and assertively) and poor personal competence skills (e.g., cognitive and behavioral self-management strategies such as decision making and self-regulation) are additional risk factors (Botvin, 2000). Substance use is associated with a number of psychological characteristics including deficits in mood, self-esteem, assertiveness, and self-efficacy, as well as elevated anxiety, impulsivity, sensation seeking, and rebelliousness (Swadi, 1999).

**Use theory to guide intervention development.** Consideration of the many factors associated with the etiology of substance abuse does not easily lead to a prevention strategy or necessarily serve as a guide to intervention development. Some type of organizing framework is needed to help understand how the numerous risk and protective factors associated with substance abuse interact and the mechanism through which an individual progresses from nonuse to use, abuse, and dependence. Therefore, two important characteristics of evidence-based prevention approaches are that they are based on empirical findings from research concerning the etiology of substance abuse and they are theory driven. Together, they can help guide preventive intervention development.

A variety of models have been developed or applied to the phenomenon of adolescent substance

use and abuse (reviewed in Petraitis, Flay, & Miller, 1995) in an attempt to integrate the large number of risk and protective factors that contribute to the etiology of substance use and abuse among youths. Social learning and social influence theories describe the importance of substance-using role models, such as parents, siblings, relatives, and friends (Akers & Cochran, 1985). Social attachment and conventional commitment theories including the social development model (Hawkins & Weis, 1985) describe the processes by which certain youths withdraw from parents or school and begin to associate with peer groups that encourage drug use and other antisocial behavior. Cognitive theories include the health belief model (Becker, 1974) and theory of planned behavior (Ajzen, 1988), which emphasize how perception of risks, benefits, and norms and personal vulnerability regarding substance use work together to influence the decision-making processes. Personality and affective theories such as the self-medication hypothesis (Khantzian, 1997) illustrate the roles that individual psychological vulnerabilities and affective characteristics play in the development of substance use and abuse.

Broad social psychological theories such as problem behavior theory (Jessor & Jessor, 1977) integrate multiple determinants of adolescent substance use, proposing that substance use and other problem behaviors serve a functional purpose from the perspective of the adolescent. That is, youths come to believe that engaging in a problem behavior such as substance use can help them achieve social or personal goals they otherwise cannot achieve. Theories highlight the role that peers play in substance use, in ways that transcend mere social influences. For example, self-derogation theory (Kaplan, 1980) suggests that adolescents who are negatively evaluated by conventional others or feel deficient in socially desirable attributes experience low self-esteem that becomes a driving motivational factor leading to rebellious behavior against conventional standards. Substance use can be one of these rebellious behaviors.

**Use interactive methods.** Although the strategy and content of preventive interventions are key ingredients in effective approaches, the way an intervention is delivered is also important. A notable characteristic of effective prevention programs is the use of interactive intervention methods (Tobler & Stratton, 1997). Interactive methods foster the active engagement of participants in the intervention rather than the passive role commonly used in traditional tobacco, alcohol, and drug education programs that rely on didactic methods such as lectures, films, and videotapes. This is particularly noteworthy in school-based prevention programs involving children and adolescents. Examples of interactive methods in school-based programs include class discussion, interactive games, and skills-training exercises involving skills demonstration, behavioral rehearsal (in-class practice), feedback and reinforcement (praise), and behavioral homework assignments (extended practice outside the classroom). Many of these techniques are familiar to clinical psychologists, particularly those engaged in cognitive–behavioral therapy.

These different intervention methods also have implications for the role of the person delivering the preventive intervention (teacher, peer leader, health educator, psychologist, nurse, or other health professional). With noninteractive methods, the role is similar to that of a regular classroom teacher, with an emphasis on lecturing and a straightforward didactic presentation of factual information. The role of the program provider using interactive methods, however, is that of a discussion facilitator and skills-training coach. Although preventive interventions often use a combination of delivery methods, educational approaches that rely on information dissemination largely use noninteractive, didactic methods, whereas resistance skills training and competence enhancement programs that emphasize skills-building largely use interactive methods.

**Include booster sessions to maintain effects.** It is important that prevention effects be maintained over time to produce an individual and public health benefit. However, even well-designed, theory-driven preventive interventions can suffer from an erosion of the initial prevention effects. This is similar to the phenomenon of recidivism or relapse observed with treatment programs, whereby end-of-treatment outcomes decay over time.

A number of factors can contribute to the erosion of initial prevention effects, including the length and strength of the intervention, poor implementation fidelity (incomplete or poor-quality implementation), and a faulty intervention approach (Resnicow & Botvin, 1993). Another factor often overlooked for children and adolescents is that they continue to be exposed to psychosocial factors that increase risk for substance abuse. For example, they may still encounter peers or media influences promoting substance use.

As with treatment programs, initial program effects can be maintained (or even enhanced) with booster sessions. In the case of substance abuse prevention programs, booster interventions are typically shorter (i.e., have fewer sessions) than the original intervention and are intended to review, reinforce, and extend the material learned previously. For example, a 12-session prevention program might contain six booster sessions in the 2nd year and three booster sessions in the 3rd year.

**Implement with fidelity.** Preventive interventions should be implemented with fidelity to the underlying model or approach—that is, as intended by the developer, as thoroughly and completely as possible, and using methods appropriate for the approach. This is supported by research that has clearly indicated that higher fidelity leads to better outcomes (Durlak & DuPre, 2008). For example, in our own research, students whose teachers adhered more closely to the content and activities of the prevention program showed lower levels of substance use (Botvin et al., 1995). In the case of evidence-based approaches, it is only by implementing interventions as tested in the research demonstrating their effectiveness that there can be a reasonable expectation of achieving similar outcomes.

However, the implementation of evidence-based programs in regular practice settings often varies substantially from that achieved in carefully executed randomized trials (Gottfredson & Gottfredson, 2002). Prevention practitioners (e.g., teachers, peers, or prevention specialists) may deviate from the content and procedures of the intervention, not recognizing that failure to implement a preventive intervention as intended can undermine its effectiveness. The recognition that fidelity tends to be lower in many practice settings raises concerns about the impact of lower fidelity on effectiveness. Failure to implement evidence-based programs with adequate fidelity is likely to undermine effectiveness and these programs' potential for reducing adolescent substance use and abuse. Therefore, logic and the empirical evidence argue for placing an emphasis on fidelity.

Practitioners, however, make the case that high fidelity is unachievable in real-world settings, that efforts to promote fidelity are not likely to be successful, and that some degree of program change is inevitable. Although achieving high fidelity may indeed be difficult when evidence-based prevention programs are taken to scale, there is at least some evidence to indicate that it is possible. Although there may be some tolerance for lower fidelity, a concern voiced by those advocating for a strict fidelity approach is that if prevention programs are not implemented with fidelity, they are not likely to be effective. Adapting an evidence-based program by adding, deleting, or modifying key elements may have an adverse impact on essential ingredients and undermine effectiveness. Thus, in light of evidence that higher fidelity yields stronger prevention effects, it seems reasonable to conclude that every effort should be made to obtain the highest possible degree of fidelity to preserve program integrity (Elliott & Mihalic, 2004).

**Consider the population and contextual factors.** There are clear benefits to implementing evidence-based programs with fidelity in terms of producing better outcomes, but there are also possible benefits to adaptation, at least under certain conditions. This leads to a conundrum of sorts—a tension between competing imperatives, one for fidelity and another for adaptation.

A compelling rationale for adapting a prevention program involves attempts to improve the fit of the intervention for a specific culture or population. For example, a strong case has been made for adapting interventions to ethnic minority populations (Castro, Barrera, & Martinez, 2004). If there is a cultural mismatch between a particular intervention

and the target population, it could adversely affect implementation, undermine effectiveness, and serve as a barrier to maintenance and institutionalization. Research has shown that individuals working with ethnic minority populations were more likely to adapt interventions to make them more culturally appropriate (Ringwalt et al., 2004). It can also be argued that tailoring an intervention to a local population can improve buy-in by local stakeholders and acceptability by the target population and increase the potential that the intervention will be institutionalized. Still, others are wary that any adaptation runs the risk of undermining effectiveness (Elliott & Mihalic, 2004).

Thus, there are competing benefits to an emphasis on fidelity over adaptation. The primary benefit of an emphasis on fidelity is a greater likelihood of achieving prevention effects that are similar to those found in the randomized trials supporting evidence-based programs—that is, increased effectiveness. However, this may be at the cost of lower perceived flexibility, cultural appropriateness, and long-term sustainability through institutionalization. Alternatively, adaptation allows for the incorporation of contextual factors that can facilitate tailoring programs to local needs, increasing cultural relevance, increasing acceptability to the target population, and potentially increasing effectiveness and long-term sustainability. The bottom line is that it is important to strike the proper balance between fidelity and tailoring, so that any adaptations adhere closely to the underlying intervention model and do not undermine the core elements (active ingredients) of effective prevention approaches.

## LANDMARK STUDIES AND RESEARCH EVIDENCE

The prevention literature has grown considerably over the past three decades, and now includes many high-quality studies indicating that some approaches are effective in preventing the use or abuse of tobacco, alcohol, and illicit drugs. Several landmark studies clearly show the superiority of prevention approaches designed to decrease the social influences to engage in substance use, either alone or in combination with approaches designed to increase adaptive coping skills, personal competence, and resilience.

### Shifting the Paradigm to Social Influences

A landmark study in substance abuse prevention, and the first to show behavioral effects on adolescent cigarette smoking, was a study based on the work of Richard Evans (1976). The classroom-based program was designed to target the psychosocial factors promoting adolescent cigarette smoking, and it was based in part on the concept of psychological inoculation. Early classroom exposure to social influences to smoke was hypothesized to reduce later vulnerability to these influences in real-world settings. In addition to exposure to pro-smoking social influences, students were taught specific techniques for resisting those influences. First, students were taught counterarguments to positive portrayals of smoking. For example, if they saw someone trying to act tough by smoking, students were taught to think, "If they were really tough, they wouldn't have to smoke to prove it." Second, students were taught refusal skills for dealing with peer pressure to smoke. For example, if someone offered them a cigarette and they were called chicken for refusing, they were taught how to respond in such situations (e.g., "If I smoke to prove to you that I'm not chicken, all I'm doing is showing that I'm afraid of what you might say if I don't smoke. I don't want to smoke and I'm not going to just because you want me to").

To determine the impact of these strategies, classrooms were randomly assigned to one of three conditions: (a) periodic assessment and feedback concerning class smoking rates, (b) periodic assessment and feedback plus psychological inoculation, and (c) a no-intervention control group. The results of this study showed that smoking onset rates for the two intervention conditions combined were about 50% lower than rates in the control group (Evans et al., 1978).

### Variations on the Social Influence Approach

During the 1980s, variations on Evans's (1976) prevention model were tested. In addition to increasing

students' awareness of social influences to engage in substance use, these preventive interventions placed more emphasis on teaching specific skills for effectively resisting both peer and media pressures to smoke, drink, or use drugs. The initial studies testing variations on the social influence approach focused on preventing the onset and escalation of adolescent cigarette smoking, and later studies examined intervention effects on the onset and escalation of alcohol and illicit drug use. Most studies targeted junior high school students beginning with seventh graders and focused primarily on cigarette smoking. Results of these studies found reductions of 30% to 45% in the proportion of individuals beginning to smoke, relative to controls. Similar reductions were reported for alcohol and marijuana use (Ellickson & Bell, 1990; Shope et al., 1992).

The results from some studies of school-based social influence approaches indicated that positive behavioral effects can be maintained for as long as 3 years after the conclusion of the intervention (Luepker et al., 1983; Sussman et al., 1993) or as long as 7 years for multicomponent interventions (Perry & Kelder, 1992). However, long-term follow-up studies have revealed that prevention effects are typically not maintained (Ellickson, Bell, & McGuigan, 1993; Shope et al., 1998). School-based prevention programs that are powerful enough to produce durable effects on behavior need to focus on a broader and more comprehensive set of etiological factors and skills-building activities.

## Testing DARE

One of the most widely known and disseminated substance abuse prevention programs based on the resistance skills model is Drug Abuse Resistance Education, or DARE. The DARE curriculum is typically provided in school settings to youths in the fifth or sixth grade. The program disseminates information about drug prevention and incorporates elements of social resistance skills training. A defining characteristic of DARE is that it uses trained, uniformed police officers to teach the drug prevention curriculum in the classroom. DARE has been embraced by many communities and police departments throughout the country, contributing to its wide-scale dissemination.

However, rigorous evaluations and meta-analytic studies of DARE have shown that it has produced little, if any, effects on drug use behavior, particularly beyond the initial posttest assessment (Ennett et al., 1994; Rosenbaum & Hanson, 1998). Because the DARE program has much in common with other social resistance prevention approaches, its poor evaluation results are difficult to explain. The primary difference between DARE and similar, more effective programs is the program provider (police officer and classroom teacher, respectively). Those at highest risk for engaging in substance use and other problem behaviors are likely to rebel against authority figures. Because police officers represent the ultimate symbol of authority in our society, they may have lower credibility with high-risk adolescents and thus be less effective as prevention providers. In a study that used police officers from the national network of DARE providers to deliver a separate universal drug prevention curriculum to students (called "Take Charge of Your Life"), findings indicated a negative program effect for use of alcohol and cigarettes and no effect for marijuana use for the sample as a whole (Sloboda et al., 2009). Taken together, rigorous studies have shown that DARE is not effective and have suggested that police officers may not be effective as program providers.

## Beyond Social Influences to Competence Enhancement

The competence enhancement prevention model grew out of early research with the social influence approach and its variations. Using principles and techniques from clinical psychology, it extended the focus of skills training from resistance skills training to a broader set of general social skills and personal self-management skills. An example of a prevention program based on the competence enhancement model is Life Skills Training (LST), a universal school-based prevention approach that teaches self-management and social skills combined with drug-refusal skills and norm-setting activities. The program consists of 15 classes taught in the 1st year of middle or junior high school, along with booster sessions in the 2nd year (10 classes) and 3rd year (five classes) of middle or junior high.

A series of evaluation studies resulting in more than 30 peer-reviewed publications has demonstrated the effectiveness of the LST approach. The initial efficacy studies of LST focused on preventing cigarette smoking among predominantly White, middle-class students. Additional studies found that LST is more effective when booster sessions are included after the initial year of intervention; that it is effective when delivered by different types of program providers (e.g., teachers, peer leaders, health professionals); and that it can prevent the use of tobacco, alcohol, marijuana, and other illicit drugs (reviewed in Botvin & Griffin, 2015). Several large randomized trials have demonstrated the long-term effectiveness of the LST program with different populations.

The largest randomized controlled trial (RCT) testing LST involved nearly 6,000 predominantly White students from 56 junior high schools in New York State. Schools were randomly assigned to prevention and control conditions. Students who received the LST program had lower rates of cigarette smoking, alcohol use, and marijuana use than students in the control condition at the end of ninth grade (Botvin et al., 1990) and at the end of 12th grade (Botvin et al., 1995).

A second large-scale prevention trial examined the effectiveness of LST in a population of more than 3,600 predominantly minority urban youths attending 29 middle or junior high schools in low-income neighborhoods in New York City. Students who received the prevention program reported less smoking, drinking, drunkenness, inhalant use, and polydrug use (i.e., the use of multiple drugs) at the posttest and 1-year follow-up assessments than students in the control group who did not receive the prevention program (Botvin et al., 2001a). Studies reporting further analyses of these data found that LST prevented the onset of cigarette smoking and reduced escalation of cigarette smoking by 30% among adolescent girls (Botvin et al., 1999), cut binge drinking by 50% for as many as 3 years among inner-city boys and girls (Botvin et al., 2001b), and was effective for high-risk youths (Griffin et al., 2003). Taken together, findings from these RCTs provide substantial evidence for the effectiveness of the competence enhancement approach to substance abuse prevention across diverse populations.

## Promoting Parenting Skills, Family Communication, and Bonding

Research has shown that parenting and family functioning can affect substance use among youths, both directly and indirectly. Harsh disciplinary practices and high levels of family conflict are associated with established precursors of adolescent substance use, such as aggressive behavior and other conduct problems among children. Thus, early intervention that promotes effective parenting may indirectly have a protective effect on substance use in later years as children enter adolescence. An example of this approach is the Nurse–Family Partnership program, an evidence-based program in which nurses make home visits to work with pregnant women to improve their health practices relevant to birth outcomes. In the program, nurses continue with home visits for as long as 2 years after childbirth to foster parents' caregiving skills and attitudes. Nurses are also trained to encourage young mothers to enhance their own development by providing advice to women on completing their education, seeking employment, and making appropriate choices about their next pregnancy.

In a study of more than 700 low-income, predominantly minority pregnant women, the Nurse–Family Partnership program was found to have a positive and long-lasting impact not only on family functioning, but also on rates of alcohol, tobacco, and marijuana use among the children as teenagers (Olds et al., 2010). The program may work by teaching decision-making skills to mothers, improving the family environment and ultimately leading to improvements in the children's ability to control their behavior and to succeed academically. Research has shown that these are all important protective factors with regard to substance use during the transition to adolescence.

Family prevention programs designed for families with adolescents also address key proximal risk and protective factors. Firm and consistent limit setting, careful monitoring, nurturing and open communication patterns with children, and family rules about substance use are protective factors for youth substance use. An example of an evidence-based prevention program designed for families is the Strengthening Families Program: For Parents and

Youth 10–14. The program is a skills training intervention designed to enhance school success and reduce youth substance use and aggression among youths ages 10 to 14 years. The program includes seven 2-hour sessions in which groups of parents and their children meet separately with an instructor for 1 hour and then meet together for family activities for a 2nd hour. Parents learn about the risk and protective factors for substance use along with several key parenting and family functioning skills related to parent–child bonding, parental monitoring, appropriate discipline practices, and managing family conflict. Children are instructed in ways to resist peer influences to engage in substance use.

In an RCT of the Strengthening Families Program: For Parents and Youth 10–14 provided to sixth graders and their parents, intervention youths were less likely to engage in alcohol, tobacco, and marijuana use than control group youths, and these effects persisted when students were assessed in the 10th grade, 4 years after baseline (Spoth, Redmond, & Shin, 2001). Finally, analysis of long-term follow-up data showed that a family-based prevention program (the Strengthening Families Program) in combination with a school-based prevention program (LST) found reductions in nonmedical prescription drug abuse among young adults who received the preventive interventions during middle school (Spoth et al., 2013). The findings indicated that a brief family skills preventive intervention designed for general populations, alone or in combination with a school-based prevention program, can reduce adolescent substance use with behavioral effects that persist over time.

### Establishing Community Coalitions to Promote Prevention

Given the variety of prevention modalities and evidence-based programs available, it can be difficult for a community to comprehensively take steps to prevent the problem of youth substance use. A number of community collaboration models provide guidance on how a coalition of stakeholders in a community can work together to maximize the use of prevention resources. One such model is Communities That Care (CTC), a program that uses an effective community change process to help communities prevent substance use and related problems before they develop. An initial step for communities using CTC is to assess the local prevention needs in a community and identify the existing resources available for addressing these needs. On the basis of these data, CTC helps community leaders create a community action plan, define clear goals and objectives, and then select and implement evidence-based prevention programs and policies while strengthening programs that already work. Final steps in the CTC process involve providing guidance to key stakeholders so that they can effectively monitor prevention activities to track progress and measure results to ensure improvements are achieved.

CTC was tested in an RCT that included 24 communities across seven states and followed a panel of more than 4,400 students beginning in Grade 5. By the eighth grade, students from the CTC communities were less likely to have initiated the use of alcohol, cigarettes, or smokeless tobacco than students in the control communities (Hawkins et al., 2009). Significant intervention effects on alcohol and cigarette use continued to be observed in a follow-up assessment in the 10th grade (Hawkins et al., 2012). This research indicates that substance use among youths can be prevented when a coalition of community stakeholders are trained to effectively translate advances in prevention science into well-implemented prevention practices.

## KEY ACCOMPLISHMENTS AND KNOWLEDGE BASE

There are many notable accomplishments in the area of substance abuse prevention and the larger field of prevention science that provide practitioners with a better understanding of what works. They have also resulted in large-scale dissemination efforts to promote the sustained use of evidence-based prevention approaches.

### Development of Prevention Science

The systematic study of adolescent risk behaviors along with research on preventing these behaviors has driven the development of prevention science. This research has targeted a range of behaviors

(e.g., substance use, high-risk sexual behaviors leading to sexually transmitted infection and teen pregnancy, aggression and violence, mental health problems) and populations (e.g., children, adolescents, and adults from diverse population subgroups), in a variety of settings (e.g., schools, homes, workplaces), and using a range of intervention modalities along the prevention spectrum from universal to selective and indicated approaches.

Prevention research has progressed from studies on the developmental epidemiology of substance abuse to the development and testing of preventive interventions tested in large-scale randomized trials. Findings are contributing to evidence-based practices and policies that, if widely implemented, offer the potential to reduce the mortality and morbidity associated with substance abuse. These evidence-based exemplary or model programs are guiding practitioners and policymakers, transforming the practice of prevention throughout the country.

## Establishment of Best Practices in School-Based Prevention

The growing number of well-designed prevention studies has given researchers the opportunity to conduct meta-analyses and systematic reviews of the published studies on preventing smoking, alcohol use, and illicit drug use among children and adolescents.

**Preventing smoking.** A comprehensive review examined 49 RCTs of school-based interventions to prevent smoking among children and adolescents ages 5 to 18 years; studies were included if they followed students for at least 6 months (Thomas, McLellan, & Perera, 2013). Programs or curricula in the review focused on providing information, social resistance skills, or competence enhancement skills, and some had additional intervention components that took place outside of schools, in the community. Findings indicated that programs emphasizing a combination of competence enhancement and social resistance skills were effective in preventing the onset of smoking in the short term, within 1 year of follow-up. Programs emphasizing information only, social resistance skills only, and multimodal interventions were ineffective in the short term. For longer term effects beyond 1-year follow-up, programs that emphasized either competence skills alone or competence enhancement combined with social resistance skills were effective. At the longest follow-up, the intervention group had an average 12% reduction in smoking onset compared with the control groups. Interventions that used adult providers (usually classroom teachers) were found to be more effective than those that used peer providers. Booster sessions were effective in the short and longer term for combined competence enhancement and social resistance skills programs.

A separate meta-analysis of school-based smoking prevention examined 65 adolescent psychosocial smoking prevention programs among students in Grades 6 to 12 published between 1978 and 1997 in the United States (Hwang, Yeagley, & Petosa, 2004). Programs were categorized into three prevention approaches (social resistance, social resistance plus cognitive skills, and social resistance plus cognitive plus affective skills) and two delivery settings (school and school plus community). Behavioral effects were observed and persisted over a 3-year period, with the strongest effects on smoking observed with programs that included social resistance combined with cognitive or affective skills training activities (i.e., competence enhancement), programs that included both school and community components in their implementation, or both.

A new classroom-based approach to preventing smoking that has been widely implemented in Europe involves providing incentives for students to remain smoke free. These programs are typically implemented for students ages 11 to 14 who commit to not smoking for a period of time, often 6 months. If the majority of students (90%) remain smoke free, their classroom is eligible to compete for incentives that may include class trips, special activities, or monetary awards. Although only a few studies have tested this approach, and the existing studies have varied considerably in their scientific rigor, a review found no evidence that incentive programs are effective in preventing smoking initiation among youths (Johnston, Liberato, & Thomas, 2012).

**Preventing alcohol use.** A comprehensive review examined universal school-based alcohol prevention studies designed to prevent alcohol use among children up to age 18 (Foxcroft & Tsertsvadze, 2011b). The prevention trials included educational interventions that focused on raising awareness of the dangers of alcohol misuse along with changing normative beliefs, as well as more comprehensive approaches that developed psychological and social skills in young people (e.g., peer resistance, problem solving, decision-making skills). Some of the studies included in the review ($k = 11$) focused on alcohol use alone; of these, six produced statistically significant reductions in alcohol use relative to controls. A second group of studies ($k = 39$) targeted alcohol use in combination with smoking, illicit drug use, or antisocial behavior. Of these, 14 reported significant positive effects on alcohol use. Across studies reporting significant prevention effects, the most commonly observed beneficial effects were for heavier levels of alcohol use such as drunkenness and binge drinking.

A number of programs for preventing alcohol use and abuse have focused on college-age youths. These programs include social norms interventions that aim to correct misperceptions about the prevalence and social acceptability of drinking using social marketing techniques, individualized personal normative feedback, or some combination of these approaches (Perkins, 2002). Social marketing interventions are often campuswide media campaigns that educate students about typical drinking behaviors. Interventions for students who engage in alcohol misuse often use motivational interviewing to encourage them to evaluate discrepancies between their risky drinking behavior and their own academic, social, or other life goals, thereby increasing their intrinsic motivation to reduce drinking (Carey et al., 2007). In a review of social norms interventions for college students, Moreira, Smith, and Foxcroft (2009) found that campus social norms interventions were more effective in reducing drinking than control group conditions (no intervention, printed drinking-related advice, or some other type of intervention that did not provide normative feedback). For short-term outcomes of up to 3 months, social norms interventions delivered in individual face-to-face sessions or delivered by web or computer were both effective. Studies that used web- or computer-based feedback showed longer term effects for as long as 16 months.

**Preventing illicit drug use.** In a review on school-based programs for preventing illicit drug use (Faggiano et al., 2014), 51 RCTs of middle or junior high school–based interventions were included. The authors classified the interventions as primarily skills focused, affect focused, or knowledge focused. Findings indicated that skills-based interventions significantly reduced marijuana use and hard drug use and improved decision-making skills, self-esteem, peer pressure resistance, and drug knowledge relative to usual curricula (treatment-as-usual controls).

Another meta-analysis examined the impact of school-based prevention programs on reducing cannabis use among youths from age 12 to 19 (Porath-Waller, Beasley, & Beirness, 2010). Fifteen randomized prevention trials were included in the meta-analysis, and findings indicated that these programs had an overall positive effect on cannabis use compared with controls, with an average effect size of $d = 0.58$ (95% CI [0.55, 0.62]). Programs that focused on social resistance skills, perceived norms, and competence skills were more effective than programs that focused solely on resistance skills. The more effective programs had 15 or more classroom sessions, were interactive, and were facilitated by providers other than classroom teachers.

In summary, several meta-analyses have examined the effectiveness of school-based programs to prevent alcohol, tobacco, and other forms of substance use. The most effective school-based prevention programs are interactive, focus on building drug resistance skills and general competence skills, and are implemented over multiple years.

## Best Practices in Family-Based Prevention

In a review of nine family-based controlled studies for preventing smoking, Thomas, Baker, and Lorenzetti (2007) identified RCTs designed to deter the onset of tobacco use among children (ages 5–12) or adolescents (ages 13–18) and other family members. Findings indicated that four of the nine studies had

significant positive effects on smoking behavior, although one showed a significant negative effect. Five additional RCTs were identified that tested a family intervention against a school intervention. However, none of the family programs produced significant incremental effects compared with the school programs alone. The authors concluded that some well-executed RCTs provided evidence that family interventions can prevent adolescent smoking, but RCTs that were less well executed had mostly neutral or negative results. The authors also concluded that how well program staff are trained and how well they deliver the program are related to effectiveness.

In a review of universal family-based prevention programs to prevent alcohol misuse in young people as old as age 18 years, Foxcroft and Tsertsvadze (2011a) identified 12 relevant RCTs in the literature. The programs focused on developing parenting skills (e.g., parental support, parental monitoring, and establishing clear boundaries or rules), and some also focused on promoting social and peer resistance skills among youths along with the development of positive peer affiliations. Findings indicated that nine of 12 studies reported positive effects of the family-based interventions on youth alcohol use. Four of the effective interventions focused on young females. The authors concluded that there were small but generally consistent prevention effects that lasted medium to long term for family-based prevention programs for alcohol misuse.

In summary, a variety of family-based substance abuse prevention programs have been studied, and interventions that focus on both parenting skills and family bonding appear to be the most effective in reducing or preventing substance use. An important challenge in family-based prevention is the difficulty in getting parents to participate; families at the highest risk for substance use are least likely to participate in prevention programs (Al-Halabi Díaz et al., 2006).

## Best Practices in Community-Based Prevention

A comprehensive review examined multicomponent community-based programs to prevent smoking in children and adolescents (Carson et al., 2011). Of the 25 studies included in the analysis, all used a controlled trial design, and 15 studies randomized units (communities or schools) to an intervention or control condition. Studies were included if they assessed smoking behavior in people younger than age 25. Findings indicated that 10 studies reported a reduction in smoking and, of these, nine reported significant long-term effects of smoking behavior of more than 1 year. Improvements in secondary outcomes such as smoking intentions or attitudes were seen in the majority of studies. Furthermore, nine of the 10 effective programs incorporated school-based interventions with delivery by school teachers, six had parental involvement, and eight had intervention durations longer than 12 months. The authors concluded that there is some limited support for the effectiveness of coordinated multicomponent community prevention programs in reducing smoking, although the research has important methodological limitations.

A separate review examined the extent to which multicomponent prevention programs were effective in preventing alcohol use among youths age 18 or younger (Foxcroft & Tsertsvadze, 2011a). Twenty trials were identified in the literature and, of these, 12 showed effects on alcohol use that ranged from 3 months to 3 years. The authors attempted to determine whether single- or multiple-component programs differed in effectiveness, and only one of seven studies showed a benefit of delivering multiple components in more than one setting.

The effectiveness of preventive interventions implemented in nonschool settings has also been examined (Gates et al., 2006). Seventeen studies were identified, and the intervention methods included education or skills training, motivational interviewing or brief intervention, family interventions, and multicomponent community interventions. However, the authors found that the intervention approaches were too different and there were too few studies to draw firm conclusions on the effectiveness of drug abuse prevention programs implemented in nonschool settings.

In summary, the evidence is somewhat mixed with regard to community-based approaches to substance abuse prevention. Although some are promising, major limitations of community-based

prevention approaches are that they are typically expensive and labor intensive and require a high degree of coordination to manage the multiple components.

### Best Practices in Workplace Prevention

Because workplace prevention programs have the potential to decrease absenteeism, accidents, turnover, and workers' compensation costs and to increase employee productivity and morale, the costs of implementing prevention programs in the workplace may be offset by the multiple advantages they provide for both employees and employers (Deitz, Cook, & Hersch, 2005). Broad-based employee wellness and health promotion programs that address a range of risk and protective factors, combined with clear company policy on drug abuse prevention, may lead to less substance use and abuse among employees both at home and at work. To date, there have been relatively few rigorously designed workplace prevention evaluation studies.

### Disseminating Evidence-Based Prevention

The ultimate goal of research concerning the etiology and prevention of substance use and abuse is to promote the sustained use of effective preventive interventions and thereby reduce the deleterious health and social consequences associated with these behaviors. To achieve that goal, it is necessary not only to develop effective approaches but to disseminate those approaches and ensure that they are implemented in a manner that preserves their effectiveness. Clinical psychologists can facilitate the dissemination of evidence-based prevention.

Several initiatives have been launched to identify and promote the use of prevention approaches that have been carefully tested using accepted research methods. These science-to-practice initiatives were developed by the Center for Substance Abuse Prevention at the Substance Abuse and Mental Health Services Administration, the U.S. Department of Education's Safe and Drug Free Schools program, and the U.S. Department of Justice's Office of Juvenile Justice and Delinquency Prevention, as well as the National Institute on Drug Abuse and the Centers for Disease Control and Prevention. These initiatives have typically included identifying effective prevention programs and policies, compiling and publishing lists of model or exemplary programs, and conducting conferences to disseminate information on what works. Although these initiatives began to achieve some degree of success in promoting the use of evidence-based interventions, research examining school-based prevention has indicated that the vast majority of schools in this country did not implement evidence-based programs (Ringwalt et al., 2002). In addition to funding, other factors to consider in promoting widespread dissemination of evidence-based preventive interventions include greater simplicity, flexibility, and ease of use. Furthermore, efforts to take evidence-based programs to scale and move from science to practice have highlighted the need for more research to better understand the factors influencing adoption, implementation, and sustainability.

## FUTURE DIRECTIONS

Significant advances have been made in the prevention of substance abuse over the past few decades. Prevention approaches have been rigorously tested and found effective in preventing the initiation and escalation of adolescent tobacco, alcohol, and other drug use. Notwithstanding these advances, many challenges remain to be addressed.

### Refine Existing Approaches

Prevention effects have been found for approaches that target the social influences to engage in substance use. More comprehensive approaches that target both interpersonal and intrapersonal factors by incorporating aspects of the social influence approach with a broader competence enhancement approach teaching general social skills and adaptive self-management skills has produced stronger and more durable prevention effects. However, additional research is needed to refine these approaches further and identify new approaches that may be even more effective. Multicomponent approaches that address a comprehensive set of risk and protective factors by combining the strengths of school, family, and community interventions warrant further research to produce more powerful and durable prevention approaches.

## Promote Evidence-Based Practice

There is also a need to better understand how to best disseminate effective prevention programs internationally. Many of the most rigorously tested and empirically validated substance abuse prevention programs were initially developed in the United States, based largely on theories developed in the United States. Many of these interventions are being adopted for use in Europe and many other areas of the world. It is important that efforts to adapt and disseminate evidence-based programs in new cultures and settings are approached using rigorous, standardized methods.

A number of conceptual models for replicating and disseminating evidence-based programs outline issues related to cultural adaptation as well as the process of negotiating needed changes at the organizational and community levels. One such model, the replicating effective programs framework (Kilbourne et al., 2007) grew out of an initiative at the Centers for Disease Control and Prevention. Replicating effective programs describes a multistage process of systematic and effective strategies that community-based organizations can use for the wide-scale dissemination of evidence-based interventions. The model describes how to identify needs of the local community, select effective interventions to address those needs, ensure that the selected intervention fits local settings, and identify implementation barriers. Other preimplementation steps involve setting up a community working group and pilot testing the intervention package to understand logistical issues at the local level. Training and technical assistance protocols and procedures need to be developed for intervention providers, and steps should be taken to examine the effect of the intervention on key outcomes. The replicating effective programs and similar dissemination models may be helpful as practitioners adopt preventive interventions developed elsewhere.

## Align Substance Abuse Prevention With National Priorities

Substance abuse prevention is a key component of the national drug control strategy and a high priority for drug policy initiatives, according to the Office of National Drug Control Policy (2013). More research is needed to increase knowledge of the etiology of substance use, refine and improve existing evidence-based prevention approaches, and develop novel approaches suitable to multiple populations. Translational research is also necessary to better understand and overcome barriers to moving from science to practice. Moreover, to achieve large-scale reductions in substance abuse and its adverse consequences, new initiatives (supported by adequate funding) are necessary to promote the widespread use of evidence-based programs and policies.

Historically, federal agencies have funded prevention grants that focus on a single outcome (e.g., drug use, underage drinking, or bullying) within specific communities (e.g., a single school district or municipality). The recognition that a common set of risk and protective factors contribute to a range of problems among young people suggests the need for a more coordinated approach in which different agencies work together to target common risk and protective factors related to substance abuse, mental health, and chronic diseases such as cardiovascular disease and various cancers. Effective preventive interventions that are developmentally and culturally appropriate and capable of being implemented at multiple levels and across multiple venues need to be developed, rigorously tested, and widely disseminated.

Promoting the sustained use of evidence-based prevention programs and policies is a national priority. Although substantial progress has been made in both the science and the practice of prevention, much remains to be accomplished. Working together with educators and other health professionals, clinical psychologists have the skills and knowledge to advance prevention research and practice as well as to facilitate the widespread dissemination of evidence-based substance abuse prevention. When successful, substance abuse prevention reduces substance abuse and its adverse consequences and provides an important opportunity for reducing future health costs.

## References

Ajzen, I. (1988). *Attitudes, personality, and behavior*. Chicago, IL: Dorsey Press.

Akers, R. L., & Cochran, J. K. (1985). Adolescent marijuana use: A test of three theories of deviant

behavior. *Deviant Behavior*, *6*, 323–346. http://dx.doi.org/10.1080/01639625.1985.9967683

Al-Halabi Díaz, S., Secades-Villa, R., Pérez, J. M., Fernández-Hermida, J. R., García-Rodríguez, O., Crespo, J. L., & Carballo Crespo, J. L. (2006). Family predictors of parent participation in an adolescent drug abuse prevention program. *Drug and Alcohol Review*, *25*, 327–331. http://dx.doi.org/10.1080/09595230600741149

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: Author.

Bachman, J. G., Wadsworth, K. N., O'Malley, P. M., Johnston, L. D., & Schulenberg, J. E. (1997). *Smoking, drinking, and drug use in young adulthood: The impacts of new freedoms and new responsibilities*. Mahwah, NJ: Erlbaum.

Bahr, S. J., Hoffmann, J. P., & Yang, X. (2005). Parental and peer influences on the risk of adolescent drug use. *Journal of Primary Prevention*, *26*, 529–551. http://dx.doi.org/10.1007/s10935-005-0014-8

Bandura, A. (1977). *Social learning theory*. Englewood Cliffs, NJ: Prentice-Hall.

Becker, M. H. (1974). The health belief model and personal health behavior. *Health Education Monographs*, *2*, 324–473.

Bennett, J. B., & Lehman, W. E. (Eds.). (2003). *Preventing workplace substance abuse: Beyond drug testing to wellness*. http://dx.doi.org/10.1037/10476-000

Botvin, G. J. (2000). Preventing drug abuse in schools: Social and competence enhancement approaches targeting individual-level etiologic factors. *Addictive Behaviors*, *25*, 887–897. http://dx.doi.org/10.1016/S0306-4603(00)00119-2

Botvin, G. J., Baker, E., Dusenbury, L., Botvin, E. M., & Diaz, T. (1995). Long-term follow-up results of a randomized drug abuse prevention trial in a White middle-class population. *JAMA*, *273*, 1106–1112. http://dx.doi.org/10.1001/jama.1995.03520380042033

Botvin, G. J., Baker, E., Dusenbury, L., Tortu, S., & Botvin, E. M. (1990). Preventing adolescent drug abuse through a multimodal cognitive–behavioral approach: Results of a 3-year study. *Journal of Consulting and Clinical Psychology*, *58*, 437–446. http://dx.doi.org/10.1037/0022-006X.58.4.437

Botvin, G. J., & Griffin, K. W. (2015). Life skills training: A competence enhancement approach to tobacco, alcohol, and drug abuse prevention. In L. M. Scheier (Ed.), *Handbook of drug abuse prevention research, intervention strategies, and practice* (pp. 177–196). http://dx.doi.org/10.1037/14550-011

Botvin, G. J., Griffin, K. W., Diaz, T., & Ifill-Williams, M. (2001a). Drug abuse prevention among minority adolescents: Posttest and one-year follow-up of a school-based preventive intervention. *Prevention Science*, *2*, 1–13. http://dx.doi.org/10.1023/A:1010025311161

Botvin, G. J., Griffin, K. W., Diaz, T., & Ifill-Williams, M. (2001b). Preventing binge drinking during early adolescence: One- and two-year follow-up of a school-based preventive intervention. *Psychology of Addictive Behaviors*, *15*, 360–365. http://dx.doi.org/10.1037/0893-164X.15.4.360

Botvin, G. J., Griffin, K. W., Diaz, T., Miller, N., & Ifill-Williams, M. (1999). Smoking initiation and escalation in early adolescent girls: One-year follow-up of a school-based prevention intervention for minority youth. *Journal of the American Medical Women's Association*, *54*, 139–143, 152.

Caplan, M., Weissberg, R. P., Grober, J. S., Sivo, P. J., Grady, K., & Jacoby, C. (1992). Social competence promotion with inner-city and suburban young adolescents: Effects on social adjustment and alcohol use. *Journal of Consulting and Clinical Psychology*, *60*, 56–63. http://dx.doi.org/10.1037/0022-006X.60.1.56

Carey, K. B., Scott-Sheldon, L. A., Carey, M. P., & DeMartini, K. S. (2007). Individual-level interventions to reduce college student drinking: A meta-analytic review. *Addictive Behaviors*, *32*, 2469–2494. http://dx.doi.org/10.1016/j.addbeh.2007.05.004

Carson, K. V., Brinn, M. P., Labiszewski, N. A., Esterman, A. J., Chang, A. B., & Smith, B. J. (2011). Community interventions for preventing smoking in young people. *Cochrane Database of Systematic Reviews*, *2011*(7), CD001291. http://dx.doi.org/10.1002/14651858

Castro, F. G., Barrera, M., Jr., & Martinez, C. R., Jr. (2004). The cultural adaptation of prevention interventions: Resolving tensions between fidelity and fit. *Prevention Science*, *5*, 41–45. http://dx.doi.org/10.1023/B:PREV.0000013980.12412.cd

Cerdá, M., Diez-Roux, A. V., Tchetgen, E. T., Gordon-Larsen, P., & Kiefe, C. (2010). The relationship between neighborhood poverty and alcohol use: Estimation by marginal structural models. *Epidemiology*, *21*, 482–489. http://dx.doi.org/10.1097/EDE.0b013e3181e13539

Chen, K., & Kandel, D. B. (1995). The natural history of drug use from adolescence to the mid-thirties in a general population sample. *American Journal of Public Health*, *85*, 41–47. http://dx.doi.org/10.2105/AJPH.85.1.41

Compton, W. M., Thomas, Y. F., Stinson, F. S., & Grant, B. F. (2007). Prevalence, correlates, disability, and comorbidity of *DSM–IV* drug abuse and dependence in the United States: Results from the national epidemiologic survey on alcohol

and related conditions. *Archives of General Psychiatry*, *64*, 566–576. http://dx.doi.org/10.1001/archpsyc.64.5.566

Conner, B. T., Hellemann, G. S., Ritchie, T. L., & Noble, E. P. (2010). Genetic, personality, and environmental predictors of drug use in adolescents. *Journal of Substance Abuse Treatment*, *38*, 178–190. http://dx.doi.org/10.1016/j.jsat.2009.07.004

Cook, R., & Schlenger, W. (2002). Prevention of substance abuse in the workplace: Review of research on the delivery of services. *Journal of Primary Prevention*, *23*, 115–142. http://dx.doi.org/10.1023/A:1016543300433

Deitz, D., Cook, R., & Hersch, R. (2005). Workplace health promotion and utilization of health services: Follow-up data findings. *Journal of Behavioral Health Services and Research*, *32*, 306–319. http://dx.doi.org/10.1007/BF02291830

Durlak, J. A., & DuPre, E. P. (2008). Implementation matters: A review of research on the influence of implementation on program outcomes and the factors affecting implementation. *American Journal of Community Psychology*, *41*, 327–350. http://dx.doi.org/10.1007/s10464-008-9165-0

Ellickson, P. L., & Bell, R. M. (1990). Drug prevention in junior high: A multi-site longitudinal test. *Science*, *247*, 1299–1305. http://dx.doi.org/10.1126/science.2180065

Ellickson, P. L., Bell, R. M., & McGuigan, K. (1993). Preventing adolescent drug use: Long-term results of a junior high program. *American Journal of Public Health*, *83*, 856–861. http://dx.doi.org/10.2105/AJPH.83.6.856

Elliott, D. S., & Mihalic, S. (2004). Issues in disseminating and replicating effective prevention programs. *Prevention Science*, *5*, 47–53. http://dx.doi.org/10.1023/B:PREV.0000013981.28071.52

Ennett, S. T., Tobler, N. S., Ringwalt, C. L., & Flewelling, R. L. (1994). How effective is drug abuse resistance education? A meta-analysis of Project DARE outcome evaluations. *American Journal of Public Health*, *84*, 1394–1401. http://dx.doi.org/10.2105/AJPH.84.9.1394

Evans, R. I. (1976). Smoking in children: Developing a social psychological strategy of deterrence. *Preventive Medicine*, *5*, 122–127. http://dx.doi.org/10.1016/0091-7435(76)90015-3

Evans, R. I., Hansen, W. B., & Mittlemark, M. B. (1977). Increasing the validity of self-reports of behavior in a smoking in children investigation. *Journal of Applied Psychology*, *62*, 521–523. http://dx.doi.org/10.1037/0021-9010.62.4.521

Evans, R. I., Rozelle, R. M., Mittlemark, M. B., Hansen, W. B., Bane, A. L., & Havis, J. (1978). Deterring the onset of smoking in children: Knowledge of immediate physiological effects and coping with peer pressure, media pressure, and parent modeling. *Journal of Applied Social Psychology*, *8*, 126–135. http://dx.doi.org/10.1111/j.1559-1816.1978.tb00771.x

Faggiano, F., Minozzi, S., Versino, E., & Buscemi, D. (2014). Universal school-based prevention for illicit drug use. *Cochrane Database of Systematic Reviews*, *2014*(12), CD003020.

Foxcroft, D. R., & Tsertsvadze, A. (2011a). Universal multicomponent prevention programs for alcohol misuse in young people. *Cochrane Database of Systematic Reviews*, *2011*(9), CD009307.

Foxcroft, D. R., & Tsertsvadze, A. (2011b). Universal school-based prevention programs for alcohol misuse in young people. *Cochrane Database of Systematic Reviews*, *2011*(5), CD009113.

Gates, S., McCambridge, J., Smith, L. A., & Foxcroft, D. R. (2006). Interventions for prevention of drug use by young people delivered in non-school settings. *Cochrane Database of Systematic Reviews*, *2006*(1), CD005030.

Gerada, C. (2005). Drug misuse: A review of treatments. *Clinical Medicine*, *5*, 69–73. http://dx.doi.org/10.7861/clinmedicine.5-1-69

Gottfredson, D. C., & Gottfredson, G. D. (2002). Quality of school-based prevention programs: Results from a national survey. *Journal of Research in Crime and Delinquency*, *39*, 3–35. http://dx.doi.org/10.1177/002242780203900101

Griffin, K. W. (2010). The epidemiology of substance use among adolescents and young adults: A developmental perspective. In L. M. Scheier (Ed.), *Handbook of drug use etiology: Theory, methods, and empirical findings* (pp. 73–92). Washington, DC: American Psychological Association.

Griffin, K. W., Botvin, G. J., Nichols, T. R., & Doyle, M. M. (2003). Effectiveness of a universal drug abuse prevention approach for youth at high risk for substance use initiation. *Preventive Medicine*, *36*, 1–7. http://dx.doi.org/10.1006/pmed.2002.1133

Hawkins, J. D., Oesterle, S., Brown, E. C., Arthur, M. W., Abbott, R. D., Fagan, A. A., & Catalano, R. F. (2009). Results of a type 2 translational research trial to prevent adolescent drug use and delinquency: A test of Communities That Care. *Archives of Pediatrics and Adolescent Medicine*, *163*, 789–798. http://dx.doi.org/10.1001/archpediatrics.2009.141

Hawkins, J. D., Oesterle, S., Brown, E. C., Monahan, K. C., Abbott, R. D., Arthur, M. W., & Catalano, R. F. (2012). Sustained decreases in risk exposure and youth problem behaviors after installation of the Communities That Care prevention system in a randomized trial. *Archives of Pediatrics and Adolescent*

*Medicine*, *166*, 141–148. http://dx.doi.org/10.1001/archpediatrics.2011.183

Hawkins, J. D., & Weis, J. G. (1985). The social development model: An integrated approach to delinquency prevention. *Journal of Primary Prevention*, *6*, 73–97. http://dx.doi.org/10.1007/BF01325432

Hill, P. L., Duggan, P. M., & Lapsley, D. K. (2012). Subjective invulnerability, risk behavior, and adjustment in early adolescence. *Journal of Early Adolescence*, *32*, 489–501. http://dx.doi.org/10.1177/0272431611400304

Hwang, M. S., Yeagley, K. L., & Petosa, R. (2004). A meta-analysis of adolescent psychosocial smoking prevention programs published between 1978 and 1997 in the United States. *Health Education and Behavior*, *31*, 702–719. http://dx.doi.org/10.1177/1090198104263361

Jessor, R., & Jessor, S. L. (1977). *Problem behavior and psychosocial development: A longitudinal study of youth*. New York, NY: Academic Press.

Johnston, V., Liberato, S., & Thomas, D. (2012). Incentives for preventing smoking in children and adolescents. *Cochrane Database of Systematic Reviews*, *2012*(10), CD008645.

Kandel, D. B. (Eds.). (2002). *Examining the gateway hypothesis: Stages and pathways of drug involvement*. http://dx.doi.org/10.1017/CBO9780511499777

Kaplan, H. B. (1980). Self-esteem and self-derogation theory of drug abuse. *NIDA Research Monograph*, *30*, 128–131.

Khantzian, E. J. (1997). The self-medication hypothesis of substance use disorders: A reconsideration and recent applications. *Harvard Review of Psychiatry*, *4*, 231–244. http://dx.doi.org/10.3109/10673229709030550

Kilbourne, A. M., Neumann, M. S., Pincus, H. A., Bauer, M. S., & Stall, R. (2007). Implementing evidence-based interventions in health care: Application of the replicating effective programs framework. *Implementation Science*, *2*, 42. http://dx.doi.org/10.1186/1748-5908-2-42

Komro, K. A., Maldonado-Molina, M. M., Tobler, A. L., Bonds, J. R., & Muller, K. E. (2007). Effects of home access and availability of alcohol on young adolescents' alcohol use. *Addiction*, *102*, 1597–1608. http://dx.doi.org/10.1111/j.1360-0443.2007.01941.x

Lochman, J. E., & van den Steenhoven, A. (2002). Family-based approaches to substance abuse prevention. *Journal of Primary Prevention*, *23*, 49–114. http://dx.doi.org/10.1023/A:1016591216363

Luepker, R. V., Johnson, C. A., Murray, D. M., & Pechacek, T. F. (1983). Prevention of cigarette smoking: Three-year follow-up of an education program for youth. *Journal of Behavioral Medicine*, *6*, 53–62. http://dx.doi.org/10.1007/BF00845276

McGuire, W. J. (1968). The nature of attitudes and attitude change. In G. Lindzey & E. Aronson (Eds.), *Handbook of social psychology* (pp. 136–314). Reading, MA: Addison-Wesley.

Merikangas, K. R., & McClair, V. L. (2012). Epidemiology of substance use disorders. *Human Genetics*, *131*, 779–789. http://dx.doi.org/10.1007/s00439-012-1168-0

Moreira, M. T., Smith, L. A., & Foxcroft, D. (2009). Social norms interventions to reduce alcohol misuse in university or college students. *Cochrane Database of Systematic Reviews*, *2009*(3), CD006748.

Mrazek, P. J., & Haggerty, R. J. (Eds.). (1994). *Reducing risks for mental disorders: Frontiers for preventive intervention research*. Washington, DC: National Academy Press.

Newcomb, M. D., & Locke, T. (2005). Health, social, and psychological consequences of drug use and abuse. In Z. Sloboda (Ed.), *Epidemiology of drug abuse* (pp. 45–59). http://dx.doi.org/10.1007/0-387-24416-6_4

Office of National Drug Control Policy. (2013). *National drug control strategy*, *2013*. Washington, DC: Executive Office of the President.

Olds, D. L., Kitzman, H. J., Cole, R. E., Hanks, C. A., Arcoleo, K. J., Anson, E. A., . . . Stevenson, A. J. (2010). Enduring effects of prenatal and infancy home visiting by nurses on maternal life course and government spending: Follow-up of a randomized trial among children at age 12 years. *Archives of Pediatrics and Adolescent Medicine*, *164*, 419–424. http://dx.doi.org/10.1001/archpediatrics.2010.49

Paglia, A., & Room, R. (1999). Preventing substance use problems among youth: A literature review and recommendations. *Journal of Primary Prevention*, *20*, 3–50. http://dx.doi.org/10.1023/A:1021302302085

Perkins, H. W. (2002). Social norms and the prevention of alcohol misuses in collegiate contexts. *Journal of Studies on Alcohol and Drugs*, *S14*, 164–172. http://dx.doi.org/10.15288/jsas.2002.s14.164

Perry, C. L., & Kelder, S. H. (1992). Models for effective prevention. *Journal of Adolescent Health*, *13*, 355–363. http://dx.doi.org/10.1016/1054-139X(92)90028-A

Petraitis, J., Flay, B. R., & Miller, T. Q. (1995). Reviewing theories of adolescent substance use: Organizing pieces in the puzzle. *Psychological Bulletin*, *117*, 67–86. http://dx.doi.org/10.1037/0033-2909.117.1.67

Piaget, J. (1962). *The moral judgment of the child*. New York, NY: Collier.

Piko, B. (2001). Smoking in adolescence: Do attitudes matter? *Addictive Behaviors*, *26*, 201–217. http://dx.doi.org/10.1016/S0306-4603(00)00101-5

Porath-Waller, A. J., Beasley, E., & Beirness, D. J. (2010). A meta-analytic review of school-based

prevention for cannabis use. *Health Education and Behavior*, *37*, 709–723. http://dx.doi.org/10.1177/1090198110361315

Resnicow, K., & Botvin, G. (1993). School-based substance use prevention programs: Why do effects decay? *Preventive Medicine*, *22*, 484–490. http://dx.doi.org/10.1006/pmed.1993.1039

Ringwalt, C. L., Ennett, S., Vincus, A., Thorne, J., Rohrbach, L. A., & Simons-Rudolph, A. (2002). The prevalence of effective substance use prevention curricula in U.S. middle schools. *Prevention Science*, *3*, 257–265. http://dx.doi.org/10.1023/A:1020872424136

Ringwalt, C. L., Vincus, A., Ennett, S., Johnson, R., & Rohrbach, L. A. (2004). Reasons for teachers' adaptation of substance use prevention curricula in schools with non-White student populations. *Prevention Science*, *5*, 61–67. http://dx.doi.org/10.1023/B:PREV.0000013983.87069.a0

Rosenbaum, D. P., & Hanson, G. S. (1998). Assessing the effects of school-based drug education: A six-year multilevel analysis of Project DARE. *Journal of Research in Crime and Delinquency*, *35*, 381–412. http://dx.doi.org/10.1177/0022427898035004002

Saal, D., Dong, Y., Bonci, A., & Malenka, R. C. (2003). Drugs of abuse and stress trigger a common synaptic adaptation in dopamine neurons. *Neuron*, *37*, 577–582. http://dx.doi.org/10.1016/S0896-6273(03)00021-7

Scheier, L. M. (Ed.). (2010). *Handbook of drug use etiology: Theory, methods, and empirical findings*. Washington, DC: American Psychological Association.

Shaffer, H. J. (Ed.). (2012). *APA addiction syndrome handbook*. Washington, DC: American Psychological Association.

Shope, J. T., Copeland, L. A., Kamp, M. E., & Lang, S. W. (1998). Twelfth grade follow-up of the effectiveness of a middle school-based substance abuse prevention program. *Journal of Drug Education*, *28*, 185–197. http://dx.doi.org/10.2190/PTV0-LRR9-8XGU-G120

Shope, J. T., Dielman, T. E., Butchart, A. T., Campanelli, P. C., & Kloska, D. D. (1992). An elementary school-based alcohol misuse prevention program: A follow-up evaluation. *Journal of Studies on Alcohol and Drugs*, *53*, 106–121. http://dx.doi.org/10.15288/jsa.1992.53.106

Sloboda, Z., Stephens, R. C., Stephens, P. C., Grey, S. F., Teasdale, B., Hawthorne, R. D., . . . Marquette, J. F. (2009). The Adolescent Substance Abuse Prevention Study: A randomized field trial of a universal substance abuse prevention program. *Drug and Alcohol Dependence*, *102*, 1–10. http://dx.doi.org/10.1016/j.drugalcdep.2009.01.015

Spoth, R. L., Redmond, C., & Shin, C. (2001). Randomized trial of brief family interventions for general populations: Adolescent substance use outcomes 4 years following baseline. *Journal of Consulting and Clinical Psychology*, *69*, 627–642. http://dx.doi.org/10.1037/0022-006X.69.4.627

Spoth, R. L., Trudeau, L., Shin, C., Ralston, E., Redmond, C., Greenberg, M., & Feinberg, M. (2013). Longitudinal effects of universal preventive intervention on prescription drug misuse: Three randomized controlled trials with late adolescents and young adults. *American Journal of Public Health*, *103*, 665–672. http://dx.doi.org/10.2105/AJPH.2012.301209

Steinberg, L. (2008). A social neuroscience perspective on adolescent risk-taking. *Developmental Review*, *28*, 78–106. http://dx.doi.org/10.1016/j.dr.2007.08.002

Substance Abuse and Mental Health Services Administration. (2014). *Results from the 2013 National Survey on Drug Use and Health: National findings* (NSDUH Series H-48, HHS Publication No. (SMA) 14-4863). Rockville, MD: Substance Abuse and Mental Health Services Administration.

Sussman, S., Dent, C. W., Stacy, A. W., Sun, P., Craig, S., Simon, T. R., . . . Flay, B. R. (1993). Project towards no tobacco use: 1-year behavior outcomes. *American Journal of Public Health*, *83*, 1245–1250. http://dx.doi.org/10.2105/AJPH.83.9.1245

Swadi, H. (1999). Individual risk factors for adolescent substance use. *Drug and Alcohol Dependence*, *55*, 209–224. http://dx.doi.org/10.1016/S0376-8716(99)00017-4

Thomas, R. E., Baker, P., & Lorenzetti, D. (2007). Family-based programmes for preventing smoking by children and adolescents. *Cochrane Database of Systematic Reviews*, *2007*(1), CD004493.

Thomas, R. E., McLellan, J., & Perera, R. (2013). School-based programmes for preventing smoking. *Cochrane Database of Systematic Reviews*, *2013*(4), CD001293.

Tobler, N. S., & Stratton, H. H. (1997). Effectiveness of school-based drug prevention programs: A meta-analysis of the research. *Journal of Primary Prevention*, *18*, 71–128. http://dx.doi.org/10.1023/A:1024630205999

Volkow, N. D., & Li, T. K. (2005). Drugs and alcohol: Treating and preventing abuse, addiction and their medical consequences. *Pharmacology and Therapeutics*, *108*, 3–17. http://dx.doi.org/10.1016/j.pharmthera.2005.06.021

World Health Organization. (1992). *The ICD–10 classification of mental and behavioural disorders: Clinical descriptions and diagnostic guidelines*. Geneva, Switzerland: Author.

World Health Organization. (2010). *ATLAS on substance use (2010): Resources for the prevention and treatment of substance use disorders*. Geneva, Switzerland: Author.

CHAPTER 27

# PREVENTION OF INTERPERSONAL VIOLENCE

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Prevention has long been an important topic in the field of clinical psychology (Greenberg, Domitrovich, & Bumbarger, 2001; Price et al., 1988). Violence prevention is particularly important to clinical psychology given the strong associations between violence exposure and psychological distress. What is more, violence prevention is now a normative experience for U.S. youths, with approximately two out of three U.S. youths participating in at least one program at some point during childhood and more than half receiving a program in the past year (Finkelhor et al., 2014). Violence prevention is also increasingly common in many other wealthy, stable democracies (e.g., De Puy, Monnier, & Hamby, 2009; Olweus & Limber, 2010; Wolfe et al., 2009). The widespread implementation of prevention programming reflects the hope that this work can reduce the number of people who experience violence, including involvement as perpetrator, victim, or both. This is in contrast to intervention, which usually refers to working with people who are already involved in violence, whether it be reducing the recidivism of perpetrators or ameliorating the consequences experienced by victims.

Dozens of prevention programs have been developed to address many forms of interpersonal violence, with clinical psychologists taking the lead in some of this important early work (Price et al., 1988). They encompass strategies for universal prevention (sometimes also called *primary prevention*), which is aimed at an entire community (Caplan, 1964), and for targeted (or secondary) prevention, which involves working with individuals who are thought to be at high risk of violence but who have not become involved (or at least not significantly involved) as perpetrators or victims. Regrettably, formal evaluations of these programs have not kept pace with their popularity in schools and other settings (Hamby & Grych, 2013). Violence is a complex, multiply determined problem, and although there is evidence to support the efficacy of the best violence prevention programs, other programs have failed to demonstrate the desired effects.

We begin this chapter by defining violence prevention and identifying its core principles and applications. We then review landmark studies and research evidence for their effectiveness. Issues of diversity across social and cultural groups are also addressed. Finally, we identify major accomplishments in the field and predict future directions for three key areas of clinical psychology: practice, training, and research.

## DESCRIPTION AND DEFINITION

Interpersonal violence is the intentional infliction of unwanted harm in a manner that violates social norms. Interpersonal violence encompasses many different types of experiences, including bullying at the hands of peers, sexual assault, child maltreatment by caregivers, witnessing violence within the family or community, physical assaults including dating violence, and psychological abuse. Recent national data have indicated that more than 60% of youths experience some form of victimization, crime, or abuse every year (Finkelhor et al., 2009).

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Almost half of youths (46.3%) are physically assaulted in a year's time, one in 10 experience child maltreatment, one in 10 experience a victimization-related injury, one in 16 experience a sexual victimization, and more than one in 4 (25.3%) witness violence. Adults also sustain violence at alarmingly high rates: Nearly one in five women will be raped and one in three women will sustain physical intimate partner violence; almost one in four men sustain intimate partner violence and, although their rates of sexual victimization are lower than women's, some men are also raped (1.4%; Black et al., 2011).

Many types of programs are designed to reduce these distressingly high rates of violence. They include school-based curricula and educational skill-building workshops implemented with school-age children and college students, family-based programs in early childhood, and wider school and community efforts.

## Classroom- or Workshop-Based Curricula

Perhaps the best known violence prevention programs are school-based curricula that typically provide information about specific forms of violence, encourage help seeking or bystander action, and teach conflict resolution skills. They are usually considered primary prevention because they are based in classrooms and made available to all students. They function mainly at the individual level of the social ecological model (Bronfenbrenner, 1977) by focusing primarily on individual skill building and awareness. Examples of this type of program include the Olweus Bullying Prevention Program (Olweus & Limber, 2010), Safe Dates for dating violence prevention (Foshee et al., 1998), and Bringing in the Bystander for sexual assault prevention (Banyard, Moynihan, & Plante, 2007). These programs typically focus on one form of violence and one age group (e.g., middle school, high school, or college students) and are facilitated by teachers or prevention educators.

## Family and Early Childhood Programs

Some violence prevention programs operate at the relational level of the social ecology. Home visitation programs, such as the Nurse–Family Partnership, and early childhood programs, such as Zero to Three, represent another approach to violence prevention. In these programs, supports are provided to parents of young children to strengthen families and improve early relationship and learning environments, which are the origins of many early risk factors for victimization and perpetration. Support for parents and toddlers may be the single most important means of preventing multiple forms of violence. Helping parents to recognize and respond to their children's needs and to use effective discipline strategies provides a foundation for healthy and safe interpersonal relationships. Studies of programs such as the Nurse–Family Partnership have shown that early home visitation can substantially decrease child maltreatment (Olds, 2006). The potential of this approach is demonstrated by an outcome study of PREP, a relationship skills program for young couples with the goal of reducing a variety of potential marital problems (Markman et al., 1993). At 3-, 4-, and 5-year follow-ups, rates of violence were lower for couples receiving the intervention than for couples in the control group.

Mentoring programs such as Big Brothers Big Sisters of America can also prevent violence when mentors are carefully selected and trained and have regular contact with youths. Though not strictly speaking a family-based intervention, these programs augment the support and modeling children need and may not fully receive from families under stress. They operate on a similar level of the social ecology, the immediate social network. Research has documented the positive impact of Big Brothers Big Sisters on youth development, including less involvement in aggression (Tierney & Grossman, 1995). Family and mentoring programs share a focus on addressing early childhood and factors that may take root early in family experiences of child maltreatment and attachment disruption. Their aim is to promote key developmental competencies.

## Community Approaches to Violence Prevention

Most evaluations have been conducted on prevention programs that focus on individuals or families or operate at the "microsocial" level. They include programs that can be described as universal (e.g., all sixth graders) and targeted (only children in

some high-risk category). Some programs, however, are intended to influence entire communities or societies and operate at the outer levels of the social ecology. These "macrosocial" programs usually fall in the universal category, but programs focusing on an entire high-risk community, such as an impoverished inner-city area, could also be described as targeted. Macrosocial programs try to reduce violence through efforts such as public service campaigns and legal reform. Macrosocial effects can also arise from media coverage of news stories, which can raise awareness. Evaluations of macrosocial interventions are even rarer than evaluations of microsocial curricula, although most appear to at least increase help seeking and positive attitudes about preventing violence (Potter, 2012). Recently, the Shifting Boundaries evaluation found that schoolwide changes (including a poster campaign, increased staffing in dangerous locations, and policy revisions) were more effective than a classroom curriculum alone (Taylor et al., 2011).

Community and social factors are an important sphere for violence prevention efforts because they can reach large numbers of people and because they can have an impact on the effectiveness of individual programs. For example, students may perceive institutional or legal barriers, such as being prosecuted for underage drinking if they seek help, that can work against prevention curricula. Research has found a link between perceptions of collective efficacy and violence prevention behaviors, such as active bystander intervention (Edwards et al., 2014). Willingness to report suspected violence on campus has been linked to perceptions of trust in campus authorities (Sulkowski, 2011). Systemic changes, such as Good Samaritan policies and promoting collective efficacy, can be part of the violence prevention toolkit. Community interventions, such as social marketing campaigns, can have synergistic effects with individual skill-building curricula to promote bystander action to address sexual and relationship abuse (Banyard et al., 2013).

## CORE PRINCIPLES AND APPLICATIONS

In an influential article, Nation et al. (2003) outlined a number of principles for prevention that are now reflected in violence prevention. Their principles include comprehensiveness, varied teaching methods, sufficient dosage, a focus on positive skill building and developing positive relationships, appropriate developmental timing, sociocultural relevance, well-trained staff, and formal evaluation of desired outcomes. With a more specific focus on violence prevention, O'Leary, Woodin, and Fritz (2006) provided another set of principles of exemplary violence prevention. They exhorted psychologists and other prevention providers to attend to ceiling and floor effects (e.g., endorsement of egalitarian relationship values can be so high at pretest that it is difficult to show change), assess effects of facilitator enthusiasm (or lack thereof), avoid haphazard curriculum assembly, assess needed program length, measure behaviors and not just attitudes, include longer follow-ups, and include role play and other opportunities for practice.

Recent data from the National Survey of Children's Exposure to Violence provided insight into patterns of violence prevention programs in the United States (Finkelhor et al., 2014). The most common prevention program is antibullying programming, with more than half of school-age youths reporting that they received it. General violence avoidance or conflict resolution is reported by about two out of five. Substantial portions of youths participate in gang (27%) and sexual assault prevention (21%), too. Among adolescents, approximately one in three adolescents receive dating violence prevention.

Although these programs differ in focus, they share a number of similarities. The most common element of prevention programs in the National Survey of Children's Exposure to Violence survey was encouraging youths to disclose to adults whether they were exposed to violence, reported by almost nine out of 10 respondents (88%). Identification of warning signs was next most common (78%), although nearly as many discussed the elements of healthy and respectful relationships (73%) and techniques for conflict resolution (71%).

At the same time, the structural elements of prevention programs associated with better outcomes were less common. Fewer than half (41%) of the most recently attended prevention programs were

multiday programs, even though it has been well established that single-day programs seldom effect lasting change (Nation et al., 2003). Only 40% provided any practice opportunities for youths to rehearse the skills taught. More (72%) gave youths information to take home, but fewer than one in five (18%) provided meeting opportunities that included parents. Only about one in four prevention programs included at least three of these four elements of higher quality programming. This finding, in combination with the fact that not all children receive violence prevention, means that fewer than one in six U.S. children (16.7%) were exposed to what was designated as a higher quality program.

It is perhaps not surprising, given broad exposure to multiple programs and uneven quality, that a minority of youths (39%) said the most recent program provided mostly new or all new information. Almost one in three (30%) said programs were not helpful or a little helpful. More than half (55%) reported they had not used the information to help either themselves or a friend. Furthermore, few differences in victimization rates were observed between youths who had or had not participated in programs, except for the youngest children (ages 5 to 9) who had been exposed to high-quality programs.

## LANDMARK STUDIES AND RESEARCH EVIDENCE

Landmark studies in prevention have focused on evaluating the effectiveness of a given program in reducing rates of victimization or perpetration. For example, the seminal publication *Fourteen Ounces of Prevention* (Price et al., 1988) described prevention programs across the life span that were shown to significantly improve mental health outcomes. Landmark studies of violence prevention have focused on behavioral outcomes, rather than just measuring attitudes, and have begun to compare different versions of programs using rigorous empirical designs.

Some classic studies evaluating programs that showed evidence of behavior change in randomized controlled trials include Safe Dates (Foshee et al., 1998), the 4th R (Wolfe et al., 2009), and The Men's Project (Gidycz, Orchowski, & Berkowitz, 2011). These programs found decreases in perpetration reports at follow-up. However, they are also examples of the challenges in demonstrating effects, because all of these programs also found mixed results or evidence of differential effects for subgroups of respondents. However, studies such as that of Miller et al. (2012) did not find an impact of prevention on dating violence perpetration. Other experimental studies have documented changes in bystander actions over time after exposure to sexual assault prevention (Banyard et al., 2007), bullying prevention (Polanin, Espelage, & Pigott, 2012), and dating violence prevention (Miller et al., 2012).

In clinical psychology, studies of interventions for psychological problems have advanced beyond comparing treatments with no-treatment or wait-list controls (e.g., Resick et al., 2008). A more sophisticated design evaluates new interventions on the basis of usual standard of care or some other active treatment. Without direct comparisons of different programs, there is little guidance as to whether some prevention programs should be favored over others. Studies comparing two programs are starting to be seen in violence prevention research, such as the Shifting Boundaries evaluation of efforts to reduce multiple types of peer victimization (Taylor et al., 2011). That study involved a 2 (classroom curriculum or not) $\times$ 2 (buildingwide intervention or not) design. It found some behavioral changes for the building-only condition, which changed school policies, increased adult monitoring of hotspots, and used a poster campaign to try to shift norms. The building-plus-classroom condition did not have better results than the building-only condition, and the classroom curriculum alone was generally not better than the no-program control group.

Overall, however, research studies on violence prevention effectiveness have generally found fairly modest effects for many prevention programs (Anderson & Whiston, 2005; DeGue et al., 2013; O'Leary et al., 2006). As many authors have noted, the modest effects become even weaker when the focus shifts from the assessment of knowledge and attitudes to the assessment of perpetration and victimization. Furthermore, even attitude change rarely persists over long-term follow-up (Anderson &

Whiston, 2005). In the Future Directions section later in this chapter, we reflect on the next steps for prevention practice and for research needed to inform that practice so that the field can better overcome these current limitations in effectiveness.

## MAJOR ACCOMPLISHMENTS

### Emergence of Best Practices

The landmark studies and research evidence have led to the development of best practices in prevention of interpersonal violence. Although more research is always needed, there is a solid sense of what works. Key accomplishments include reaching broad audiences, a move toward more theoretically informed approaches, more comprehensive approaches that engage multiple layers of the social ecology, and a consideration of community-specific adaptation.

### Reaching Broad Audiences

As reviewed earlier (Finkelhor et al., 2014), a high number of youths participate in violence prevention education. This is a major accomplishment that suggests that violence prevention is increasingly being incorporated into schools and other community settings. The next steps are to do more to ensure that the quality of these programs is high.

### A Move to More Informed Approaches

Many different theoretical models inform prevention, including social learning theory (Bandura, 1973), the health belief model (Gidycz et al., 2001), belief system theory (Foubert, Godin, & Tatum, 2010), readiness to change (Banyard, Eckstein, & Moynihan, 2010), and the theory of planned behavior (Cox et al., 2010). They are all exemplars of intervention theories about ways to create attitude and behavior change. Prevention programs with a strong theoretical base are believed to have the potential to be more effective, because program components are selected on the basis of empirical research relevant to the theory.

### Comprehensive Strategies

Prevention efforts now go beyond a one-time, short dose of education or a focus on individuals (Nation et al., 2003). This lesson has been learned not only in violence prevention but also across a variety of prevention topics. For example, research in violence prevention finds little to small effects for one-shot, brief programs (DeGue et al., 2013); longer programs have more impact. Furthermore, work that engages parents as well as youths or that seeks to involve the wider community often shows greater effectiveness (Finkelhor et al., 2014).

### Community Adaptation

Previous work is clear that prevention efforts must be tailored to the needs of a particular community. For example, bystander intervention training as a prevention strategy for bullying produced bigger effects for older high school students who received training than for younger students (Polanin et al., 2012). Such work reminds us that one prevention curriculum cannot simply be used with different groups of youths; rather, sensitivity to what types of prevention messages might work best for what age groups is needed. Researchers studying sexual assault prevention on college campuses found smaller effects for a prevention program when it was translated from a rural residential campus to an urban commuter campus (Cares et al., 2015). Noonan et al. (2009) described the translation of a sexual assault prevention program across several school contexts and documented how a high level of fidelity to the original program was preserved while allowing for some community-specific modifications, including making the curriculum more developmentally appropriate to the group that practitioners were working with and finding ways to include opportunities to bring daily life experiences of participants into discussions.

## FUTURE DIRECTIONS

The development and evaluation of prevention programs have been a key part of clinical psychology for many years. A variety of future directions for all areas of clinical psychology—practice, training, and research—follow from the preceding review.

More interconnections are needed across areas of clinical work, including types of violence and age groups of clients, and across the ecological model

from individuals to families to schools and communities. Promising innovations in delivery methods have suggested new areas of practice and training, including online methods. Research and practice efforts must also work in collaboration to better build new prevention strategies grounded in better understanding of protective factors and resilience rather than considering only risk reduction. A critical need exists to more effectively reduce violence given the well-documented negative effects of victimization on mental and physical health.

The overlapping content of many prevention programs implicitly acknowledges that different types of violence have similar etiologies (Grych & Swan, 2012; Hamby & Grych, 2013). Explicitly recognizing this similarity and systematically incorporating common factors into comprehensive prevention programs can increase the efficiency and impact of prevention efforts. Many of the institutions that are likely to implement large-scale prevention programs, including schools, military bases, and community centers, have primary purposes other than the prevention of partner violence or other interpersonal or health problems. These institutions may not realistically have the time or resources to implement distinct curricula for every significant problem behavior. Professionals working with youths raised this issue during focus groups on partner violence prevention in Switzerland (Hamby et al., 2012), and it has also been raised by advocates trying to gain access to school settings (Meyer & Stein, 2004).

In the future, connections will be made between prevention efforts within and outside of the violence fields (Banyard, 2013). This is important for campus communities where a problem such as binge drinking, for example, is both a health problem in and of itself (see Chapters 25 and 26, this volume) and a key risk factor for violence perpetration that thus needs to be part of violence prevention efforts. Some prevention efforts are building these bridges, but more research is needed to examine the utility of cross-topic, collaborative prevention efforts. For example, a meta-analysis of a broader based prevention strategy, social emotional learning, found significant impacts on conduct problems including bullying and aggression (Durlak et al., 2011). The 4th R (Wolfe et al., 2009) addresses substance use and healthy and safe-sex practices in addition to relationship violence prevention, and a program for parents and college students combined education about substance use and sexual assault (Testa et al., 2010).

More specifically, a coordinated message could be adapted to the developmental phase and social ecology relevant at different ages. For example, a programmatic, school-based approach to preventing interpersonal violence would address cognitive, emotional, behavioral, and perhaps even physiological processes in developmentally appropriate ways, adapting them to different relationship contexts as they become salient (Hamby & Grych, 2013). More concretely, teaching communication and conflict resolution skills, fostering empathy, and promoting emotional and behavioral self-regulation are likely to reduce all violence and abuse, and we believe that a core curriculum could be developed that includes these skills and is supported by strategies used in social marketing campaigns to promote nonviolent community norms.

In the future, a more coordinated approach to prevention will probably be used (Hamby & Grych, 2013). Prevention programming could be incorporated throughout the school curriculum, starting with basic interpersonal skills and school cultures that emphasize social inclusion and peaceful solutions to conflict and adding complexity as children develop. Although an integrative program emphasizes factors common to most forms of violence, it could also include unique risk and protective factors. These factors could be addressed in special topic modules that build on the core curriculum. For example, modules for dating violence and sexual assault might include navigating sexual consent and negotiating birth control use, which are challenging communication skills but nonetheless ones that build on other types of interpersonal communication. Figure 27.1 presents one possible model of how these common and specific factors might be integrated into a broader, more coordinated program.

One future implication of work on prevention of a more developmentally informed approach is attending to key risk periods for different violence types, making sure that the timing of prevention

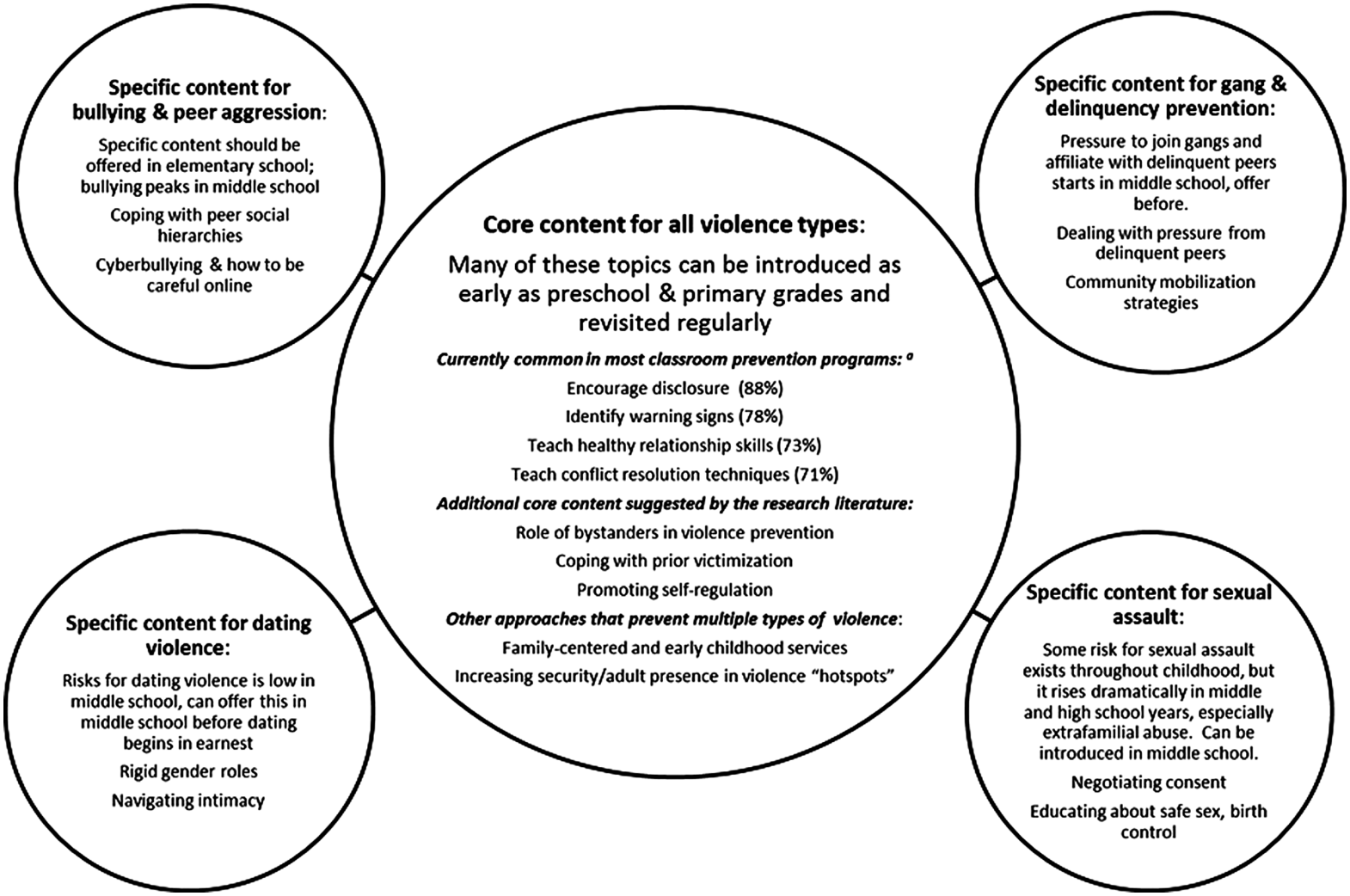


FIGURE 27.1. A framework for a more coordinated and developmentally attuned approach to violence prevention. Copyright 2014 by Sherry Hamby, Victoria Banyard, and John Grych. From *The Web of Violence: Exploring Connections Among Different Forms of Interpersonal Violence and Abuse* (p. 85), by S. Hamby and J. Grych, 2013, Dordrecht, the Netherlands: Springer. Copyright 2013 by S. Hamby and J. Grych. Adapted with permission. [a]Statistics from Finkelhor et al. (2014).

is based on developmental trajectories. Bullying, for example, peaks in middle school and declines through later adolescence (Finkelhor et al., 2009). The implication is that high school or even middle school antibullying programming is probably too late to interfere with the onset of bullying behavior. Sexual victimization, however, rises steadily across the span of childhood, especially for girls. These findings underscore the importance of timing prevention offerings and paying more attention to early experiences, especially experiences of victimization or neglect. At the population level, the National Survey of Children's Exposure to Violence found evidence of effects only for younger children exposed to the highest quality programs, which suggests that providers may be offering many prevention programs too late to have a significant impact.

Another relatively recent innovation has been a shift away from the focus on perpetrators and victims to a focus on the bystanders, or witnesses of violence. These programs take advantage of the insight, known since the seminal work of Darley and Latané (1968), that some crimes are only successfully completed because of the passivity of passersby. A timely intervention on the part of a witness can prevent some crimes as effectively as better impulse control of perpetrators or more "target hardening" of victims. These programs also take advantage of normal developmental processes of youths and young adults, who make up the group most vulnerable to becoming both perpetrators and victims of crime and who are the focus of most violence prevention efforts. Young people often feel invincible, and it can be challenging to get them to acknowledge the possibility that they might become perpetrators or victims. However, bystander programs approach the problem of violence more from the role of hero or at least something akin to the Good Samaritan.

Clinical psychologists can potentially increase their impact through more involvement in prevention, especially at the community or institutional level. Training programs often place graduate students in community settings such as schools. Building on models of clinical graduate training, programs could work to expand the types of community settings in which students gain training to prepare them to consult and work in these settings.

The modest results for classroom programs when violence prevention is subjected to rigorous evaluation have sparked an interest in alternatives. One promising alternative is so-called "social marketing" campaigns, the modern-day progeny of the public service announcements of the 1970s and 1980s. Social marketing, as the name implies, uses the techniques of Madison Avenue to shift norms and raise awareness of social problems. In the field of violence prevention, examples include a multimedia campaign on a college campus (Potter, 2012) and the poster campaign from Shifting Boundaries mentioned above, both of which have some preliminary data supporting their use.

Online interventions can also have a positive impact on a variety of risky health behaviors, including smoking and alcohol consumption (Cugelman, Thelwall, & Dawes, 2011), and offer one solution to the many challenges of prevention program delivery, including cost and access to participants. The field of violence prevention has lagged behind in the adoption and evaluation of this modality, but one online bystander intervention program for sexual assault showed positive effects on perceived bystander efficacy and bystander behaviors in an initial evaluation (Kleinsasser et al., 2015). There has been some investigation into the potential of virtual reality to increase the effectiveness of role plays used to teach rape resistance skills as well (Jouriles et al., 2009). Other formats, such as theater and other performances, have also been explored as prevention modalities.

Many common therapeutic interventions designed to improve emotional regulation and physiological arousal, such as cognitive restructuring, anger management, and mindfulness meditation, will probably be adapted for universal prevention programs. For some, classroom-based prevention may not be sufficient; more intensive interventions will be needed. Indeed, some evidence has suggested that prevention programs are less effective for the most violent subgroup of youths (Foshee et al., 2005). For example, Expect Respect does this by adding a group for victimized youths (Ball, Kerig, & Rosenbluth, 2009). EcoFIT supplements a school

program with a "Family Check-Up," which involves assessment of children's and families' strengths and needs and feedback using motivational interviewing. Parents can receive phone check-ins or participate in individual or group-based family management training at the school. School-based prevention could also be enhanced by adding components that address parenting and family issues. Although EcoFIT does not focus on violence, it provides an empirically supported model for offering family-centered services within the context of school programming (Stormshak & Dishion, 2009). Notably, the effects of EcoFIT have been strongest on youths with the most severe adjustment problems (Connell et al., 2007).

Social and cultural factors still receive too little attention in violence prevention. Only a few programs have attended to sociocultural factors at all. In an exception to this, a program for African American youths included features to enhance the cultural relevance of the program, such as ethnically similar role models and ethnically appropriate language and content (Yung & Hammond, 1998). A partner violence prevention program in Quebec showed some promising results (Lavoie et al., 1995). The cultural relevance of these programs is typically enhanced by features such as local or culturally specific data to describe the problem of violence and names for characters in scenarios that are common in the targeted cultural groups (e.g., in the Quebec program, characters are called Claude and Dominique). In the future, there will be a need to make specific cultural adaptations even across sites that share a common language.

Less attention has been paid to other features of these programs, such as instructional techniques, but some anecdotal evidence has suggested that these may also be important to consider when adapting programs for different cultural or social groups. For example, a Swiss adaptation of Safe Dates involved a high percentage of participants who were immigrants to Francophone Switzerland. Although they were fluent in spoken French, many of them were uncomfortable with the writing exercises in the original program, and many of those had to be revised or omitted (Hamby et al., 2012). Similarly, the classwide public-speaking exercises of another program had to be adapted into small-group or individual exercises for Apache high school students because it became apparent that whereas some Apache youths were comfortable with public speaking, others perceived public speaking as behavior more appropriate for elders and authority figures. Basic concepts such as dating do not have equivalents in all cultures, and many societies do not have as many terms for the different forms of violence and aggression that are found in American English, an extensive terminology that is the result, at least in part, of several decades of antiviolence social movements (Hamby et al., 2012). Clinicians can be on the front lines of this work and should bring their expertise in cultural competence to bear in their practice communities to develop prevention innovations that meet the needs of their particular clients.

Finally, violence prevention to date has largely been about removing risk factors rather than building strengths. For example, although bystander-focused prevention strategies are a recent innovation and focus on prosocial behavior, they are largely about having people step in when situations get risky. Less developed is the role that peers can play in supporting healthy and respectful relationship development. Research is needed that also identifies protective factors across the life span that are linked to violence reduction. The field of positive psychology is one potential source of insights into resilience and new protective factors for violence that operate at multiple levels of the social ecology (Grych, Hamby, & Banyard, 2015).

A more coordinated, integrated effort that better takes into consideration the realities of many schools and other settings in which prevention is commonly implemented is needed in the future. Social marketing, hotspot monitoring, and early childhood programs are among the most promising new trends. Further attention to the interconnections among different types of violence, dismantling of studies to identify the most effective components, and greater attention to developmental trajectories hold promise for even better programs in the future. The greater use of prevention and intervention tools developed in other areas of psychology offers hope that we will prevent violence even more successfully in the future.

## References


Anderson, L., & Whiston, S. (2005). Sexual assault education programs: A meta-analytic examination of their effectiveness. *Psychology of Women Quarterly*, *29*, 374–388. http://dx.doi.org/10.1111/j.1471-6402.2005.00237.x

Ball, B., Kerig, P. K., & Rosenbluth, B. (2009). "Like a family but better because you can actually trust each other": The Expect Respect dating violence prevention program for at-risk youth. *Health Promotion Practice*, *10*(Suppl.), 45S–58S. http://dx.doi.org/10.1177/1524839908322115

Bandura, A. (1973). *Aggression: A social learning theory analysis*. Englewood Cliffs, NJ: Prentice-Hall.

Banyard, V. L. (2013). Go big or go home: Reaching for a more integrated view of violence prevention. *Psychology of Violence*, *3*, 115–120. http://dx.doi.org/10.1037/a0032289

Banyard, V. L., Eckstein, R. P., & Moynihan, M. M. (2010). Sexual violence prevention: The role of stages of change. *Journal of Interpersonal Violence*, *25*, 111–135. http://dx.doi.org/10.1177/0886260508329123

Banyard, V. L., Moynihan, M. M., & Plante, E. G. (2007). Sexual violence prevention through bystander education: An experimental evaluation. *Journal of Community Psychology*, *35*, 463–481. http://dx.doi.org/10.1002/jcop.20159

Banyard, V. L., Potter, S., Cares, A. C., Williams, L. M., Moynihan, M. M., & Stapleton, J. G. (2013). *Ending sexual violence on campuses by improving bystander intervention: Multiple prevention tools working together*. Durham, NH: Prevention Innovations.

Black, M., Basile, K., Breiding, M., Smith, S., Walters, M., & Merrick, M., . . . Stevens, M. (2011). *The National Intimate and Sexual Violence Survey: 2010 summary report*. Atlanta, GA: Centers for Disease Control and Prevention.

Bronfenbrenner, U. (1977). Toward an experimental ecology of human development. *American Psychologist*, *32*, 513–531. http://dx.doi.org/10.1037/0003-066X.32.7.513

Caplan, G. (1964). *Principles of preventive psychiatry*. Oxford, England: Basic Books.

Cares, A. C., Banyard, V. L., Moynihan, M. M., Williams, L. M., Potter, S. J., & Stapleton, J. G. (2015). Changing attitudes about being a bystander to violence: Translating an in-person sexual violence prevention program to a new campus. *Violence Against Women*, *21*, 165–187. http://dx.doi.org/10.1177/1077801214564681

Connell, A. M., Dishion, T. J., Yasui, M., & Kavanagh, K. (2007). An adaptive approach to family intervention: Linking engagement in family-centered intervention to reductions in adolescent problem behavior. *Journal of Consulting and Clinical Psychology*, *75*, 568–579. http://dx.doi.org/10.1037/0022-006X.75.4.568

Cox, P. J., Lang, K. S., Townsend, S. M., & Campbell, R. (2010). The rape prevention and education (RPE) theory model of community change: Connecting individual and social change. *Journal of Family Social Work*, *13*, 297–312. http://dx.doi.org/10.1080/10522158.2010.492494

Cugelman, B., Thelwall, M., & Dawes, P. (2011). Online interventions for social marketing health behavior change campaigns: A meta-analysis of psychological architectures and adherence factors. *Journal of Medical Internet Research*, *13*, e17. http://dx.doi.org/10.2196/jmir.1367

Darley, J. M., & Latané, B. (1968). Bystander intervention in emergencies: Diffusion of responsibility. *Journal of Personality and Social Psychology*, *8*, 377–383.

DeGue, S., Massetti, G. M., Holt, M. K., Tharp, A. T., Valle, L. A., Matjasko, J. L., & Lippy, C. (2013). Identifying links between sexual violence and youth violence perpetration: New opportunities for sexual violence prevention. *Psychology of Violence*, *3*, 140–156. http://dx.doi.org/10.1037/a0029084

De Puy, J., Monnier, S., & Hamby, S. (2009). *Sortir Ensemble et Se Respecter (SEESR): Prévention des violences et promotion des compétences positives dans les relations amoureuses entre jeunes* [Dating With Respect (SEESR): Prevention of violence and promotion of positive skills in youth dating relationships]. Geneva, Switzerland: IES Editions.

Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. B. (2011). The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions. *Child Development*, *82*, 405–432. http://dx.doi.org/10.1111/j.1467-8624.2010.01564.x

Edwards, K. M., Mattingly, M. J., Dixon, K. J., & Banyard, V. L. (2014). Community matters: Intimate partner violence among rural young adults. *American Journal of Community Psychology*, *53*, 198–207. http://dx.doi.org/10.1007/s10464-014-9633-7

Finkelhor, D., Turner, H., Ormrod, R., & Hamby, S. L. (2009). Violence, abuse, and crime exposure in a national sample of children and youth. *Pediatrics*, *124*, 1411–1423. http://dx.doi.org/10.1542/peds.2009-0467

Finkelhor, D., Vanderminden, J., Turner, H., Shattuck, A., & Hamby, S. (2014). Youth exposure to violence prevention programs in a national sample. *Child Abuse and Neglect*, *38*, 677–686. http://dx.doi.org/10.1016/j.chiabu.2014.01.010

Foshee, V. A., Bauman, K. E., Arriaga, X. B., Helms, R. W., Koch, G. G., & Linder, G. F. (1998). An evaluation of Safe Dates, an adolescent dating

violence prevention program. *American Journal of Public Health*, *88*, 45–50. http://dx.doi.org/10.2105/AJPH.88.1.45

Foshee, V. A., Bauman, K. E., Ennett, S. T., Suchindran, C., Benefield, T., & Linder, G. F. (2005). Assessing the effects of the dating violence prevention program "Safe Dates" using random coefficient regression modeling. *Prevention Science*, *6*, 245–258. http://dx.doi.org/10.1007/s11121-005-0007-0

Foubert, J. D., Godin, E. E., & Tatum, J. L. (2010). In their own words: Sophomore college men describe attitude and behavior changes resulting from a rape prevention program 2 years after their participation. *Journal of Interpersonal Violence*, *25*, 2237–2257. http://dx.doi.org/10.1177/0886260509354881

Gidycz, C. A., Lynn, S. J., Rich, C. L., Marioni, N. L., Loh, C., Blackwell, L. M., . . . Pashdag, J. (2001). The evaluation of a sexual assault risk reduction program: A multisite investigation. *Journal of Consulting and Clinical Psychology*, *69*, 1073–1078. http://dx.doi.org/10.1037/0022-006X.69.6.1073

Gidycz, C. A., Orchowski, L. M., & Berkowitz, A. D. (2011). Preventing sexual aggression among college men: An evaluation of a social norms and bystander intervention program. *Violence Against Women*, *17*, 720–742. http://dx.doi.org/10.1177/1077801211409727

Greenberg, M. T., Domitrovich, C., & Bumbarger, B. (2001). The prevention of mental disorders in school-aged children: Current state of the field. *Prevention and Treatment*, *4*(1), Article 1a. http://dx.doi.org/10.1037/1522-3736.4.1.41a

Grych, J., Hamby, S., & Banyard, V. (2015). The resilience portfolio model: Understanding healthy adaptation in victims of violence. *Psychology of Violence*, 5, 343–354. http://dx.doi.org/10.1037/a0039671

Grych, J., & Swan, S. (2012). Toward a more comprehensive understanding of interpersonal violence: Introduction to the special issue on interconnections among different types of violence. *Psychology of Violence*, *2*, 105–110. http://dx.doi.org/10.1037/a0027616

Hamby, S., & Grych, J. (2013). *The web of violence: Exploring connections among different forms of interpersonal violence and abuse*. Dordrecht, the Netherlands: Springer. http://dx.doi.org/10.1007/978-94-007-5596-3

Hamby, S., Nix, K., De Puy, J., & Monnier, S. (2012). Adapting dating violence prevention to francophone Switzerland: A story of intra-Western cultural differences. *Violence and Victims*, *27*, 33–42. http://dx.doi.org/10.1891/0886-6708.27.1.33

Jouriles, E. N., McDonald, R., Kullowatz, A., Rosenfield, D., Gomez, G. S., & Cuevas, A. (2009). Can virtual reality increase the realism of role plays used to teach college women sexual coercion and rape-resistance skills? *Behavior Therapy*, *40*, 337–345.

Kleinsasser, A., Jouriles, E., McDonald, R., & Rosenfield, D. (2015). An online bystander intervention program for the prevention of sexual violence. *Psychology of Violence*, *5*, 227–235. http://dx.doi.org/10.1037/a0037393

Lavoie, F., Vézina, L., Piché, C., & Boivin, M. (1995). Evaluation of a prevention program for violence in teen dating relationships. *Journal of Interpersonal Violence*, *10*, 516–524. http://dx.doi.org/10.1177/088626095010004009

Markman, H. J., Renick, M. J., Floyd, F. J., Stanley, S. M., & Clements, M. (1993). Preventing marital distress through communication and conflict management training: A 4- and 5-year follow-up. *Journal of Consulting and Clinical Psychology*, *61*, 70–77. http://dx.doi.org/10.1037/0022-006X.61.1.70

Meyer, H., & Stein, N. (2004). Relationship violence prevention education in schools: What's working, what's getting in the way, and what are some future directions. *American Journal of Health Education*, *35*, 198–204. http://dx.doi.org/10.1080/19325037.2004.10603642

Miller, E., Tancredi, D. J., McCauley, H. L., Decker, M. R., Virata, M. C. D., Anderson, H. A., . . . Silverman, J. G. (2012). "Coaching boys into men": A cluster-randomized controlled trial of a dating violence prevention program. *Journal of Adolescent Health*, *51*, 431–438. http://dx.doi.org/10.1016/j.jadohealth.2012.01.018

Nation, M., Crusto, C., Wandersman, A., Kumpfer, K. L., Seybolt, D., Morrissey-Kane, E., & Davino, K. (2003). What works in prevention: Principles of effective prevention programs. *American Psychologist*, *58*, 449–456. http://dx.doi.org/10.1037/0003-066X.58.6-7.449

Noonan, R. K., Emshoff, J. G., Mooss, A., Armstrong, M., Weinberg, J., & Ball, B. (2009). Adoption, adaptation, and fidelity of implementation of sexual violence prevention programs. *Health Promotion Practice*, *10*(Suppl.), 59S–70S. http://dx.doi.org/10.1177/1524839908329374

Olds, D. (2006). The Nurse–Family Partnership: An evidence-based preventive intervention. *Infant Mental Health Journal*, *27*, 5–25. http://dx.doi.org/10.1002/imhj.20077

O'Leary, K. D., Woodin, E. M., & Fritz, P. T. (2006). Can we prevent the hitting? Recommendations for preventing intimate partner violence between young adults. *Journal of Aggression, Maltreatment, and Trauma*, *13*, 121–178. http://dx.doi.org/10.1300/J146v13n03_06

Olweus, D., & Limber, S. P. (2010). Bullying in school: Evaluation and dissemination of the Olweus Bullying Prevention Program. *American Journal of Orthopsychiatry*, *80*, 124–134. http://dx.doi.org/10.1111/j.1939-0025.2010.01015.x

Polanin, J. R., Espelage, D. L., & Pigott, T. D. (2012). A meta-analysis of school-based bullying prevention programs' effects on bystander intervention behavior. *School Psychology Review*, *41*, 47–65.

Potter, S. J. (2012). Using a multimedia social marketing campaign to increase active bystanders on the college campus. *Journal of American College Health*, *60*, 282–295. http://dx.doi.org/10.1080/07448481.2011.599350

Price, R. H., Cowen, E. L., Lorion, R. P., & Ramos-McKay, J. E. (Eds.). (1988). *Fourteen ounces of prevention: A casebook for practitioners*. http://dx.doi.org/10.1037/10064-000

Resick, P. A., Galovski, T. E., Uhlmansiek, M. O., Scher, C. D., Clum, G. A., & Young-Xu, Y. (2008). A randomized clinical trial to dismantle components of cognitive processing therapy for posttraumatic stress disorder in female victims of interpersonal violence. *Journal of Consulting and Clinical Psychology*, *76*, 243–258. http://dx.doi.org/10.1037/0022-006X.76.2.243

Stormshak, E. A., & Dishion, T. J. (2009). A school-based, family-centered intervention to prevent substance use: The family check-up. *American Journal of Drug and Alcohol Abuse*, *35*, 227–232. http://dx.doi.org/10.1080/00952990903005908

Sulkowski, M. L. (2011). An investigation of students' willingness to report threats of violence in campus communities. *Psychology of Violence*, *1*, 53–65. http://dx.doi.org/10.1037/a0021592

Taylor, B., Stein, N., Woods, D., & Mumford, E. (2011). *Shifting boundaries: Final report on an experimental evaluation of a youth dating violence prevention program in New York City middle schools* (No. 236175). Washington, DC: U.S. Department of Justice.

Testa, M., Hoffman, J. H., Livingston, J. A., & Turrisi, R. (2010). Preventing college women's sexual victimization through parent-based intervention: A randomized controlled trial. *Prevention Science*, *11*, 308–318. http://dx.doi.org/10.1007/s11121-010-0168-3

Tierney, J. P., & Grossman, J. B. (1995). *Making a difference: An impact study of Big Brothers, Big Sisters*. Philadelphia, PA: Public/Private Ventures.

Wolfe, D. A., Crooks, C., Jaffe, P., Chiodo, D., Hughes, R., Ellis, W., . . . Donner, A. (2009). A school-based program to prevent adolescent dating violence: A cluster randomized trial. *Archives of Pediatrics and Adolescent Medicine*, *163*, 692–699. http://dx.doi.org/10.1001/archpediatrics.2009.69

Yung, B. R., & Hammond, W. R. (1998). Breaking the cycle: A culturally sensitive violence prevention program for African-American children and adolescents. In J. R. Lutzker (Ed.), *Handbook of child abuse research and treatment* (pp. 319–340). http://dx.doi.org/10.1007/978-1-4757-2909-2_13

CHAPTER 28

# CONSULTATION

*Richard R. Kilburg*

Benjamin (2005) dated the beginning of clinical psychology to the work of Lightner Witmer in creating the first center to provide both diagnostic and intervention psychological services at the University of Pennsylvania in 1897; his development of the first psychological journal focused on practice issues, *The Psychological Clinic,* in 1907; and his early and consistent clashes with the physicians and psychiatrists of the day over the definition and limits of psychological practice. Benjamin's summary clearly depicts the practice of psychology before World War II as struggling for definition, authority, and market presence. It emphasized the growing sophistication of the technologies of psychological assessment while demonstrating a remarkable flexibility and willingness to engage a wide range of human problems—which often resulted in involving working full time or as a consultant in industry, schools, government, and the military. Once the American Psychological Association reorganized during World War II, the efforts of practitioners increasingly came under its influence. The revised organizational structure created the first practice divisions—clinical, consulting, school, industrial–organizational, and counseling psychology (which, among others, were formally birthed as differentiated, separate national entities).

As Benjamin and others have chronicled, the trials and problems of World War II and the large number of casualties deemed as needing psychological treatment led to the expansion of the Veterans Administration system, federal funding for university-based training programs in clinical psychology, financial support for internship positions, and the explosive initial growth in 20th-century clinical psychology. It also created the drive for state licensure for the practice of psychology independent of the medical profession, the subsequent need for a code of professional ethics, and a national approach (the Boulder and Vail models) to guide the development and conduct of university training programs. The 1950s were infectious and explosively expansive, and they changed the landscape of clinical psychology away from a generalist/applied model of practice and toward a health care profession (Capshew, 1999; Napoli, 1975).

Those first 5 decades (1897–1947) could be characterized as incredibly diverse and robustly experimental and, for the most part, clinical psychology was subsumed in the larger domain of applied psychology during that time period. Often today, however, writers looking back at these events overlook or minimize the nonclinical aspects of "applied" practice in industry and the military. For example, applied work during World War II also included human factor engineering research as well as leadership training and development.

Confirming this perspective, Napoli (1975) stated,

> Aiming at a variety of audiences from the mid-twenties to the beginning of World War II, applied psychologists made a coherent case for their competence and their usefulness. Parents and educators, businesses and college students all heard about the virtues of applied

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> psychology. And beyond the logical argument—written between the lines of textbooks and popular manuals—was a vision of a better America, a well adjusted society in which social utility merged with personal fulfillment to provide a satisfying life for all. (p. 54)

Compare that vision of professional practice with the contemporary 21st-century view of clinical psychology that emphasizes a focus on being an increasingly visible health care profession (Belar, 2012; Puente, 2011), one that competes directly with physicians in the provision of medication to patients with mental illness.

Despite the successful rise and seeming domination of the health care version of clinical psychology, many clinically trained psychologists have contributed to the robust growth of a more generalist practice of applied psychology. A 1971 survey of Division 13 (Consulting Psychology) membership indicated that 37% of respondents' primary professional activities were in clinical psychology (Rigby, 1992). Alongside other applied and scientifically oriented psychologists, clinicians have made major contributions to the emergence of management theory and practice, community psychology, educational and school psychology, and the broadly defined field of consulting psychology. Division 14 (Society for Industrial and Organizational Psychology), Division 21 (Applied Experimental and Engineering Psychology), Division 23 (Society for Consumer Psychology), Division 27 (Society for Community Research and Action: Division of Community Psychology), Division 34 (Society for Environmental, Population and Conservation Psychology), Division 46 (Society for Media Psychology and Technology), and Division 47 (Society for Sport, Exercise and Performance Psychology) are all areas of nonclinical involvement of clinical psychologists who engage in the broad application of psychology and psychological principles outside of traditional health care settings.

Indeed, parallel to the rise of health-oriented clinical psychology, the fields of consultation, human and leadership development, and change management saw equally spectacular post–World War II increases. For the vast majority of traditionally trained clinical psychologists, these aspects of history; contributions to theory, research, and practice; and the tremendously exciting and financially lucrative domains of associated professional activity simply do not exist. In my experience, this absence of historical exposure and the lack of training in these arenas produces a contemporary clinician who is unnecessarily narrow in his or her knowledge, skill, and experience. Even sadder, in the restricted confines of health care practice in which funded internship slots are insufficient to match the current supply of trainees (Parent & Williamson, 2010) and state licensure is required before most forms of interstate practice can occur, I believe the career potential and professional accomplishments of many extraordinary young people are being unnecessarily stunted.

In this chapter, I review consultation in clinical psychology with this perspective. I hope that those who read this will come away with the same sense of enthusiasm I have for the field. If psychology leaders and educators can come to see it as transcending the narrow confines that it has constructed for itself in health care economies, I believe its future is bright and lush with global opportunities.

## A BRIEF HISTORY OF CONSULTATION AND PSYCHOLOGY

Consulting practice has been documented as starting in France in the early part of the 18th century with the emergence of engineers who started to work with the French national government and private companies on broad problems related to the production of mines, transportation infrastructure, national defense, and industrial operations (Kipping & Engwall, 2002). This led to the formation of the French association of civil engineers in 1848. Over time, many of these technically trained professionals became closely identified with the management of commercial enterprises. According to Kipping and Engwall (2002),

> between 1880 and 1909 the proportion of engineers from the *Corps des Mines* who sought a career in industry

> increased: before 1880 less than one-quarter pursued that type of career as compared to more than half during the period from 1880 to 1909. As a result, the duties of the expert and the consultant were no longer considered as exceptional duties carried out by outside high-ranking civil servants and became a profession integrated into the corporate hierarchy with the same status as that of a manager, and assistant manager, or a deputy director. (p. 23)

On the basis of these initial steps in France, the role of consultants in business enterprises began to emerge formally and broadly in the late 19th century in Europe as professionals with technical expertise and experience in mining, railway and road construction, and other emerging industrially based enterprises were recognized for the contributions that they could make. Individuals with the appropriate backgrounds rose to provide crucial competencies and advice on the operation of large public works projects and private businesses. Some of these professionals went on to assume positions of executive authority within those organizations, but many of them developed reputations that enabled them to offer their expertise to more than one project or business. In a few short years, this innovation crossed the Atlantic and as the Industrial Revolution took root and exploded in the United States, a wide variety of these types of "experts" began to offer their services in the marketplace (Kipping & Engwall, 2002).

The international consulting industry began to gain momentum when Fredrick Taylor developed his principles of scientific management and conducted time and motion studies in the manufacturing plants of his day. In a relatively short time, many other management experts began to offer services as well (Grieves, 2000; Kilburg, 2007; McKenna, 2006). A host of enterprises that helped other businesses emerged in the 1920s as the need for marketing, sales, finance, accounting, and human resources support expanded. Once formal business schools started to train leaders for these types of enterprises, the number and variety of consultants and consulting services truly began to escalate. These developments were typified by Marvin Bower's efforts to reestablish McKinsey & Company in 1939, and he led that organization to an average 47% annual increase in profits through 1944 (McKenna, 2006).

In the late 1940s, the social psychologist Kurt Lewin and a small number of scholars started what would eventually be known as the human relations movement (Lewin, 1997). Among other areas of academic interest, they began to do in-depth studies on the psychology of groups. Their work served as an enormous catalyst to the emerging fields of social and organizational psychology, and academic programs doing research on these phenomena quickly spread throughout the world. As the scientific base of knowledge and theory grew, the practical applications of these developments rapidly became clear to many people in academia and in industry.

Simultaneously, the science and practice of psychotherapy, counseling, and other forms of human development began to grow enormously. In the late 1950s and 1960s, a small group of academics and clinical and other practitioners began to experiment with these theories and put them into practice first for the purposes of facilitating the development of individuals (French & Bell, 1990). The initial forms took the shape of sensitivity training groups designed to help participants become more self-aware, improve their communications and conflict management skills, and learn how to relate more effectively to others. The early pioneers of the field were invited to take these new methods into organizations, and these efforts provided much of the initial thrust for the creation of what has become known as organization development (OD; Freedman, 1999).

Simultaneously, the study and practice of preventive mental health services began to take root in the United States in the 1950s and 1960s.

> Primary prevention is a community concept. It involves lowering the rate of new cases of mental disorder in a population over a certain period by counteracting harmful circumstances before they have had a chance to produce illness. It does

> not seek to prevent a specific person from becoming sick. It seeks to reduce the risk for a whole population. (Caplan, 1964, p. 26)

Caplan (1970) provided an intellectual and professional capstone for these 2 decades of work in his definitive book on mental health consultation.

Concurrent with the work of Caplan and his colleagues, Klein (1968), Sarason (1974, 1989), and others were cocreating community mental health, in which behavioral interventions were aimed not just at individuals identified as patients but also at communities of humans and their institutions. These psychological methods were designed to improve organizations' capacities to function effectively and thereby increase the likelihood that their individual members would not become mental health casualties. The work was started by clinical psychologists and their colleagues who were interested in trying to produce improved life outcomes for individuals, organizations, and communities whose efforts differentiated out of traditional clinical psychology programs in the 1970s and 1980s and into the subspecialty of community psychology that is still active and thriving in the early 21st century (Quick et al., 1997; Rappaport & Seidman, 2000; see Volume 1, Chapter 11, this handbook).

Formal academic programs for OD practitioners started in the 1970s, and the graduates of these training initiatives began to take their place alongside consulting practitioners with accounting, finance, psychology, business, operations research, marketing, sales, engineering, law, and a variety of other backgrounds (Cummings & Worley, 2005, 2009). Clinical psychologists were often in the vanguard of these developments. Consulting had become a vibrant, if somewhat small, part of the national and international business and nonprofit communities.

During the same time frame, the modern global business conglomerate became a reality and promised to reduce the risks of traditional boom-and-bust financial cycles that were typical for companies that focused on providing products and services to one industry. The organizational and leadership needs of these companies were quite different than anything that the world had seen before. These fledgling conglomerates were quite literally operating in many different industries and often in many countries. Their needs for new kinds of training and development, financial and accounting systems, information systems, human resource management innovations, and organizational structures started to drive market demands for consulting services consistently higher (McKenna, 2006).

In the 1980s, this history collided with the emergence of integrated computing networks and large-scale information systems that globally competitive businesses quickly realized they needed to manage their increasingly diverse portfolios of enterprises. The legal, economic, and managerial underpinnings of global mergers and acquisitions were also firmly established during these years, and the rise of a group of skilled and entrepreneurially driven industrial leaders and investment bankers combined with these other trends to fuel an explosion in the consulting service industry. Indeed, traditional accounting firms quickly realized that their consulting businesses were far more lucrative than their normal lines of business (Byrne, 2002). They and other firms began to turn to business schools to fulfill their enormous demands for young, business-savvy professionals.

Most of these firms started to hire significant numbers of newly minted MBAs to staff their consulting offices. During that time period, graduates of OD programs also found themselves in a rapidly growing field. Many went to work inside large organizations providing an array of consulting and training services. Others established their own firms that specialized and competed with other businesses to provide everything from leadership development to the facilitation of total quality management programs. By 1990, in virtually every major city in the United States, Europe, Japan, and Australia, one could simply go to the yellow pages and find a large number of consulting firms advertising their services.

During the past two or more decades, these trends have accelerated as large conglomerates have discovered that they neither could nor wanted to continue to do everything for themselves. With the demise of the Soviet Bloc, the creation of the

Internet, and the opening of Eastern Europe, Brazil, Russia, China, and India to modern capitalist enterprises, the global economy simply emerged without much formal planning on anyone's part. The changes during this time have been breathtaking. The consulting industry has been part catalyst, part entrepreneur, and part victim of these developments. Technology companies such as IBM and Hewlett Packard have reshaped themselves into global services businesses (Gerstner, 2003). A host of new software products, telecommunications, and computer services have been introduced to assist enterprises in operating around the clock and around the globe. Specialized consulting firms have grown incredibly large and influential even as the traditional financial and accounting firms have also become huge vendors of consulting services.

Many, if not most, of these large, contemporary service and consulting firms have been hiring dozens and sometimes thousands of new employees every year trying to keep up with demand. Most often they have employed recent graduates of business schools who have typically been prepared for roles in general management, marketing, finance, and operations analysis. They have not been prepared to understand or operate within the knowledge and skills set of OD practitioners or community or clinical psychologists, who bring a much different orientation and different behavioral competencies to the work of consulting. When MBA graduates fail in consulting firms, it is quite often because they have been significantly underprepared to work with individuals, groups, and large systems on change management, interpersonal relationships, and human conflict agendas. Similarly, when OD-trained consultants or traditionally trained community, counseling, or clinical psychologists fail in consulting firms, it is often because they are unable to comprehend and use classic business concepts and tools.

As the global economy rushes deeper into the second decade of the 21st century, the transnational market for consulting, development, and other forms of services now exceeds $400 billion annually. The large businesses in this industry employ hundreds of thousands of professionals, and mid-level firms can and do employ thousands. The consulting market has also exploded in terms of the variety of niches and specializations that employ practitioners. Companies now focus on mergers and acquisitions, forensic investigations, security consulting, organizational design, traditional training, executive coaching, enterprise resource program installations, strategy formation and execution, information systems integration, executive search and onboarding, management development, marketing, and a variety of other areas (Cummings & Worley, 2009). The contributions of clinical psychologists to this multidecade onslaught of development in consulting have been well documented (e.g., Freedman, 1999; O'Roark, 2007).

## DESCRIPTIONS AND DEFINITIONS

> "Consultation" is used in a quite restricted sense to denote a process of interaction between two professional persons—the consultant, who is a specialist, and the consultee, who invokes the consultant's help in regard to a current work problem with which he is having some difficulty and which he has decided is within the other's area of specialized competence. . . . The definition of consultation is further restricted to that type of professional interaction in which the consultant accepts no direct responsibility for implementing remedial action for the client, and in which professional responsibility for the client remains with the consultee just as much as it did before he asked the consultant for help. (Caplan, 1970, pp. 19–20)

Perhaps the easiest framework within which to understand consultation was provided by Schein (1999) in his summary of the three most frequently used models. He defined Model 1 as the purchase-of-information or expertise model: selling and telling. This type of consulting usually involves a client organization purchasing information or services that it cannot or will not provide for itself. Marketing studies, auditing services, management information systems, and searches for senior executives are typical types of this model in operation. Schein defined

Model 2 as the doctor–patient model. In this form of consulting practice, managers most often have detected signs that their organizations are underperforming in one area or another. They then solicit diagnostic measurements that most often lead to a prescriptive approach to fixing the problems. In the majority of these cases, consultants are further contracted to administer the interventions that they recommend.

In Model 3, the process consultation model,

> Process consultation is the key philosophical underpinning to organizational development and learning in that most of what the consultant does in helping organizations is based on the central assumption that *one can only help a human system help itself*. The consultant never knows enough about the particular situation and culture of an organization to be able to make specific recommendations on what the members of that organization should do to solve their problems. (Schein, 1999, p. 17)

The wildly divergent and complex global economy in consulting services can more or less still be categorized according to Schein's three models.

## KNOWLEDGE BASE AND CORE ACTIVITIES

The knowledge base and core activities of clinical psychologists in consulting practice are largely indistinguishable from those used by other psychologically and nonpsychologically trained professionals. The only areas in which this generalization tends not to hold are those in which specific knowledge about the diagnosis and treatment of various forms of maladaptive human behavior are required, such as case consultation in health care settings (Kilburg, 2000).

The major types of interventions conducted by consulting practitioners can be differentiated into two classes or types—technostructural and human process. These approaches are typically targeted at communities and organizations as a whole, subunits or groups within communities and organizations, and individuals. Examples of methods used in each category include the following:

1. Technostructural interventions with communities and whole organizations
   - Organization diagnosis and development
   - Action research
   - Strategy formation and planning
   - Market analyses
   - Competitor analyses
   - Delphi processes
   - Future search
   - Force field analyses
   - Barriers analyses
   - Organizational design and redesign
   - Work redesign
   - Quality circles and continuous process improvement.
2. Technostructural interventions with subunits and groups
   - Visioning and brainstorming exercises
   - Needs assessments
   - Mission statements
   - Value analyses
   - Scenario planning
   - Goal setting
   - Action learning
   - Self-managing teams
   - Training and education
   - Diversity interventions.
3. Human process interventions with subunits and groups
   - Team building
   - Task analyses
   - Job redesign
   - Role clarification and negotiation
   - Creating power and influencing strategies
   - Designing and redesigning decision-making systems and processes
   - Deal making
   - Creating conflict-positive teams.
4. Human process interventions with individuals
   - Training and education
   - Coaching
   - Mentoring
   - Assessment centers

- Multirater reviews and other forms of testing and assessment
- Job rotations
- Stretch assignments.

The professional preparation to provide these types of services is not the exclusive province of any particular discipline. Many clinical psychologists are fully capable of employing each of these interventions. However, most formal training programs in clinical psychology do not expose their students to this array of skills or the knowledge associated with deploying them except in the most general way. The vast majority of clinical psychologists who move into consulting practice go on to develop these types of expertise either through formal education at universities in non–psychology departments or through continuing education programs.

The knowledge base underpinning these areas of consultation practice is extraordinarily diverse. There are literally thousands of textbooks devoted to one domain of consultation or another. Reviews of the PsycINFO database done in preparation for this chapter illustrate the enormity and complexity involved in generalizing even the key areas of the literature. Searches yielded the following numbers of citations from global sources—dissertations, scientific and conceptual papers, case studies, critical reviews, and so forth.

- Consultation and clinical psychology—120 references; most published before 2000; the vast majority on clinical case consultation and its variants
- Consultation—5,541 references; a river of largely practice-oriented papers with a smattering of scientific studies
- Consultation and meta-analysis—nine; nearly all of them devoted to case consultation
- OD—991
- Change management—512
- Change management and meta-analysis—none
- Leadership—15,795
- Team building—234
- Group dynamics—1,007
- Coaching—2,472

Clinical and other subdisciplines of psychology have made many contributions to all of these subareas of the knowledge bases contributing to the current global practice of consultation.

Additional searches of PsycINFO on these topics cross-referenced by evidence-based and diversity search titles yielded few entries on diversity. Most of those focused on consulting engagements in school settings. Nevertheless, books and other resources abound. One of the most recent and useful volumes was Lowman's (2013b) collection of papers focusing on multicultural approaches to consulting in globally oriented organizations.

## MAJOR ACCOMPLISHMENTS OF CONSULTATION

As has been described in this chapter, consultation has a rich, deep, and diverse history in psychology, and its contributions are extensive across virtually every domain of practice. What follows is a very succinct summary of just a few of these areas.

### Coaching

PsycINFO currently yields 25 titles on a cross-referenced search of the arena of coaching in which a small but growing literature on evidence-based practice can be found. Stober and Grant (2006) edited a volume of papers devoted to evidence-based practices in coaching, and Grant and Cavanagh (2007) summarized the literature available on these approaches applied to coaching. In their conclusions, they stated,

> The quantity of coaching research is indeed developing, and the knowledge base is expanding. Moreover the sophistication of coaching research is growing. This bodes well for the future of this emerging discipline, as does the general impetus in the coaching world toward improved standards. In acknowledging these challenges it is also important to bear in mind that coaching has only recently sufficiently coalesced such that intelligent and informed scientist—practitioner dialogue between researchers has become possible. (p. 252)

### Health Promotion View

In the middle of the 20th century, a group of psychiatrists, psychologists, and other professionals began to argue that the deficit model of conceptualizing behavior was far too narrow and more or less doomed humanity to see itself in a negative light (Caplan, 1964). In addition, it was strongly argued that there would never be sufficient resources available to treat the number of mental and emotional casualties that human societies were routinely producing. These advocates and practitioners argued strenuously for a shift of emphasis away from the deficit–treatment conceptual model and toward a health promotion and problem prevention approach that paralleled the one used for public health services.

This community–prevention approach has produced a wide range of consultative interventions that have proven successful and do not describe the participants of such prevention services as victims, patients, deviants, or deficit-ridden humans. The health promotion and stress reduction approaches have migrated into interventions in a wide variety of organizations, communities, and behavior settings.

### Systems Models

The creation of the human development movement of the middle part of the 20th century led to the elaboration of the cybernetic systems conceptualization of human and organizational interactions. Several variants of the cybernetic models have achieved recognition. Lewin's (1997) classic three-phase approach—unfreezing, changing, and refreezing—was the first. The second was the action-learning model now widely seen as the fundamental conceptual underpinning of OD practice (Cummings & Worley, 2005, 2009). Appreciative inquiry, a positive variant of cybernetic systems focused on eliciting the aspirations and dreams of individuals and groups of people to develop intervention designs, was created by Cooperrider and colleagues in the 1990s (Cooperrider, 1996). Finally, Stacey (2007) challenged these more traditional models by describing an approach he called *complex responsive process* that he based on the rapidly emerging disciplines contributing to complexity science.

### Human Performance

Other scientists and practitioners in psychology have pioneered a set of concepts based on how humans learn to perform complex sets of expert tasks in widely diverging domains of behavior from mathematics to music, various forms of athletic activity, and chess and other complicated cognitive tasks. The human performance model is anchored in learning studies that are behaviorally and physiologically well documented. The essence of this approach emphasizes that any domain of complex human function can be mastered providing a person has sufficient talent and then engages in a program of intense, skilled practice requiring thousands of repetitions and highly experienced and technically superior coaching applied at critical learning junctions so that errors can be detected and better methods can be instituted (Ericsson, 1996).

## FUTURE DIRECTIONS FOR CONSULTATION

Not all clinical psychologists will or should prepare themselves to compete in the global markets for consulting services. I believe that the number of people attending clinical psychology programs who will have such long-term professional interests may well be comparatively few in number. Rather, I would like to see every training program actively educate all of its students about the complete range of potential markets in which they could compete and provide a more in-depth and accurate history of the impact that clinical psychologists have had in consulting and other domains of psychological practice.

In addition, every training program should offer at least an entry-level course in consultation as an elective for its students. Excellent teaching resources are available to faculty members for such an educational enterprise (e.g., Block, 1981; Brown, Pryzwansky, & Schulte, 1991; Cummings & Worley, 2005, 2009; Hansen, Himes, & Meier, 1990; Sears, Rudisill, & Mason-Sears, 2006). Providing such an introduction in every clinical training program would perhaps open the doors to considering alternative career paths for a number of trainees.

Some clinical programs that want to differentiate themselves could create a consultation and change management track for interested students not unlike those that offer subsets of courses in child clinical, forensic, neuropsychology, and other subspecialties in psychology (Puente, 2011). In his 2002 book, Lowman provided a fairly comprehensive array of approaches to take in training consulting psychologists and the markets in which they compete.

Some training programs might use a market-differentiating strategy through which they cross-train students in traditional health care while simultaneously exposing them to coursework and practicum training in team- and group-based interventions, organizational and community diagnosis, large system interventions, and executive coaching. Programs offering such specialization are likely to draw a small but consistently diverse group of students who, in my judgment, would compete very successfully in the global markets for consulting services in the way that thousands of their doctoral-level colleagues currently do. Anchoring all clinical students in a broader and more thorough comprehension of the complex history of the discipline while opening their minds and ambitions to other worlds of tremendously satisfying and potentially lucrative career opportunities will be increasingly essential to the field as it moves deeper into the 21st century.

As far as other future trends in consulting psychology, two special issues of *Consulting Psychology Journal: Practice and Research* have presented articles that addressed some of these themes (Finkelman, 2010; Lowman, 2013a). Several notable ideas have garnered substantial support. First, over the past 3 decades, the field has seen an exceptional rise in the interest in and dedication to interventions aimed at developing individual leaders. Most of this emphasis has been on the emergence of executive coaching as a widely practiced approach with increasing numbers of training opportunities, growth in research and conceptual publications, an expanding market for these services, and considerable controversy over who is qualified to provide these interventions.

Second, consulting psychology is pushing its frontiers into any number of specialty niches and providing competition for providers trained in other disciplines such as business, human resource management, OD, and information systems integration. Unique industries are also targets of wider competitive interest such as education (with special motivation from those trained in school psychology), health care, information technology, government, and financial services. Other individuals and specialty-oriented practices are focusing on target populations or specific challenges in organizational or executive life such as the effectiveness of corporate governance, sustainability practices and the ecological impacts of corporate policies and product development cycles, climate change, executive development, bringing onboard new senior executives, and creating more diverse and effective senior leadership teams.

Finally, the relative paucity of and difficulty in conducting controlled, nomothetically oriented research efforts continues to be a subject of significant concern. The dearth of formal graduate education programs in consulting psychology and the extreme difficulty in finding funding to conduct such research have consistently been identified as barriers to expanding the research foundations supporting consulting practice.

In summary, the applied practice of psychology as conducted through consulting roles and methods is alive and well within the profession. It has a distinguished history inside and outside of clinical psychology and has offered many individuals a creative path for self-expression and professional satisfaction for more than a century. It remains a vital and growing part of the global economy, and psychologists have offered and continue to offer a competitive presence as part of large consulting companies, inside specialist psychological service organizations, and through small, psychologist-owned independent businesses. Clinical psychology has played an important role in the continued emergence of consultation largely through the creative and dogged efforts of individuals committed to applying their knowledge, skills, abilities, and experiences outside of the traditional mental health and health care settings thought by most to be the natural home of the specialty. There is nothing in the current literature or in my experience that suggests that these realities will change for the foreseeable future.

## References


Belar, C. D. (2012). Reflections on the future: Psychology as a health profession. *Professional Psychology: Research and Practice*, *43*, 545–550. http://dx.doi.org/10.1037/a0029633

Benjamin, L. T., Jr. (2005). A history of clinical psychology as a profession in America (and a glimpse at its future). *Annual Review of Clinical Psychology*, *1*, 1–30. http://dx.doi.org/10.1146/annurev.clinpsy.1.102803.143758

Block, P. (1981). *Flawless consulting: A guide to getting your expertise used*. San Diego, CA: University Associates.

Brown, D., Pryzwansky, W. B., & Schulte, A. C. (1991). *Psychological consultation: Introduction to theory and practice* (2nd ed.). Boston, MA: Allyn & Bacon.

Byrne, J. (2002, August 12). Fall from grace. *Business Week*, 50–56.

Caplan, G. (1964). *Principles of preventive psychiatry*. New York, NY: Basic Books.

Caplan, G. (1970). *The theory and practice of mental health consultation*. New York, NY: Basic Books.

Capshew, J. H. (1999). *Psychologists on the march: Science, practice, and professional identity in America, 1929–1969*. New York, NY: Cambridge University Press.

Cooperrider, D. L. (1996). The child as agent of inquiry. *OD Practitioner*, *28*(1–2), 5–11.

Cummings, T. G., & Worley, C. G. (2005). *Organization development and change* (8th ed.). Mason, OH: Thomson/Southwestern.

Cummings, T. G., & Worley, C. G. (2009). *Organization development and change* (9th ed.). Mason, OH: Thomson/Southwestern.

Ericsson, K. A. (Ed.). (1996). *The road to excellence: The acquisition of expert performance in the arts and sciences, sports and games*. Mahwah, NJ: Erlbaum.

Finkelman, J. M. (Ed.). (2010). New and emerging practices in consulting psychology [Special issue]. *Consulting Psychology Journal: Practice and Research*, *62*(1).

Freedman, A. M. (1999). The history of organization development and the NTL Institute: What we have learned, forgotten, and rewritten. *Psychologist Manager Journal*, *3*, 125–141. http://dx.doi.org/10.1037/h0095863

French, W. C., & Bell, C. H. (1990). *Organization development: Behavioral science interventions for organization improvement*. Englewood Cliffs, NJ: Prentice-Hall.

Gerstner, L. V., Jr. (2003). *Who says elephants can't dance: Leading a great enterprise through dramatic change*. New York, NY: HarperBusiness.

Grant, A. M., & Cavanagh, A. M. (2007). Evidence-based coaching: Flourishing or languishing. *Australian Psychologist*, *42*, 239–254. http://dx.doi.org/10.1080/00050060701648175

Grieves, J. (2000). Introduction: The origins of organizational development. *Journal of Management Development*, *19*, 345–447. http://dx.doi.org/10.1108/02621710010371865

Hansen, J. C., Himes, B. S., & Meier, S. (1990). *Consultation: Concepts and practices*. Englewood Cliffs, NJ: Prentice Hall.

Kilburg, R. R. (2000). *Executive coaching: Developing managerial wisdom in a world of chaos*. http://dx.doi.org/10.1037/10355-000

Kilburg, R. R. (2007). Introduction: The historical and conceptual roots of executive coaching. In R. Kilburg & R. Diedrich (Eds.), *The wisdom of coaching: Essential papers in consulting psychology for a world of change* (pp. 3–15). http://dx.doi.org/10.1037/11570-000

Kipping, M., & Engwall, L. (Eds.). (2002). *Management consulting: Emergence and dynamics of a knowledge industry*. Oxford, England: Oxford University Press.

Klein, D. C. (1968). *Community dynamics and mental health*. New York, NY: Wiley.

Lewin, K. (1997). *Resolving social conflicts and field theory in social science*. http://dx.doi.org/10.1037/10269-000

Lowman, R. L. (Ed.). (2002). *The California School of Organizational Studies handbook of organizational consulting psychology: A comprehensive guide to theory, skills, and techniques*. San Francisco, CA: Jossey-Bass.

Lowman, R. L. (Ed.). (2013a). The future of consulting psychology and consulting psychology research [Special issue]. *Consulting Psychology Journal: Practice and Research*, *65*(4).

Lowman, R. L. (Ed.). (2013b). *Internationalizing multiculturalism: Expanding professional competencies in a globalized world*. http://dx.doi.org/10.1037/14044-000

McKenna, C. D. (2006). *The world's newest profession: Management consulting in the 20th century*. http://dx.doi.org/10.1017/CBO9780511511622

Napoli, D. S. (1975). *The architects of adjustment: The practice and professionalization of American Psychology, 1920–1945*. Ann Arbor, MI: University Microfilms International.

O'Roark, A. (2007). The best of consulting psychology 1900–2000: Insider perspectives. *Consulting Psychology Journal: Practice and Research*, *59*, 189–202. http://dx.doi.org/10.1037/1065-9293.59.3.189

Parent, M. C., & Williamson, J. B. (2010). Program disparities in unmatched internship applications.

*Training and Education in Professional Psychology*, *4*, 116–120. http://dx.doi.org/10.1037/a0018216

Puente, A. E. (2011). Psychology as a health care profession. *American Psychologist*, *66*, 781–792. http://dx.doi.org/10.1037/a0025033

Quick, J. C., Quick, J. D., Nelson, D. L., & Hurrell, J. J. (1997). *Preventive stress management in organizations*. http://dx.doi.org/10.1037/10238-000

Rappaport, J., & Seidman, E. (Eds.). (2000). *Handbook of community psychology*. http://dx.doi.org/10.1007/978-1-4615-4193-6

Rigby, W. K. (1992). History, 1924 to 1972, of the Division of Consulting Psychology. *Consulting Psychology Journal: Practice and Research*, *44*, 2–8.

Sarason, S. B. (1974). *The psychological sense of community: Prospects for a community psychology*. San Francisco, CA: Jossey-Bass.

Sarason, S. B. (1989). *The creation of settings and the future societies*. San Francisco, CA: Jossey-Bass.

Schein, E. (1999). *Process consultation revisited: Building the helping relationship*. Reading, MA: Addison-Wesley.

Sears, R., Rudisill, J., & Mason-Sears, C. (2006). *Consultation skills for mental health professionals*. Hoboken, NJ: Wiley.

Stacey, R. D. (2007). *Strategic management and organizational dynamics: The challenges of complexity* (5th ed.). Harlow, England: Financial Times/Prentice Hall.

Stober, D. R., & Grant, A. M. (Eds.). (2006). *Evidence-based coaching handbook: Putting best practices to work for your clients*. Hoboken, NJ: Wiley.

CHAPTER 29

# ADMINISTRATION

*Jane S. Halonen*

Administration is not the professional activity for which most clinical psychologists were attracted to graduate school. Rather, most clinical psychologists entered their graduate training because they wanted a professional career helping people in need of care and treatment to live a healthy and happier life. Yet, by the end of the average clinical psychologist's career, the majority will have spent a considerable amount of professional time doing administrative tasks or being an administrator. Although only 6% of psychologists in a recent survey (Norcross & Karpiak, 2012) reported administration as their primary professional task, nearly half of all psychologists (46%) indicated that administration constitutes some portion of their professional responsibilities. However, few, if any, received training in administration during their graduate training.

In this chapter, we explore the many facets of clinicians as administrators. First, we describe and define the professional activity of consultation and its knowledge base. We then examine the reasons that prompt clinical psychologists to follow the unseen path and track their core activities as administrators, exploring the characteristics that make them effective in that role. We also look at the predictable tensions that clinical managers face in executing their roles along with the blind spots that clinical training can induce. The chapter concludes with future directions, including the notion that doctoral programs in clinical psychology should incorporate formal attention to administrative functions.

## DESCRIPTION AND DEFINITION

In the various arenas in which clinician psychologists have the opportunity to serve, administrators are the individuals charged with the responsibility for helping the organization meet its goal. Titles of clinical psychologist administrators are diverse. They can be chief executive officers, chief psychologist, managers, directors, deans, chairs, or vice presidents in charge of some defined sector of responsibility, among other titles. For our purposes, we use *administrator* and *manager* interchangeably through the course of the chapter. Mintzberg (2009) remarked that "management is, above all, a practice where art, science, and craft meet" (p. 11). This is a skill set in which clinical psychologists have excellent knowledge and training.

A survey of American Psychological Association (APA) Division 12 (Society of Clinical Psychology) members differentiated the administrative tasks that clinical psychologists typically perform (Clements et al., 1986). Psychologists with management responsibilities estimated that 35.6% of their professional time was spent on recurring operational details, such as returning phone calls and writing reports. The remaining time was distributed across strategic planning (e.g., setting goals or writing grants), training and development (e.g., conducting staff training), exercising influence and control (e.g., evaluating staff), and serving as spokesperson or liaison to supervisors or external groups.

Feldman (1999) described two paradoxes that attend the assumption of clinical management roles.

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First, few psychologists express at the outset of their doctoral training the desire to become a manager, yet most will in all probability serve in some capacity as a middle manager in their careers. Second, although much of clinical training is tightly prescribed, training in management receives little attention. For example, administration or management training is not easy to obtain in APA-accredited clinical programs (e.g., Rickard & Clements, 1981). Indeed, not a single APA-accredited clinical or counseling psychology program features a concentration or track in administration or management (Norcross & Sayette, 2014).

Clinical psychologists aligned with a collective enterprise will probably have an opportunity to become clinical managers or administrators (cf. Steger et al., 1976) on the basis of quality performance and their employer's perceptions of their capacities, but that career avenue is not obvious. As a consequence, administration has been characterized as "the unseen career path in psychology" (Kilburg, 1984, p. 613). In fact, many clinical psychologists have reported that they "meandered" (Goldstein, 1999, p. 71) their way to the top administrative position and developed their competence through "the school of hard knocks or on-the-job training" (Clements et al., 1986, p. 149).

## KNOWLEDGE BASE AND CORE ACTIVITIES

In this section, I explore the motivations of and pathways for clinical psychologists who choose to become managers. The section concludes with a discussion of how clinical psychologists can become great managers.

### Why Clinical Psychologists Become Managers

When organizations appoint a clinical psychologist as manager, the decision tends to be predicated on proven performance as a clinician rather than any particular business or management prowess (Silver & Marcos, 1989). More obvious incentives to encourage the clinician to abandon or decrease direct service typically involve increased compensation, the promise of greater autonomy in decision making, larger and more prestigious workspaces, and intellectual stimulation, among other positive features.

Although a substantial raise in pay certainly offers an incentive to take a new administrative role, a shiny new salary does not sufficiently explain the whole story. If money were the sole consideration for taking on these responsibilities, then it is unlikely the clinician manager would have pursued clinical training in the first place. Compensation-oriented students would be more likely to choose a business and management major from the outset rather than endure the rigor and time investment required to complete doctoral studies in clinical psychology. Successful managers in business have the opportunity to earn salaries that may outstrip incomes earned even by clinical psychologists. A comparative analysis reported that human resources managers typically outearn clinical psychologists. For example, the U.S. Bureau of Labor Statistics found that human resources managers earned on average nearly $110,000 annually in 2012 compared with an average estimate of $72,000 for clinical psychologists (Severson, 2012). The gap widens with experience. Seasoned human resources managers dramatically outdistance clinical psychologists in income levels in the upper ranges.

Sometimes clinical psychologists will opt for management responsibilities as a defensive posture. The lure of incentives is not compelling, but the fear of what will happen at the hands of a less competent colleague who might be elevated to a position of authority can make all the difference in the decision (Munger, 2010). In such cases, the clinical psychologist may choose a short-term stint as the leader until the organization can develop a more palatable solution and the psychologist can return to the preferred role that does not involve management and its attendant headaches. In fact, discipline-based departments in higher education may ensure a rotational strategy among their members rather than invest in one individual as leader as a long-term solution.

Incentives may not be sufficient because other negative factors can hamper settling into a management role (Fish, 2004). According to McGuire (1990), "Not all psychologists look with favor on

a career in management" (p. 123). References to "joining the dark side" abound when psychologists decide to redirect their efforts. Former colleagues can perceive clinician-managers as being power hungry, preoccupied with money, or simply untrustworthy. They may imply that the clinician-manager has lost the fundamental values that prompted his or her choice of doctoral training in the first place. Levinson and Klerman (1972) concluded that mental health professionals tend to see the exercise of power as "vulgar, as a sign of character defect, as something an upstanding professional would not be interested in or stoop to" (p. 64).

Any hope of greater autonomy over scheduling by moving into administration usually quickly proves to be pure illusion. Most administrators have dramatically less control over their schedules than those whom they supervise, including when the administrator can get home at the end of the day. For clinician-managers in higher education, choosing administrative life will definitely make scholarly pursuits more challenging, whether the clinician is actively involved in producing research or simply staying current in the relevant literature to provide the most up-to-date, empirically validated intervention.

## Why Clinical Psychologists Can Become Great Managers

Even in the absence of formalized training, clinical psychologists are well suited to the demands of management because a client-centered focus can be effectively transferred to develop an organization (Wilcock & Rossiter, 1990). Managers will probably be most successful when they understand their jobs as a complex matrix of interpersonal, informational, and decisional roles (Mintzberg, 1975).

In a recent publication (Halonen, 2013), I identified a benchmarking strategy for teasing out the components of high-quality administrative behavior in the context of leadership of academic psychology programs. Many of the domains of expertise required for high-quality functioning as a department chair can be broadly applied to positions that clinical psychologists could occupy. I contend that psychologists have a significant advantage in executing executive activities and exhibiting the characteristics discussed in the six domains of administrative life based on their experiences and training. What clinical psychologists learn and how they learn it provides the background that can help clinician-managers thrive in administrative positions.

**Operational concerns.** Overseeing day-to-day operations typically includes strategic planning, budget management, resource development, partnership development, hiring practices that promote heterogeneity, accountability strategies, rule adherence, and organizational skills. At first glance, most of these functions might seem alien from the graduate preparation of clinical psychologists. However, effective clinicians must develop strategies that help them cope with the details involved in the delivery of high-quality care, and those skills tend to transfer readily to management responsibilities.

Identifying a treatment outcome for an individual and implementing a plan to achieve that outcome are not dramatically different from the strategic planning and operations management that occur in program management. Consequently, clinician-managers tend to shine in their accountability practices. They understand the importance of proper documentation and working within legal parameters; the kind of preparation required to maintain accreditation or to create defensible reports, although daunting, is not overwhelming. Training in psychometrics, research design, and data analysis facilitates the capacity to enact effective data-based decision making (Clay, 2013).

Clinical psychologists who allow themselves to get massively behind in their recordkeeping and charting are not good candidates for management responsibilities. Similarly, many clinicians find the public face of clinical work to build and advertise a practice to be distasteful. Marketing to build a practice is similar to public advocacy for a program or for the interests of those whom the clinician-manager supervises. Developing resources through grant writing and building public partnerships are aspects of operational oversight for which the clinician may have limited background and even less interest.

**Supervision.** One of the most challenging aspects of being an administrator is personnel management.

Dimensions of this work include fostering supervisee identification with the organization, promoting appropriate boundaries, offering career advising and leadership development, and promoting achievements of the program and its members.

Clinical psychologists who have learned how to help their clients feel more satisfied with their lives can transfer those skills and attitudes to managing more satisfied employees. Psychologists have an advantage in recognizing and respecting the unique personality characteristics and attendant motivations of supervisees (Conner, 2013). That stance can help the clinical manager work with distinctive personalities rather than adopt strategies to overhaul supervisees, who are more likely to thrive in the care of supervisors actively attending to how they can ascend in the hierarchy and provide them with opportunities to hone their leadership skills. Although supervisees are not clients, they will be more productive in an environment in which their achievements are recognized and in which they can creatively work with their limitations.

Related to their training in the APA Code of Ethics (APA, 2010), clinician-managers will typically have a much better understanding of the rationale involved in fostering proper boundaries between manager and supervisees or supervisees and those in their care. Increasingly, personnel training sessions offer guidance on managing boundaries and avoiding the complications that follow when that guidance is ignored. Clinical managers should have an advantage in detecting potential violations and dealing with them before matters get out of hand.

**Communication skills.** Management communications can be complex, involving the interpretation of spontaneous verbal and nonverbal messages, providing leadership at meetings, writing reports and proposals, and keeping up with mountains of digital communications. Effective communicators listen carefully, articulate their own messages clearly, and manage conflict with grace. They relate comfortably with their colleagues and offer appropriate feedback and intentional reinforcement of good work. They must also effectively serve as ambassadors for the organization, which might mean rendering a speech on a moment's notice.

Clinician-managers should excel in interpersonal communication. They are likely to be thoughtful in crafting just the right words to promote change and reinforce achievement. Whether or not they have been formally trained in conflict management, clinical psychologists are likely to have a nuanced understanding of the complexity of conflict that may make it easier for them to assist in its resolution and intervene in conflicts before they escalate. They exemplify the kind of communication skill that prompted Winston Churchill to comment, "Tact is the ability to tell someone to go to hell in such a way that they look forward to the trip."

What may be less natural for clinicians is the communication forums that require a public speaking dimension, which may not have been a particular focus of their training. Therefore, clinicians who move in the direction of management should probably pursue opportunities for public speaking to prepare them for the advocacy that will attend their administrative challenges.

**Interactions with supervisors.** Most clinician-managers will be working for others. Therefore, a special dimension of performance involves productive and positive relationships with those higher in the chain of command. Managers who succeed in this realm demonstrate responsiveness to supervisors' requests, enact the right level of contact with and disclosure to supervisors, respect the chain of command, demonstrate reasoned independence in problem solving, and advocate for the interests of those being supervised.

A keen understanding of hierarchy and social norms should serve clinical psychologists well in managing the challenges associated with navigating organizational politics. They will pay attention to verbal and nonverbal behavior of supervisors to determine when and how much information to deliver at any given time. Clinician-managers should be as independent as possible in their problem-solving efforts but know when to check in for assistance. They recognize how damaging blindsiding episodes are to both their long-term prospects and the positive development of their

organization. Their management of bosses should be quite nuanced. Their insight into their own behavior and the behavior of others can help managers avoid blindsiding their supervisors, an outcome that can often be fatal to a clinician-manager's career. As a consequence, they can effectively represent the people they supervise to those in higher administrative positions.

**Performance in professional roles.** Managers must attend to a variety of demands that go far beyond operational basics. Every management role is likely to have peripheral obligations to stay involved with the professional background that brought the manager to the attention of their supervisor and enabled them to secure management responsibilities.

Even after the clinical psychologist changes roles, colleagues should still recognize the clinician-manager as effective in clinical intervention, teaching, research, or any other dimension of professional activity. In addition, a clinician-manager may need to take on service responsibilities within the local community so his or her performance will reflect well on the organization. Clinician-managers stay invested in their professional interest groups but often find that their old affiliations are going to be less helpful in on-the-job needs because they will not be as directly involved in frontline service.

Clinician-managers will probably prove most effective if they maintain credibility as being competent to do that work. For example, psychologists who become department heads in psychology programs should still be effective in teaching and research. Psychologists who take on administration in clinical contexts should still be able to handle the emergency client who walks through the door. Although ongoing clinical work may no longer be part of daily obligations, the capacity for clinical work builds and maintains credibility.

**Proper character.** Good managers have sterling character. Although they are not flawless, their behavior should be invested in building and maintaining trustworthiness with staff and clients alike. They show respect and concern for others. They demonstrate attention to quality of life for self and others. They offer fair and constructive criticism to promote positive outcomes for their supervisees. They tend to be even tempered, even in challenging circumstances. When inevitable errors transpire, they own their errors and avoid a brutal response to the errors of others. They maintain an even temper and nuanced emotional control. They offer constructive and fair criticism. When faced with the inevitable moral dilemmas that managers encounter, they will strive to do the right thing. In the absence of mutual respect and confidence, the relationship between the clinician manager and subordinates is bound to be unsatisfying (Reese, 1972).

The character traits that constitute most effective administration parallel the characteristics of a good clinical psychologist. Building a therapeutic alliance depends heavily on therapist characteristics of flexibility, honesty, warmth, openness, and trustworthiness (Ackerman & Hilsenroth, 2003; Grencavage & Norcross, 1990; Norcross, 2011). Fundamental to both processes are the building and maintenance of trust and exhibiting respect and concern. Clinician-managers are good at keeping confidences and promises, which contributes to the maintenance of trust. Good therapists own their errors, as do good administrators. Although clinician-managers do not have a formal code of ethics, the professional obligations imposed in the APA Code of Ethics (APA, 2010) serve the purposes of good administration very effectively. Clinical-managers may feel more constrained to do the right thing for the right reasons as prompted by the code.

## DYNAMIC TENSIONS IN ROLE AND RESPONSIBILITIES

Clinician-managers manage inevitable conflicts to satisfy as many stakeholders as possible in the execution of their role. In this section, I explore several dynamic tensions that give shape to the management responsibilities assumed by clinical psychologists.

### Disciplinary Identity

Being a psychologist-manager produces "divided loyalties between the rigors of management and the

demands of being a psychologist" (Forbes, 2012, p. 3). A primary focus of the manager entails the efficiency and effectiveness of the process, whereas the psychologist will be pulled toward helping individuals maximize personal development through their work. Clearly, the most successful managers will strike a balance between both orientations.

The intimate level of interaction required in a clinical contact is already a complex human relationship. However, Trentacoste (1997) argued that management responsibilities in the world of business constitute serious culture shock for the clinician. He likened contemporary management to the disorienting world Mark Twain created in *A Connecticut Yankee in King Arthur's Court*. A clinician-manager must quickly learn and adjust to the almost lunatic complexity of rules and norms in a management context if he or she is going to be successful with these responsibilities.

The challenge of disciplinary loyalty is further compounded for clinical psychologists serving in mental health settings that employ psychologists with diverse backgrounds. Ideological differences can emerge within the discipline (Henriquez, 2013) as a result of competing models of training (i.e., the Boulder scientist-practitioner vs. Vail model practitioner), disparate theoretical orientations (e.g., psychodynamic vs humanistic vs. cognitive), and specializations (e.g., rehabilitation, attention deficit hyperactivity disorder, and family dynamics, among others).

## Pace

One significant cultural difference between daily responsibility in management and psychology is the speed with which actions need to be taken (Reed, 2013). With the exception of urgent clinical circumstances, psychologists have an opportunity to be reflective, careful, and comprehensive in their deliberations. In clinical work, the emphasis is on observing and reflecting, not always on taking action. Consequently, psychologists in practice are generally used to a more relaxed pace. In contrast, a management environment requires an "unrelenting" (Silver & Marcos, 1989, p. 29) pace in which activities are necessarily brief, varied, and discontinuous. Managers must shift focus, abandon plans, and make forward progress with an eye toward the most expedient solution. The relentless pace of a typical management environment provokes managers at times to act on incomplete information (Welch & Byrne, 2001).

## Quality of Attention

The intimacy of the clinical exchange ideally allows a clinician to concentrate on the clinical situation with a focus that is rarely matched in the management world. A therapeutic relationship works most effectively when the clinician can manage this single-mindedness. Indeed, positive outcomes in therapy may result in large part because of how rare it is for individuals to experience being at the center of such careful and comprehensive personal scrutiny and support. However, an administrator's day is necessarily awash in multiple details that necessitate effective function despite divided attention.

## Scope of Expertise

Clients typically expect expert navigation of interpersonal relationships from a clinical psychologist. The domains of expertise benefit from but do not necessary require that expertise. Instead, managers must demonstrate a broader base of expertise that cuts across areas not necessarily included in their graduate training. Among other specialties, a manager needs budgeting, marketing, economics, and organizational strategies, human resources, policy and regulation, legal, and advertising backgrounds. It is a daunting list. Inevitably, clinician-managers are going to be more skilled in some areas than others and may be hard pressed to pursue additional training to make up for their shortcomings.

## Authority

Clinicians vary in the degree to which they must appear authoritative in their interactions with clients. Some theoretical orientations, such as humanism, minimize the need for an authoritative posture (Strupp, 1980). However, a manager is regularly required to assert and defend a course of action with a level of confidence that underscores the manager's authority, a performance demand that will be challenging for more mild-mannered clinician-managers.

## Divided Loyalty

The nature of clinical training presupposes that the clinician will develop a strong therapeutic alliance with the client. Decades of research (Norcross, 2011) make a persuasive case about the importance of strong therapeutic alliance in producing positive treatment outcomes. However, once a clinician moves into the role of manager, the loyalty issue becomes significantly more complicated. If a supervisee becomes a fair substitute for the client, then the clinician-manager simultaneously has the responsibility for the client (whether student, patient, or customer), the employee, and the organization that covers the paychecks.

An example can illustrate this challenge. An effective psychologist in practice has requested to take a year off for personal reasons. She has also indicated that she would like her place to be reserved and asks about the possibility of hiring someone as an interim appointment who would not only take up her responsibilities but would also vacate gracefully at the end of the period, including willingness to refer her existing client base when it is time for her departure. In the absence of details that might help justify the therapist's request, the clinician-manager should be more attentive to the needs of the clients and continuity of the business, thereby rejecting the therapist's original request as not as helpful to all the manager's constituents.

## Authenticity

One tenet of good clinical care is that the clinician needs to be authentic to optimize client progress (Minnillo, 2007). Interacting without artifice builds trust and reduces defensive posture to facilitate the client's facing difficult conflicts. Unfortunately, managers can rarely afford to be authentic. For example, most managers will eventually confront budget-cutting challenges to help the organization survive difficult times. Such situations prompt managers to sort through worst-case scenarios that may involve decisions about reduction in force, program discontinuation, or other major changes in mission or operation. Sharing the anxieties related to any bad news as it emerges is not usually a healthy strategy for the organization. Similarly, managers caught in public relations challenges may be struggling with the potential negative impact on the organization but must present a confident face to the public. Consequently, clinician-managers who have absorbed authenticity as a cardinal virtue will experience turmoil because of the amount of information and emotion withholding that must transpire to achieve desired organizational outcomes.

## Cultural Sensitivity

An emerging principle guiding the health of organizations is the value of recruiting and maintaining a diverse workforce (Burns et al., 2012). Organizations that strive to reflect the country's diversity in their respective workforce may be more successful in creating innovative contexts that will lure the most talented candidates, thus making diverse organizations stronger contributors to the country's productivity. Increasing diversity within organizations also increases the potential challenges that may arise when people with different values and heritages pull together to accomplish an organization's goals.

In this regard, clinician-managers have a clear advantage because of the dramatic increase in focus on cultural sensitivity adopted by most clinical training programs (Norcross et al., 2002). This extra step in background is one of the features that can set the clinician-manager apart from those whose sensitivity training has been on the job. However, the manager's good intentions may still be thwarted by applicant pools that insufficiently represent underrepresented groups.

## Length of Service

In some circumstances, particularly in academic life, individuals ascend to a management position on a temporary basis from a pool of candidates who are equally qualified for the position, which can set the stage for lackluster performance in both directions. When employees recognize that the manager is transient, they sometimes engage in behaviors that limit participation as they wait out the lapse of the administrator's tour of duty. The clinician-manager knows his or her tour of duty is temporary and may consequently be less willing to take risks to advance the group in directions that may not be well received.

## OVERCOMING BLIND SPOTS IN THE CLINICIAN-MANAGER ROLE

Although clinical psychologists have many temperamental and training advantages to help them become exemplary administrators, clinicians also tend to be vulnerable to several blind spots in their role performance. Several of these problem areas are important to be aware of for those making the transition into management.

### On Politics

Comedian Groucho Marx defined politics as "the art of looking for trouble, finding it everywhere, diagnosing it incorrectly, and applying the wrong remedies." For the clinician-manager, it can be astoundingly easy to make political errors in a complex organization. Looking for trouble and focusing on fixing interpersonal challenges may limit the clinician-manager's capacity to be effective in the broader political arena.

Although it will sound blatantly Machiavellian, the clinician-manager needs to size up the organization and invest time in strengthening relationships with those who have power, whether formal or informal. Open-access hours in convenient places can contribute to strengthening the perception of accessibility and promote focus on the full range of constituents in the political landscape. Seeking regular audience with all constituents can reinforce nurturing relationships that will help with political judgment, but it can be even more powerful to arrange time with those who are the least enthused about the clinician-manager's performance to demonstrate willingness to listen.

### On Empathy

Good clinicians have a fine-tuned sense of empathy. Their capacity not just to understand another person's perspective but to feel it can contribute to optimizing personal change. However, empathy can run amok when deployed in a management context. Management strategist Dick Grote (2006) concluded that managers are much more likely to experience regret regarding the people they hang on to and give second chances to, rather than the ones they fire; borderline performers are likely to continue to demand disproportionate attention from managers in achieving even minimal performance expectations.

Clinician-managers must sometimes detach from the tempting prospect of resolving an interpersonal conflict and take the often-painful action to remove a problematic individual from the organization for the health of that organization. When an employee's fit with an organization is bad, the true empathic course of action can be termination so the employee can be freed to find a context that is better suited to his or her unique abilities. As in so many therapy situations, this perspective may represent the deployment of new psychological defense strategy for the clinician-manager, but it will be a useful mechanism to ensure the health of the organization.

### On Overconfidence

One possible by-product of the intense training provided in pursuit of a clinical degree is the promotion of overconfidence. Achieving a degree and completing a clinical internship can reasonably be construed as a hallmark of good thinking. Although psychologists are well aware of the hazards of the confirmation bias (i.e., looking only for evidence that supports what you already believe; Nickerson, 1998), clinician-managers are not immune to the effects of this cognitive misfiring. Naïve realism predisposes individuals to feel empowered that their perspective is valid and that others can be persuaded and come around to their point of view (Erlinger et al., 2005). As a reflexive position, bias can make clinician-managers immune to other perspectives that might actually be superior. As Mark Twain suggested, "It ain't what you don't know that gets you into trouble, it's what you know for sure that just ain't so." Knowing the natural human tendency toward this kind of error can make the clinician-manager vigilant about the adverse effects of confirmation bias.

### On Obsessions

I have often joked in the selection of administrators that they need to have the "A" (administrative) gene: the capacity for intrigue regarding complex problems. However, those who succeed in managing

the rigors of achieving a clinical degree are likely to have at least some obsessive–compulsive tendencies. Although the tendency is to think of obsessive–compulsive behavior in service to higher order goals as reasonably healthy, that behavior can flourish when clinicians enter management. Whatever great white whale stalks the clinician-manager's attention can produce behavior that limits vigilance for monitoring the rest of the landscape.

Good managers have allies who can break through obsessive behavior and help reorganize and redirect attention. In my own case, administrative assistants over time were good at making the call on when my focus was out of whack. Trusted support staff should have carte blanche to be able to offer criticism and redirection to reduce this risk for the well-being of the administration and the health of the organization.

### On Micromanagement

Because clinicians are trained in problem-solving strategies, many clinical psychologists feel the siren call of applying their problem-solving skills to challenges that are technically outside of and below their own responsibilities. Although that action may produce a solution, it can also produce perceptions of interference and eclipse opportunities to foster development of those in supervision. Although most managers do not adopt a hands-off approach, interfering in someone's job responsibilities should occur only when there is a clear justification to do so, because the undermining effects of interference may produce other, more serious challenges to a manager's relationship with the supervisee in the long run.

### On Change

Management specialist Peter Drucker observed that "people in any organization are always attached to the obsolete." Clinical psychologists are motivated to promote change, but they also have a keen understanding of how difficult it is to initiate and maintain behavior change. Recognizing the human tendency toward the status quo and resistance against change can help clinician-managers approach grand designs with care and humility. The clinician-manager also recognizes that successful behavioral engineering requires attention over time if change is to be enduring.

## MAJOR ACHIEVEMENTS

Psychologists who capture top roles in administrative hierarchies have enormous potential to shape the future of the entities that have empowered them to assume these responsibilities. Whether in charge of a private agency, a department, a nonprofit organization, or business, the person in charge with psychological training can orchestrate movement in her or his organization that reflects the values of psychology, potentially helping the organization manage high standards of quality of life for its supervisees without sacrificing the goals of the organization itself. Although successful stewardship is hard work, the rewards of a job well done certainly justify why so many psychologists choose administrative careers.

Many psychologists have been able to build impressive administrative careers with even larger responsibilities—managing universities, taking the helm of a large nonprofit entity, serving as a CEO for a major corporation, engaging faculty as presidents of universities, or being elected to serve in public office. What follows is a brief consideration of a few psychologists who have succeeded in such higher profile positions.

### Psychologist as University President

James Rowell Angell was the 14th president at Yale University from 1921 to 1937, rising in the ranks from the psychology department (Hunter, 1951). Yale is once again under the direction of a psychologist, Peter Salovey, a positive psychologist who is serving as the 23rd president (Salovey, 2014). Salovey also rose from the ranks, serving in various levels of administration on his way to the presidency, including department chair, dean, and provost. He founded and managed several centers of excellence to address his primary research interests in quality of life and health. As Yale president, Salovey has articulated four goals: changing faculty governance, making Yale more accessible, improving residential life, and promoting a stronger global

presence (Lloyd-Thomas, 2014). President Salovey also earned appointments in the National Science Foundation's Social Psychology Advisory Panel, the National Institute of Mental Health Behavioral Science Working Group, and the National Institute of Mental Health National Advisory Mental Health Council.

Other psychologists currently serving in a presidential capacity in a university setting include Thomas J. Gamble, president of Mercyhurst University; Elliot Hirschman, president of San Diego State University; and Maggie Snowling, President of St. Johns College at Oxford University.

## Psychologist as Philanthropist

Judith Rodin's administrative path has been trailblazing ("Dr. Judith Rodin," 2014). Rising from psychology faculty, she became the first female to serve as provost at an Ivy League school (Yale), followed by a decade of service as the president of the University of Pennsylvania. Her presidency was distinguished by tripling fundraising, building stronger ties with the local community, and increasing the profile of the university from 16th to fourth in the country according to national rating services. She successfully groomed other administrators who went on to become presidents of other universities. She departed Pennsylvania to assume the directorship of the Rockefeller Foundation, where her philanthropic goals have included promoting recovery from Hurricane Katrina, building resilience in changing climate conditions, redesigning sustainable transportation systems, and advocating for agricultural reform in Africa.

## Psychologist as Elected Official

Perhaps one of the most amazing stories of administrative success in the political realm is Vaira Vike-Freiberga, who after retiring from a psychology department became the elected president of Latvia (Dingfelder, 2010). Originally born in Latvia, Vike-Freiberga maintained close ties to her homeland after she emigrated to the United States and developed a career in academic psychology. As relations eased with the Soviet Union, Vike-Frieberga accepted a 1-year appointment to direct the Latvia Institute, a role she had served in for just 1 year when political chaos helped her emerge as the frontrunner in the presidential election. She completed two 4-year terms and is credited with helping Latvia join the European Union and experience unprecedented economic growth.

Closer to home, counseling psychologist Ted Strickland had a varied career in psychology in Ohio before turning to politics (National Governors' Association, 2014). He served as a counseling psychologist in a correctional facility, a manager of a religiously affiliated children's home, and a faculty member at Shawnee State University. His political interests became apparent with campaigns for the U.S. House of Representatives. Some of the early campaigns were unsuccessful, but Strickland ultimately served six terms in Congress, beginning in 1993. His achievements included advocacy for expanded health care for children and veterans. Strickland managed a successful campaign for governor of Ohio, losing his bid to retain the office in 2010. President Obama subsequently nominated Strickland to serve as a delegate to the United Nations. Strickland is currently serving as the president for the Center for American Progress Action Fund (Stein, 2014).

## Psychologist as CEO

Norman B. Anderson sat at the helm of the American Psychological Association for more than a decade as its CEO, with responsibilities for its corporate and professional management (APA, 2014). Anderson's $115 million dollar budget and 500-person staff attend to the needs of its more than 130,000 members who represent clinicians, educators, researchers, and students. A former faculty member at both Duke University Medical School and the Harvard School of Public Health, Anderson specialized in behavioral health, especially examining racial and ethnic health gaps. Before his APA service, Anderson had been appointed as the founding associate director of the National Institutes of Health, overseeing social and behavioral research across 24 National Institutes of Health institutions. He serves as editor-in-chief of both the *American Psychologist* and *The Encyclopedia of Health and Behavior*. Anderson has achieved Fellow status in the APA, the American Association

for the Advancement of Science, the Association for Psychological Science, the Society of Behavioral Medicine, and the Academy of Behavioral Medicine Research.

### Psychologist as Public Servant

Patrick DeLeon recently retired after 38 years of service to the people of Hawaii as Senate Daniel Inouye's chief of staff (Clay, 2012). DeLeon's public service began when he assumed the role of public health intern on the first day of the Watergate hearings in 1974. He became central to Inouye's administration because of his expertise on public health concerns and on advocating for change. DeLeon has reported that he is most proud of his accomplishments that enhanced quality of life for those who have largely been forgotten. DeLeon combined his public service to the citizens of Hawaii with energetic contributions to the American Psychological Association, including serving a term as the organization's president in 2000. During his term of office, he successfully campaigned for prescription privileges and Medicare access for psychological providers. He also established APA's Congressional Fellows Program. In APA as well as Hawaii, his focus remained making the needs of the underserved a priority. Upon retirement, Hawaii's governor proclaimed a statewide celebration of Pat DeLeon Day.

### Psychologist as Entrepreneur

Richard Chaifetz relied on his background as a neuropsychologist when he established one of the nation's largest employee assistance organizations, ComPsych Corp (Sachdev, 2012). Started in 1984, the enterprise features individually tailored, comprehensive health planning and now serves more than 62 million people operating within 23,000 organizations. Chaifetz nearly washed out of St. Louis University because of the personal turmoil of his parents' divorce (Jacobs, 2011). Chaifetz persuaded the university to let him stay on, and he later rewarded that largesse by building a $12 million arena on the campus. His distinguished alumnus profile at St. Louis University described him as the most frequently quoted workplace expert in the *Wall Street Journal* and *USA Today* and listed an impressive array of public service contributions, including serving on multiple board of directors of both profit and nonprofit organizations.

Psychologists who succeed as high-profile administrators accomplish more than just the mission and vision of the organizations they oversee. They demonstrate the potential scope and flexibility of their clinical training to make complex organizations thrive. They are also in great position to promote the values and interests of psychology and to advocate for significant social change (DeLeon et al., 2006).

## FUTURE DIRECTIONS

Training in clinical psychology provides not just a suitable background but an optimal foundation for contemporary administration. However, a good foundation is not enough. We should make the administrative pathway visible and enhance the capabilities of clinical psychologist-managers by assuming larger responsibilities. Management background can be acquired through coursework or practicum experiences during doctoral training or postdoctoral continuing education opportunities (Clements et al., 1986). The emergence of specialized postdoctoral experiences dedicated to administrative concerns appears to be one innovative way to meet this need. For example, the Department of Psychiatry at the University of Colorado offers a postdoctoral fellowship in administration and evaluation. Fellows admitted to this experience get not only management experience but also an introduction to public policy by interacting with the Colorado legislature. Psychologists trained in formal administration and management programs will definitely alleviate the cuts and bruises from the hard-knock school.

For clinician-managers in health care, things have gotten more complex and promise to keep moving in that direction (Freel, 2012). Accountability and accreditation demands massive documentation, and appropriate benchmarking strategies divert time and attention from other, potentially more meaningful activities. Clinician managers have to make shrewd decisions about technological investments and whether the latest thing will produce

an appropriate profit margin after the investment. Finally, the complications of providing psychological care under the Patient Protection and Affordable Care Act complicate what was already a messy environment because of Medicaid and Medicare (Rozensky, 2014).

Demands for a clinical psychologist to be technologically astute have emerged and will continue to grow in importance in the coming years. Technology provides for a broad array of enhancements to the delivery of therapy, including virtual environments and the use of Web resources. Technology has also complicated the clinical exchange by necessitating that clinicians establish and maintain policies and practices about boundaries, including responsiveness to email and use of social media. In the future, clinician-managers will need to explore how the digital world can improve delivery of services for the health of the organization. Scheduling, data tracking, and records maintenance, as well as assorted context-specific apps, can make a substantial difference in quality of life for employees, including the quality of life of the clinician-manager. In the future, a portion of the clinician-manager's workweek will need to be dedicated to exploring and adapting technology to meet the needs of the organization, including electronic health care records.

## References


Ackerman, S. J., & Hilsenroth, M. J. (2003). A review of therapist characteristics and techniques positively impacting the therapeutic alliance. *Clinical Psychology Review*, *23*, 1–33. http://dx.doi.org/10.1016/S0272-7358(02)00146-0

American Psychological Association. (2010). *Ethical principles of psychologists and code of conduct, including 2010 amendments.* Retrieved from http://www.apa.org/ethics/code/index.aspx

American Psychological Association. (2014). *Who we are: Norman B. Anderson*. Retrieved from http://www.apa.org/about/apa/senior-staff/anderson-bio.aspx

Burns, C., Barton, K., & Kerby, S. (2012). *The state of diversity in today's workforce: As our nation becomes more diverse so too does our workforce*. Retrieved from http://www.americanprogress.org/issues/labor/report/2012/07/12/11938/the-state-of-diversity-in-todays-workforce

Clay, R. A. (2011, March). Postgrad growth area: Health-care administration. *gradPSYCH Magazine,* p. 22. Retrieved from http://www.apa.org/gradpsych/2011/03/post-grad.aspx

Clay, R. A. (2012). A trailblazer moves on. *Monitor on Psychology*, *43*(1), 68.

Clements, C. B., Rickard, H. C., & Kleinot, M. (1986). Management functions of clinical psychologists: A further assessment. *Professional Psychology: Research and Practice*, *17*, 147–150. http://dx.doi.org/10.1037/0735-7028.17.2.147

Conner, C. (2013, September 1). How psychology can you make you a better boss. *Forbes*. Retrieved from http://www.forbes.com/sites/cherylsnappconner/2013/09/01/how-psychology-can-make-you-a-better-boss

DeLeon, P. H., Loftis, C. W., Ball, V., & Sullivan, M. J. (2006). Navigating politics, policy, and procedure: A firsthand perspective of advocacy on behalf of the profession. *Professional Psychology: Research and Practice*, *37*, 146–153.

Dingfelder, S. (2010). From psychologist to president. *Monitor on Psychology*, *41*(1), 36.

Dr. Judith Rodin. (2014). *Huffington Post*. Retrieved from http://www.huffingtonpost.com/judith-rodin

Erlinger, J., Gilovich, T., & Ross, L. (2005). Peering into the bias blind spot: People's assessment of bias in themselves and others. *Personality and Social Psychology Bulletin*, *31*, 680–692. http://dx.doi.org/10.1177/0146167204271570

Feldman, S. (1999). *The middle management muddle*. New York, NY: Human Sciences Press.

Fish, S. (2004, November 24). What did you do all day? *Chronicle of Higher Education*. Retrieved from http://chronicle.com/article/What-Did-You-Do-All-Day-/44654

Forbes, R. L., Jr. (2012). Who's educating the psychologist-manager? *Psychologist Manager Journal*, *15*, 1–5. http://dx.doi.org/10.1080/10887156.2011.621784

Freel, M. (2012). Five challenges hospital administrators must overcome to succeed in today's rapidly changing industry. *Becker's Hospital Review*. Retrieved from http://www.beckershospitalreview.com/hospital-management-administration/5-challenges-hospital-administrators-must-overcome-to-succeed-in-todays-rapidly-changing-industry.html

Goodstein, L. (1999). Meandering to the top: A personal and professional odyssey. *Psychologist Manager Journal*, *3*, 71–83. http://dx.doi.org/10.1037/h0095858

Grencavage, L. M., & Norcross, J. C. (1990). Where are the commonalities among the therapeutic

common factors? *Professional Psychology: Research and Practice*, *21*, 372–378. http://dx.doi.org/10.1037/0735-7028.21.5.372

Grote, D. (2006). *Discipline without punishment: The proven strategy that turns problem employees into superior performers* (2nd ed.). New York, NY: Amacom.

Halonen, J. S. (2013). Promoting effective program leadership in psychology: A benchmarking strategy. *Teaching of Psychology*, *40*, 318–330. http://dx.doi.org/10.1177/0098628313501045

Henriques, G. (2013, December). Theory of knowledge: The battle for the identity of clinical psychology. *Psychology Today*. Retrieved from https://www.psychologytoday.com/blog/theory-knowledge/201312/the-battle-the-identity-clinical-psychology

Hunter, W. S. (1951). *James Rowland Angell: A biographical memoir*. Retrieved from http://www.nasonline.org/publications/biographical-memoirs/memoir-pdfs/angell-james-r.pdf

Jacobs, E. (2011, September 8). 20 questions: Richard Chaifetz. *Financial Times*. Retrieved from http://www.ft.com/cms/s/0/78909064-d8a1-11e0-9089-00144feabdc0.html#axzz3En66Ootq

Kilburg, R. (1984). Psychologists in management: The unseen career path in psychology. *Professional Psychology: Research and Practice*, *15*, 613–625. http://dx.doi.org/10.1037/0735-7028.15.5.613

Levinson, D., & Klerman, G. (1972). The clinician-executive revisited. *Administration in Mental Health*, *2*, 64–67.

Lloyd-Thomas, M. (2014, April 25). Salovey's first year in review. *Yale Daily News*. Retrieved from http://yaledailynews.com/blog/2014/04/25/saloveys-first-year-in-review

McGuire, F. L. (1990). *Psychology aweigh! A history of clinical psychology in the United States Navy*, 1900–1988. http://dx.doi.org/10.1037/10069-000

Minnillo, P. R. (2007). *A grounded theoretical approach to the origin and significance of authenticity as perceived by therapists within the therapeutic encounter*. Ann Arbor, MI: ProQuest.

Mintzberg, H. (1975). The manager's job: Folklore and fact. *Harvard Business Review*, *53*, 49–61.

Mintzberg, H. (2009). *Managing*. San Francisco, CA: Berrett-Koehler.

Munger, M. C. (2010). Ten suggestions for a new department chair. *Chronicle of Higher Education*. Retrieved from http://chronicle.com/article/10-Suggestions-for-a-New/64963

National Governors' Association. (2014). *Ohio Governor Ted Strickland*. Retrieved from http://www.nga.org/cms/home/governors/past-governors-bios/page_ohio/col2-content/main-content-list/title_strickland_ted.html

Nickerson, R. S. (1998). Confirmation bias: A ubiquitous phenomenon in many guises. *Review of General Psychology*, *2*, 175–220. http://dx.doi.org/10.1037/1089-2680.2.2.175

Norcross, J. C. (Ed.). (2011). *Psychotherapy relationships that work* (2nd ed.). http://dx.doi.org/10.1093/acprof:oso/9780199737208.001.0001

Norcross, J. C., Hedges, M., & Prochaska, J. O. (2002). The face of 2010: A Delphi poll on the future of psychotherapy. *Professional Psychology: Research and Practice*, *33*, 316–322. http://dx.doi.org/10.1037/0735-7028.33.3.316

Norcross, J. C., & Karpiak, C. P. (2012). Clinical psychologists in the 2010s: 50 years of the APA Division of Clinical Psychology. *Clinical Psychology: Science and Practice*, *19*, 1–12. http://dx.doi.org/10.1111/j.1468-2850.2012.01269.x

Norcross, J. C., & Sayette, M. A. (2014). *Insider's guide to graduate programs in clinical and counseling psychology*. New York, NY: Guilford Press.

Peter Salovey. (2014). Retrieved from http://salovey.socialpsychology.org

Reed, J. (2013). A journey between two worlds—Executives and psychologists: A brief comparison. *Psychologist Manager Journal*, *16*, 11–17. http://dx.doi.org/10.1037/h0094738

Reese, W. G. (1972). An essay on administration. *American Journal of Psychiatry*, *128*, 1249–1256. http://dx.doi.org/10.1176/ajp.128.10.1249

Rickard, H. C., & Clements, C. B. (1981). Administrative training for psychologists in APA-approved clinical programs. *Professional Psychology*, *12*, 349–355. http://dx.doi.org/10.1037/0735-7028.12.3.349

Rozensky, R. H. (2014). Implications of the patient protection and Affordable Care Act: Preparing the professional psychology workforce for primary care. *Professional Psychology: Research and Practice*, *45*, 200–211. http://dx.doi.org/10.1037/a0036550

Sachdev, A. (2012, February 27). Patients has its rewards. *Chicago Tribune*. Retrieved from http://articles.chicagotribune.com/2012-02-27/business/ct-biz-0227-executive-profile-chaifetz-20120227_1_patients-compsych-investment-firm

Severson, D. (2012). *Does a HR manager make more money than a clinical psychologist?* Retrieved from http://everydaylife.globalpost.com/hr-manager-make-money-clinical-psychologist-26137.html

Silver, M. A., & Marcos, L. R. (1989). The making of the psychiatrist-executive. *American Journal of*

*Psychiatry*, *146*, 29–34. http://dx.doi.org/10.1176/ajp.146.1.29

Steger, J. A., Manners, G., Jr., & Woodhouse, R. (1976). Clinical management: A descriptive model. *Administration in Mental Health*, *4*, 83–90. http://dx.doi.org/10.1007/BF02253279

Stein, S. (2014). Ted Strickland joins top democratic think tank, has no plans for the Senate. *Huffington Post*. Retrieved from http://www.huffingtonpost.com/2014/03/19/ted-strickland-senate_n_4989950.html

Strupp, H. (1980). Humanism and psychotherapy: A personal statement of the therapist's essential values. *Psychotherapy: Theory, Research, and Practice*, *17*, 396–400. http://dx.doi.org/10.1037/h0085938

Trentacoste, P. A. (1997). *A clinical psychologist in King Arthur's court: Leadership in the organization* (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 9725268)

Welch, J., & Byrne, J. (2001). *Jack: Straight from the gut*. New York, NY: Warner Books.

Wilcock, P., & Rossiter, R. (1990). Clinical psychology and general managers. *Health Services Management*, *86*, 139–141.

CHAPTER 30

# TEACHING

*Kathi A. Borden and E. John McIlvried*



Teaching is one of the standard activities and core competencies of clinical psychologists (Stanton, 2010), in contrast to the traditional view that took the skill of teaching for granted, assuming that if someone had earned a doctorate in the discipline, that person had sufficient expertise to be qualified to teach.

In this chapter, we review teaching as a distinct and critical competency. First, we define the professional activity of teaching and its knowledge base. We then consider common teaching activities conducted by many clinical psychologists. The chapter concludes with a description of major achievements in teaching and a look at future directions in teaching for clinical psychologists.

## DEFINITION AND DESCRIPTION

For the purposes of this chapter, teaching can be defined as "the directed facilitation by the professional psychologist for the growth of knowledge, skills, and attitudes in the learner" (McHolland, 1992, p. 165). Because of the breadth of this definition, one can see that teaching plays a role in mentoring, supervision, consultation, psychoeducation, prevention efforts, community education, classroom teaching, advocacy, psychotherapy, and other clinical activities.

Teaching often is viewed as foundational and embedded in other competencies rather than being considered separately. For example, at the landmark Competencies Conference sponsored by the American Psychological Association (APA) in 2002, teaching was integrated into discussions of the definition, training, and evaluation of other competencies rather than being considered as distinct. For another example, neither the current nor proposed accreditation standards from APA's Commission on Accreditation include teaching as a professional competency or required curriculum area.

Although the situation is beginning to improve (Boysen, 2011; Buskist, 2013), a number of studies have shown a historical lack of attention to learning to teach in clinical psychology graduate programs, even for graduate students who teach undergraduate courses. A 2002 study by Buskist et al. found that fewer than half of all psychology departments offered a course in teaching. The lack of focus on teaching as a competency possibly results from the historical view of clinicians as scientists and practitioners, with their focal activities in the areas of research, assessment, and treatment.

If one looks at teaching in a traditional way—classroom teaching—one can see that psychologists are frequently involved in a teaching role. Data from the APA (2010; Center for Workforce Studies, 2014) have indicated that approximately 11% of health service psychologists report their primary work in university settings, 4-year colleges, or other academic settings, and more than 17% report that they work in these same settings as part of secondary jobs. In addition, with a greater reliance on adjunct instructors, many more clinical psychologists are involved in part-time teaching. Health service psychologists report engaging in a mean of 8.6 hours ($SD$ = 10.06) per week of educational

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activities (including teaching) when primary care is their work setting, and a mean of 6.3 hours ($SD = 4.30$) per week when primary care is a secondary work setting. All told, about half of U.S. clinical psychologists routinely teach (Norcross & Karpiak, 2012a). These numbers increase when one adds psychologists who serve as supervisors and as mentors.

## CORE ACTIVITIES

There are many types of teaching in which clinical psychologists engage, ranging from community education and prevention programs to specialized postdoctoral education. Below, we review four of the core professional activities related to teaching: classroom instruction, clinical supervision, research supervision, and mentoring.

### Classroom Instruction

Clinical psychologists are frequently involved in teaching a variety of psychology courses. An inspection of common offerings at the undergraduate level (Stoloff et al., 2010) suggests that these may include courses such as introductory psychology, human development, psychology of personality, abnormal psychology, tests and measurements, health psychology, theories of psychotherapy, clinical psychology, and the psychology of adjustment. Clinical psychologists may also teach more specialized undergraduate classes depending on their background and experience (e.g., gender or women's issues, human sexuality, child psychopathology, behavior modification, drugs and behavior, group dynamics).

At the graduate level (APA, 2013), clinicians may teach in some of the core areas of scientific psychology (e.g., history and systems, psychological measurement, research methods), substantive areas of clinical psychology (e.g., advanced psychopathology, systems of psychotherapy, ethical and legal standards), and seminars in various practice areas (e.g., assessment, intervention, cultural and individual diversity, consultation, clinical supervision) as well as coursework required for professional practice (e.g., practicum supervision).

Preparing clinical psychologists for classroom teaching has become more common in graduate education. Recent studies have demonstrated that more graduate teaching assistants and graduate student teachers receive training to be effective instructors in courses, workshops, and seminars (Buskist, 2013). The Society for the Teaching of Psychology (APA Division 2) maintains an excellent online syllabus collection that can be a useful resource for psychology teachers. This site includes several graduate syllabi from courses on the teaching of psychology.

Common themes for preparing individuals to teach psychology courses include developing a teaching philosophy; creating syllabi; leading discussions; learning effective classroom techniques; promoting active learning; cultivating student writing; assessing classroom learning; creating examinations; grading; and managing problematic student behaviors (e.g., academic dishonesty, disruptive students, students who are struggling), including ethical considerations. Finally, most include critiqued observations of students actually teaching class sessions. The journals *Teaching of Psychology* and *Scholarship of Teaching and Learning in Psychology* publish articles on strategies, demonstrations, and techniques for teaching a variety of concepts in the classroom and increasing instructional effectiveness, and *Training and Education in Professional Psychology* includes articles specifically focused on professional psychology preparation. Specific to clinical psychology, there have been recent recommendations to focus on overarching goals in coursework (with specific recommendations on classroom techniques) such as demonstrating the value of psychological science in clinical practice, emphasizing the importance of evidence-based practice to students, and helping students understand the variety of activities in which clinical psychologists are involved (Norcross & Karpiak, 2012b).

### Clinical Supervision

When we include supervision in our definition of teaching, even more professional psychologists are engaged in teaching. Between one half and two thirds of U.S. clinical psychologists routinely perform clinical supervision (Norcross & Karpiak, 2012a). Supervision may be understood as "a form

of management blended with teaching in the context of relationship directed to the enhancement of competence in the supervisee" (McHolland, 1992, p. 165).

Supervision may be the most studied aspect of teaching in clinical psychology. Full courses are taught on supervision, and many doctoral programs provide experiential opportunities whereby students supervise others, themselves under the supervision of licensed faculty. The Developmental Achievement Levels (National Council of Schools and Programs in Professional Psychology, 2007) and Benchmarks (Fouad et al., 2009) specify several of the components of supervision. The Developmental Achievement Levels document specifies a variety of areas of knowledge, skills, and attitudes needed to be a competent supervisor. The Benchmarks document also specifies many aspects of essential knowledge, for example, knowledge of the supervisor's role, theories of supervision, legal and ethical issues, and cultural and individual differences as applied to supervision.

In recent years, the Commission on Accreditation has required professional psychology programs to teach clinical supervision. Thus, rather than assuming that students will be sufficiently prepared to supervise others if they themselves have been supervised (a parallel to old views of teaching), doctoral programs have added coursework and other activities to teach supervision that often involve a combination of reading, viewing demonstrations, and practicing supervision. In some programs, practice occurs in the form of exercises and role playing in classes on supervision. In other programs, students have the opportunity to supervise peers, often less advanced students, with their supervision being supervised by a licensed psychologist. These hierarchical (or vertical) supervision experiences are labor intensive and costly but provide supervised learning to students as they provide supervision on real cases with real clinicians-in-training (Malloy et al., 2010). This training increases the likelihood that the components of the supervision competency being learned closely resemble real-world job requirements (see Volume 5, Chapter 12, this handbook).

## Research Supervision

Clinical psychologists often assume a teaching role in the supervision of research students at the secondary, undergraduate, and graduate levels. High school and undergraduate students may be involved in research endeavors with psychologists simply out of interest in a topic, often assisting with faculty or graduate student research. Undergraduates may also become involved in research as part of a required research methods course or a capstone experience or as a means of enhancing their résumés in preparation for graduate school. At the graduate level, clinical psychologists frequently supervise students involved in the faculty member's own research program, as a thesis or dissertation chair or committee member, or as part of the activities that graduate assistants are required to perform.

A number of issues are evident in supervising students and teaching them about research. These issues include whether the student's research is part of the supervisor's research program versus research that stems from the student's interest but is only generally related to the supervisor's research (Franke & Arvidsson, 2011), whether the supervisor is directive and controlling in the research process versus guiding and person focused (Murphy, Bain, & Conrad, 2007), and models of supervision that emphasize a traditional dyadic relationship between the supervisor and student vs. models that rely on substantial amounts of group supervision or courses (McCallin & Nayar, 2012). The teaching roles that research supervisors assume may include monitoring and communicating about the research process (e.g., selecting and refining a topic, critiquing writing style, choosing an appropriate research methodology), providing encouragement and critically commenting on drafts (e.g., handling motivation issues, monitoring progress, assisting in writing sections that are problematic), and fostering and developing an academic role (e.g., anticipating problems and discussing solutions, keeping the student on track; Severinsson, 2012).

## Mentoring

Mentoring is typically viewed as involving a significant teaching component. At its core, mentoring

is "a dynamic, reciprocal, personal relationship in which a more experienced trainer (mentor) acts as a guide, role model, teacher, and sponsor of a less experienced trainee (protégé)" (Johnson, 2014, p. 273). The mentor can be conceived of as someone of greater experience, influence, or achievement who helps someone of lesser experience, influence, or achievement (protégé) to grow in career and psychosocial development (McIlvried, 2000). Thus, mentoring in psychology occurs in educational settings (undergraduate and graduate students) as well as in professional development that often lasts throughout one's career and in more varied settings (Elman, Illfelder-Kaye, & Robiner, 2005).

Much of the current knowledge of mentoring stems from the early work of Kram (1988), who viewed mentoring as involving two broad functions. Career functions include sponsoring the protégé; contributing to the exposure and visibility of the protégé; and coaching, protecting, and providing challenging projects that lead to increased competence in the protégé. Psychosocial functions entail role modeling, acceptance and confirmation of the protégé, counseling, and providing friendship and mutuality for the protégé. These two widely accepted functions of mentoring have been frequently described and researched.

Mentoring has been associated with a number of benefits for the individuals involved (Johnson, 2014). Research findings with students have included outcomes such as increased opportunities for networking, mastery and development of skills, dissertation completion, and publishing (Johnson & Huwe, 2003). In addition, graduate psychology students who receive mentoring have indicated greater satisfaction with their doctoral programs (Clark, Harden, & Johnson, 2000; Johnson et al., 2000). After graduation, those who were mentored report increases in early employment, greater income, and higher career satisfaction and achievement than those who were not mentored (Johnson & Huwe, 2003). A number of these benefits also extend to mentors, who share in these enriched interpersonal relationships and opportunities to collaborate.

There has been ongoing debate about how much mentoring psychology students receive. Across numerous studies, between one half and two thirds of doctoral psychology students have reported that they received mentoring (Johnson, 2014). One study found that approximately 66% of clinical psychology graduate students received mentoring (Clark et al., 2000). A difference was noted between PhD (73%) and PsyD (56%) clinical psychology students.

In part, the answer to the question about frequency depends on how one defines mentoring. If mentoring is conceptualized in the traditional view of a single long-term relationship that a student develops with a faculty member or supervisor (characteristic of PhD programs), one may receive a different answer than if one views mentoring as happening in multiple relationships for a shorter duration (characteristic of PsyD programs; Campbell & Anderson, 2010). In reality, students develop a number of "mini-mentors" during their career, and thus mentoring may be more pervasive in clinical psychology than previously thought (Groody, 2004).

## KNOWLEDGE BASE

Clinical psychology has moved toward conceptualizing the profession as consisting of competencies. There has been a shift in training programs and in the accreditation process toward instructing and evaluating psychology students on the basis of what they are competent to do, not what they know or their number of supervised practice hours. What do clinical psychologists as teachers need to know?

### Knowledge, Skills, and Attitudes

To become a competent teacher, psychologists must master knowledge, skills, and attitudes relevant to teaching (Bourg et al., 1987). The Developmental Achievement Levels document defines competence in education as involving

> knowledge about models of learning and pedagogy, as well as the foundations of, and innovations in, instructional design and evaluation. It also involves skill building in facilitating student knowledge acquisition . . . through one or more

> learning formats, including individual mentoring, group and/or classroom discussion and lecture, and online, technologically-based platforms. (National Council of Schools and Programs in Professional Psychology, 2007, p. 41)

Attitudes listed include curiosity; openness to feedback, complexity, and multiple perspectives; willingness to seek education and consultation; flexibility; tolerance of ambiguity; and belief in the ability of individuals and groups to change.

The Benchmarks document (Fouad et al., 2009) lists four essential components, one at each developmental level, for the teaching competency. They include knowledge and skills, in developmental order: "knowledge of theories of learning and how they impact teaching . . . knowledge of didactic learning strategies and how to accommodate developmental and individual differences . . . evaluation of effectiveness of learning/teaching strategies addressing key skill sets," and development of a "coherent teaching plan to ensure match to learning outcomes and to longer term curricular objectives" (p. 68). Together, these documents provide a succinct overview of the components of teaching psychology and confirm the idea that teaching is itself a competency.

Research has been conducted to delineate the content of courses on the teaching of psychology. A survey of universities that use graduate teaching assistants found that the most frequent topics covered in courses on the teaching of psychology were related to structured classroom issues (e.g., delivery of lectures, classroom management skills, and encouragement of student participation; Buskist et al., 2002). Infrequently covered topics, such as diversity issues and social skills in teaching, dealt with the more interpersonal aspects of learning to teach. Yet the interpersonal aspects of teaching, regardless of whether one is teaching knowledge and skills or managing the classroom setting, are essential to success and involve the cross-cutting competency of relationship.

The knowledge base for teaching comes from a variety of areas, most notably psychology and education. We touch on some of the most frequently cited aspects of the teaching knowledge base from psychology and education in the next sections.

## Psychological Knowledge Relevant to Teaching

Within psychology, it is clear that teachers need to be familiar with concepts of developmental and cognitive (including learning theory) psychology. To master functional competencies such as teaching, psychologists must master several cross-cutting competencies such as diversity, communication, accessing and evaluating essential information, and critical thinking. A report titled "Applying Psychology Disciplinary Knowledge to Psychology Teaching and Learning" (Zinkiewicz, Hammond, & Trapp, 2003) organized research relevant to teaching into five areas of relevance, all broadly defined: theories of development, student diversity, learning and thinking, motivation, and the social context. Furthermore, the report included information on emotional and adaptive factors that can affect the learning process either positively or negatively and a section on assessment of learning.

**Relationship.** As in psychotherapy (Norcross, 2011), all functional roles of clinical psychologists are more effective when performed in the context of a strong working relationship. Teaching is no different. When students feel respected, safe, and connected to their teachers, they are more psychologically available to learn than in an environment of fear, disrespect, or alienation (Zinkiewicz et al., 2003). There is a long history of research on the relationship of anxiety to learning, and although anxiety is motivating for most people at low levels, high levels of anxiety have generally been found to impair learning and performance. This conclusion dates back to early findings that moderate levels of stress or arousal are optimal for learning (Yerkes & Dodson, 1908). This curvilinear relationship still holds in most educational settings.

The ability to create a caring, supportive learning environment for students while fulfilling the evaluative role involved in teaching is a delicate balance that requires finesse. Teachers often serve as cheerleaders (mentors, advisors, advocates) and simultaneously as gatekeepers (giving corrective feedback

and grades; Carroll, 2007). Thus, the multiple, complex roles that occur in educational settings complicate the management of the teacher–learner relationship.

**Group process and social development.** Teaching performed by clinical psychologists often occurs in a group setting. Furthermore, group projects are frequently assigned, and group dynamics such as a competitive versus cooperative environment greatly affect students. The move from more individualistic to more collaborative approaches is one result of the recognition of the social context of learning. Knowledge of group processes and how to create an optimal learning group and setting is essential to the teaching role, as is a strong foundation in social psychology and group theory.

**Diversity.** Not all people learn in the same way. Learners exhibit different patterns of strengths and weaknesses and come with a wide range of background knowledge and learning styles. Some are strong listeners, some strong readers, and others learn best by doing. Legislation mandating educational inclusion of all children, along with requirements for reasonable accommodations for those with disabilities, has increased variability in student learning needs and styles (Raue & Lewis, 2011). Awareness of different learning styles and the flexibility to teach in more than one way are essential for success in teaching heterogeneous groups.

When one adds in the diverse backgrounds of learners, it is clear that teachers must be encouraging and knowledgeable about racial and cultural differences. For instance, students from more collective versus more individualistic cultures may respond to group learning projects in different ways. As international mobility continues to grow and online learning allows teachers to reach learners across the globe, awareness of cultural, national, and regional differences will become even more essential.

Socioeconomic status is another important diversity factor. Students with more economic resources and more educated parents tend to be more successful in school than those from lower socioeconomic status groups (Aud, Fox, & KewalRamani, 2010). To help diverse students pursue and succeed at education, teachers must be cognizant of socioeconomic status and other factors that have an impact on access to success, and they must be flexible in their methods of teaching.

**Development.** Developmental theory is of growing importance as the teaching of psychology moves down the educational ladder. The APA organization Teachers of Psychology in Secondary Schools (Education Directorate, 2015) is now estimated to have 2,000 members, a number that reflects the growing coverage of psychology in high schools. In addition, many schools include psychology topics in their health, guidance, and science curricula as early as in kindergarten. Both the content and the process of teaching psychology to groups and individuals who vary so greatly in age must take into account social, cognitive, and other developmental differences.

Another crucial aspect of development to consider when teaching at the college level and beyond is the target audience's level of professional development. Is this a first exposure to psychology, or is this a continuing education program for licensed professionals? Certainly the approach must differ for diverse groups. Successful teachers must be able to understand how the material they want to convey through teaching will be understood by people with different backgrounds in and outside of the discipline and profession of psychology.

**Learning theory and cognitive psychology.** Teachers need to understand cognitive processes, such as learning, attention, memory, and the effect of physiological and emotional states on learning. Learning theories (Vargas, 2009; Zinkiewicz et al., 2003) encompass the traditional tripartite division of respondent (classical conditioning), operant (instrumental learning), and social learning (modeling and imitation). All of these can be of use in the classroom. For example, a classical conditioning paradigm can be useful in understanding the anxiety some students experience in the classroom. Operant conditioning can be used in shaping clinical skills or rewarding excellent work. Social learning is often used in clinical psychology to demonstrate a variety of skills and attitudes.

**Motivation.** Knowledge of motivation and the skills needed to enhance the motivation of learners are essential for those who teach. Classic work with obvious applications to this area is Maslow's (1943) theory of the hierarchy of needs, which posits that when multiple needs are not fulfilled, individuals will be driven to fulfill those most central to survival (e.g., food, shelter) before meeting higher level needs (e.g., achievement). This applies to teaching in one's understanding of why students who, for example, live in unsafe neighborhoods or are worried about paying their rent may not prioritize schoolwork.

Locus-of-control research (Rotter, 1954) and attribution theory (Weiner, 2012) also apply to teaching. *Locus of control* refers to whether individuals have a generalized expectancy that positive (reinforcing) outcomes in their lives are within their own control (internal locus of control) or outside of their control (external locus of control). Attribution theory focuses on the reasons individuals give for certain occurrences or outcomes; they are typically categorized into internal versus external, stable versus unstable; global versus specific, and controllable versus uncontrollable. Logically, learners who believe they have no control over their personal learning outcomes will be less motivated to work hard than will those who believe they can control outcomes. Learners who believe outcomes are the result of internal and controllable factors (e.g., effort, time studying) work harder and do better than those who believe their outcomes are due to unchangeable internal (e.g., lack of innate ability) or external (e.g., bad luck, a difficult or unfair task or evaluator) factors. This is particularly important when a student fails at a task, with those who attribute negative outcomes to internal and controllable factors doing better on future tasks than others.

## Educational Knowledge Relevant to Teaching

A long-standing debate among education professionals is whether teachers need to be trained primarily in the content areas in which they will teach or should primarily fill the role of "nurturer who helps young people grow, learn, and develop" (Kennedy, 2008, p. 1199). This is not an either–or situation; teachers need both content expertise and teaching expertise. In fact, the Committee on Teacher Education of the National Academy of Education agreed with the need to know both subject matter and how to teach by identifying three domains of knowledge necessary for effective teaching (Darling-Hammond, 2008).

In 2013, the Council of Chief State School Officers released its report "Model Core Teaching Standards and Learning Progressions for Teachers," which lists four categories of standards considered essential for teacher training: the learner and learning (learner development, learning differences, learning environments); content (content knowledge and application of content); instructional practice (assessment, planning for instruction, instructional strategies); and professional responsibility (professional learning and ethical practice, leadership and collaboration). Cross-cutting themes included collaboration, communication, creativity and innovation, cultural competence, English language learners, families and communities, individual differences, interdisciplinary themes, multiple perspectives, professional learning, student-directed learning, teacher responsibility, technology, and use of data to support learning.

## MAJOR ACHIEVEMENTS AND LANDMARK STUDIES

The benchmark psychological literature on teaching stems from the fields of educational psychology, the psychology of learning, motivational psychology, cognitive psychology, and human development. These areas include classic studies by individuals such as E. L. Thorndike, John Watson, B. F. Skinner, G. Stanley Hall, Abraham Maslow, Jean Piaget, Robert Gagne, Lev Vygotsky, and Robert Glaser. The writings of these psychologists and educators have greatly contributed to the understanding of how people learn and how to teach (e.g., Ambrose, 2010; Bransford, Brown, & Cocking, 2000).

Some of the major achievements that influence how clinical psychologists teach stem from movements in the philosophy of education and related sociopolitical movements. Writings by Socrates

and Plato advocated the Socratic dialogue as an instructional method, along with the notion that individuals should be educated according to their capacities. This theme of individualizing instruction on the basis of the student's particular abilities and developmental stage was later emphasized by John Dewey, echoed by researchers such as Piaget, and continues to be a dynamic in current approaches to teaching (Noddings, 2011).

Another major achievement was the recognition of the active role that the learner plays in her or his own learning. Individuals do not passively observe and learn; rather, they are active organizers of their experience. Individuals have purposes, and there is a definite connection between purpose and learning. This approach foreshadowed the contemporary approaches to teaching and learning in which the student actively struggles with real-world situations, problems, and cases. Most recently, this can be seen in the development of problem-based learning (originally developed in medical education and more recently adapted to instruction in clinical psychology; Baillie et al., 2011; Stedmon et al., 2006).

One of the more recent major achievements has been the seminal work of Boyer (1990), which led to a movement focused on the scholarship of teaching and learning (Schwartz & Gurung, 2012). A representative definition of scholarship of teaching and learning is

> the systematic study of teaching and learning, using established or validated criteria of scholarship, to understand how teaching (beliefs, behaviours, attitudes, and values) can maximize learning, and/or develop a more accurate understanding of learning, resulting in products that are publicly shared for critique and use by an appropriate community. (Potter & Kustra, 2011, p. 2)

Research on scholarship of teaching and learning has grown exponentially over the years and has generated a dialogue about the value of research from the "learning sciences" (more controlled but less ecologically valid) versus scholarship of teaching and learning (more generalizable and contextually valid, but less rigorous methodologically and often without a clear basis in theory; Daniel & Chew, 2013; Wilson-Doenges & Gurung, 2013).

Another landmark achievement in teaching involves evidence-based practice. Evidence-based practice was originally developed in the field of medicine, and a generally accepted definition is "the integration of best research evidence with clinical expertise and patient values" (Institute of Medicine, 2001, p. 147). In a similar fashion, the APA Presidential Task Force on Evidence-Based Practice (2006) viewed evidence-based practice as "the integration of the best available research and clinical expertise in the context of patient characteristics, culture, and preferences" (p. 273). This approach, when applied to educational activities, has been referred to as evidence-based teaching (Buskist & Groccia, 2011; Groccia & Buskist, 2011), which entails focusing on integrating three aspects of the learning process: characteristics of the methods and strategies to be used, characteristics of the teacher, and characteristics of the student or learner (Dunn et al., 2013; Mitchell, 2013).

A major contribution of evidence-based teaching has been the recognition that there are multiple approaches to instruction that can be effective and that the best practice in any given context may depend on the complex interplay of the knowledge, skills, and attitudes to be learned as they interact with the characteristics of the student and competencies of the teacher. Evidence-based teaching emphasizes that learners actively construct knowledge and that teaching should require learners to actively do something—to engage the material in some way. Similarly, there is recognition that students enter the learning environment with different backgrounds, abilities, levels of preexisting knowledge, and motivations such that effective teaching must find a way to connect with and build on the unique characteristics and developmental level of the learner (Cooper, 2014).

## FUTURE DIRECTIONS

The future of clinical psychologists as teachers is impossible to predict accurately, but recent developments hold the seeds of change for the future.

Among these are accountability, diversity, neuroscience, changes in health care delivery, and technology.

## Increasing Demand for Accountability

Recent years have seen a culture shift (Roberts et al., 2005) in the demand for public and private educational institutions to demonstrate their value that stems in part from dissatisfaction with the preparedness of graduates for the workforce and in part from concerns about educational cost increases that have far outstripped salaries, inflation, cost-of-living increases, and the affordability of education for many (Blumenstyk, 2014). Although increasing tuition has resulted from a combination of actual cost increases and decreased public funding, it is clear that demonstration of successful outcomes at the course, program, and institutional level will continue to be essential.

There has already been a demand from accrediting bodies for clarity on expected outcomes and data on whether those outcomes have been met (APA, 2013; Council for Higher Education Accreditation, 2006). These include specific student learning outcomes, often in terms of knowledge, skills, and attitudes tied to specific competencies; program outcomes, such as earned credentials, specific jobs, salaries, research productivity, and societal contributions of graduates; and institutional outcomes, such as graduation rates, student loan repayment, and employment rates of alumni. To more efficiently and effectively meet the increasing demand for accountability, teachers need to develop better outcome measures at all levels, and these measures are likely to become standardized to allow cross-institutional comparisons. In addition, enhanced electronic record keeping, tracking mechanisms, and interactive databases will be required to use local and large-scale data to improve teaching and learning. Data analytics will drive many functions ranging from the recruitment and enrollment of applicants to curricular changes based on institutional outcomes and societal needs (Picciano, 2012).

One aspect of accountability that affects many clinical psychologist teachers relates to licensing tests. Currently, the primary gateway for graduates of clinical psychology to become licensed is by passing a multiple-choice test of knowledge. As the field has moved into valuing knowledge, skills, and attitudes, gateway tests will likely include measures of all three (Borden & McIlvried, 2010), which may involve problem-focused assessments, perhaps including automated, computerized, or standardized patients. Periodic assessment of already-credentialed psychologists will also be developed and may also involve these more complex evaluation methods.

## Ascendancy of Diversity

Changing demographics in the United States, combined with increasing globalization, make it crucial that clinical psychologists be prepared for an increasingly diverse world. Racial, ethnic, national origin, and primary language differences are increasing. Furthermore, racial and ethnic group membership is often associated with economic differences (Aud et al., 2010).

This economic disparity places higher education out of reach of many and complicates efforts to close the gap in educational achievement among racial and ethnic groups, a gap that is an impediment to preparing more psychologists and teachers of color (Villegas & Davis, 2008). Although good demographic data are not available because of low response rates, the latest survey has shown that 73.6% of graduate student affiliate members (Mulvey & Kohout, 2010) and 90.5% of APA members who specified race and ethnicity (Center for Workforce Studies, 2014) are White and non-Hispanic, figures that represent considerably less diversity than in the U.S. population as a whole.

More and more universities are developing international partnerships, encouraging frequent student and faculty exchanges. Clinical psychologists who teach will need to learn to work across national boundaries, whether their teaching is done in person or online.

Generally, clinical psychologists who teach will need preparation to work flexibly to connect with students of different backgrounds. Many colleges and universities already offer academic (e.g., English language learners) support, and with growing numbers of international students, they may need to

enhance the assistance offered to include social and pragmatic support as well, so that all students can maximize their learning. However, beyond simply providing a variety of student services, a change in mindset is necessary to help clinical psychologist teachers and students embrace and use the strengths brought by diverse students.

## Burgeoning Neuroscience

Enhanced technologies now allow psychologists to "see" the correlates of some psychological problems (e.g., depression, dementia) in the brain and throughout the nervous system. Psychologists are now beginning to be able to observe the impact of psychological treatment on nervous system function as well, increasingly in direct ways, for example, through nuclear MRI techniques. These developments will require psychologists to teach and learn more about the neurophysiology and neuroanatomy of mental disorders and to use these techniques in diagnosis, treatment, and the measurement of outcomes (Calhoun & Craighead, 2006). Curricula will likely incorporate more and more of this material as knowledge and technology advance.

## Changes in Health Care Delivery Systems

The Patient Protection and Affordable Care Act includes proposals to increase the integration of psychological and physical health care in the immediate future and to change the settings in which most of this care is delivered to patient-centered health care homes and accountable care organizations (see Volume 1, Chapter 25, this handbook, on primary care). To meet this need, medical and pharmacological knowledge, brief assessments, consultation-focused interventions, program evaluation, and interprofessional relationship skills will become more central to psychology education

## Technology

Technology already has an impact on teaching on many levels. In addition to affecting the way psychologists teach, technology gives teachers and learners immediate access to huge amounts of information. The ability to retrieve, cull, and evaluate information is essential and creates an impetus to change from a teaching strategy of conveying information (after all, information can be accessed in a fraction of a second) to one of helping students learn to retrieve and winnow information through prioritization, source evaluation, and critical thinking and then to integrate and make sense of diverse and sometimes contradictory information from multiple sources.

Technology also affects the interactive nature of most classrooms. Students today access information during class time to supplement classroom activities. Faculty will need to adapt to students using computers in class to conduct online searches and for other purposes (Reich, 2007). However, the presence of computers can also prove a distraction with many technology natives monitoring both course-related and unrelated sites in class. Learning to help students maximize the course-related potential of the Internet while minimizing distractions unrelated to the course is a current and future challenge faculty face, with little experience, research, or proven policies to guide them.

In terms of teaching technology, several doctoral programs are experimenting with automated, simulated, or standardized patients for training and assessment. The possibility of both observing others do therapy with practice clients and learning to interact with realistic practice clients before seeing an actual client will provide improvements in student therapist preparation. As these technologies become more fully developed and less expensive, they are likely to become more common.

Online teaching is another technological innovation changing the work of psychologists who teach, and although it is not new, it has expanded greatly in recent years, with an estimated 18.64 million students taking online courses in 2014 (Grus, 2014). Increasing numbers of courses are being offered online or in hybrid (mixed face-to-face and online) formats, and many instructors are learning to teach online, either because they are excited about the new possibilities it presents or because they believe it to be essential for their future careers. More and more students are prepared for electronic learning formats, often entering college with prior online learning experience through virtual high school programs. Data are beginning to accumulate that

indicate that students in some fully online courses, including massive open online courses, may drop and fail these courses more frequently than those in face-to-face courses (Jordan, 2014). Researchers are fine-tuning questions on this topic and continue to learn about best online teaching practices, appropriate online content, and the characteristics of teachers and learners who do best through online courses (Jordan, 2014; Koller et al., 2013; Shattuck, Zimmerman, & Adair, 2014).

Teaching roles may change significantly in the future. The technology already exists for a renowned international expert on a topic to deliver course content around the world. Watching this content would become homework rather than a classroom activity, resulting in a role shift for most clinical psychology teachers who would use classroom time (virtual or face-to-face) for discussion and application, in a modern version of the flipped classroom (Brady, 2012).

Finally, as Internet-based teaching, supervision, and service become more common, clinical psychology students will need to learn about protecting online information, consistent with professional ethics and the Health Insurance Portability and Accountability Act of 1996, and will need to manage new forms of communication with clients (i.e., texts and email), information available online about their clients, and online information about themselves.

Teachers now and in the future must be familiar with the plethora of changes in technology, in its applications, and in the technology-related psychology of learners. The changes may involve not only the effectiveness of teaching, but also ethical questions. Although younger students already know about technological innovations (and often more than the faculty), it is unlikely that they know the ins and outs of translating assessment, therapy, supervision, or even teaching and mentoring to the electronic realm. To be effective, teachers of future clinical psychologists will need to learn alongside their students as they implement new technologies.

In closing, Gordon Paul's (1967) classic article on psychotherapy research forcibly redirected the profession's attention away from the hopelessly broad question of "Does it work?" toward greater specificity of questions and research. A paraphrase of Paul's well-known question will help guide the creation of an evidence base for effective psychology teaching. As we move forward in an increasingly complex, diverse, and intertwined world, perhaps we should ask what teacher, covering what content, using what pedagogy, to teach which learner, in what context, and under what specific conditions, will lead to the most effective teaching by clinical psychologists?

## References


Ambrose, S. A. (2010). *How learning works: Seven research-based principles for smart teaching*. San Francisco, CA: Jossey-Bass.

American Psychological Association. (2010). *2008 APA survey of psychology health service providers*. Retrieved from http://www.apa.org/workforce/publications/08-hsp/index.aspx

American Psychological Association. (2013). *Guidelines and principles for accreditation of programs in professional psychology*. Washington, DC: Author.

American Psychological Association Presidential Task Force on Evidence-Based Practice. (2006). Evidence-based practice in psychology. *American Psychologist*, *61*, 271–285.

Aud, S., Fox, F. A., & KewalRamani, A. K. (2010). *Status and trends in the education of racial and ethnic groups*. Washington, DC: U.S. Government Printing Office. Retrieved from http://nces.ed.gov/pubs2010/2010015.pdf

Baillie, A., Proudfoot, H., Knight, R., Peters, L., Sweller, J., Schwartz, S., & Pachana, N. (2011). Teaching methods to complement competencies in reducing the "junkyard" curriculum in clinical psychology. *Australian Psychologist*, *46*, 90–100. http://dx.doi.org/10.1111/j.1742-9544.2011.00036.x

Belar, C. D., & Nelson, P. D. (2002). *2001 Education Leadership Conference: Executive summary*. Retrieved from http://www.apa.org/ed/governance/elc/2001/executive-summary.aspx

Blumenstyk, G. (2014). *American higher education in crisis? What everyone needs to know*. New York, NY: Oxford University Press.

Borden, K. A., & McIlvried, E. J. (2010). Applying the competency model to professional psychology education, training, and assessment: Mission Bay and beyond. In M. B. Kenkel & R. L. Peterson (Eds.), *Competency-based education for professional psychology* (pp. 43–53). http://dx.doi.org/10.1037/12068-002

Bourg, E. F., Bent, R. J., Callan, J. E., Jones, N. F., McHolland, J., & Stricker, G. (Eds.). (1987). *Standards and evaluation in the education and training of professional psychologists: Knowledge, attitudes, and skills*. Norman, OK: National Council of Schools of Professional Psychology.

Boyer, E. L. (1990). *Scholarship reconsidered: Priorities of the professoriate*. New York, NY: Carnegie Foundation for the Advancement of Teaching.

Boysen, G. A. (2011). The prevalence and predictors of teaching courses in doctoral psychology programs. *Teaching of Psychology*, *38*, 49–52. http://dx.doi.org/10.1177/0098628310390850

Brady, S. (2012). *Two innovations that will disrupt education as we know it*. Retrieved from http://www.prismdecision.com/two-innovations-that-will-disrupt-education-as-we-know-it

Bransford, J. D., Brown, A. L., & Cocking, R. R. (Eds.). (2000). *How people learn: Brain, mind, experience and school*. Washington, DC: National Academy Press.

Buskist, W. (2013). Preparing the new psychology professoriate to teach: Past, present, and future. *Teaching of Psychology*, *40*, 333–339. http://dx.doi.org/10.1177/0098628313501047

Buskist, W., & Groccia, J. (2011). Evidence-based teaching: Now and in the future. *New Directions for Teaching and Learning*, *2011*, 105–111. http://dx.doi.org/10.1002/tl.473

Buskist, W., Tears, R. S., Davis, S. F., & Rodrigue, K. M. (2002). The teaching of psychology course: Prevalence and content. *Teaching of Psychology*, *29*, 140–142.

Calhoun, K. S., & Craighead, W. E. (2006). Clinical psychology in academic departments. *Clinical Psychology: Science and Practice*, *13*, 278–281. http://dx.doi.org/10.1111/j.1468-2850.2006.00038.x

Campbell, C. D., & Anderson, T. L. (2010). Mentoring in professional psychology. In M. B. Kenkel & R. L. Peterson (Eds.), *Competency-based education for psychology professionals* (pp. 237–247). http://dx.doi.org/10.1037/12068-014

Carroll, D. (with Donnelly, S.). (2007). Caring for students while gatekeeping for the profession: The students coordinator role. In D. Carroll, H. Featherstone, J. Featherstone, S. Feiman-Nemser, & D. Roosevelt (Eds.), *Transforming teacher education: Reflections from the field* (pp. 33–50). Cambridge, MA: Harvard Education Press.

Center for Workforce Studies. (2014). *Table 1: Demographic characteristics of APA members by membership status, 2013*. Retrieved from http://www.apa.org/workforce/publications/13-member/table-1.pdf

Clark, R. A., Harden, S. L., & Johnson, W. B. (2000). Mentor relationships in clinical psychology doctoral training: Results of a national survey. *Teaching of Psychology*, *27*, 262–268. http://dx.doi.org/10.1207/S15328023TOP2704_04

Cooper, M. M. (2014). Evidence-based reform of teaching and learning. *Analytical and Bioanalytical Chemistry*, *406*, 1–4. http://dx.doi.org/10.1007/s00216-013-7438-4

Council for Higher Education Accreditation. (2006). *Accreditation and accountability: A CHEA special report*. Retrieved from http://www.chea.org/pdf/Accreditation_and_Accountability.pdf

Council of Chief State School Officers. (2013). *InTASC model core teaching standards and learning progressions for teachers 1.0*. Washington, DC: Author. Retrieved from http://www.ccsso.org/Documents/2013/2013_INTASC_Learning_Progressions_for_Teachers.pdf

Daniel, D., & Chew, S. (2013). The tribalism of teaching and learning. *Teaching of Psychology*, *40*, 363–367. http://dx.doi.org/10.1177/0098628313501034

Darling-Hammond, L. (2008). Knowledge for teaching: What do we know? In M. Cochran-Smith, S. Feiman-Nemser, D. J. McIntyre, & K. E. Demers (Eds.), *Handbook of research on teacher education: Enduring questions in changing contexts* (3rd ed., pp. 1316–1324). New York. NY: Routledge.

Dunn, D. S., Saville, B. K., Baker, S. C., & Marek, P. (2013). Evidence-based teaching: Tools and techniques that promote learning in the psychology classroom. *Australian Journal of Psychology*, *65*, 5–13. http://dx.doi.org/10.1111/ajpy.12004

Education Directorate, American Psychological Association. (2015). *About Teachers of Psychology in Secondary Schools (TOPSS)*. Retrieved from http://www.apa.org/ed/precollege/topss/about/index.aspx

Elman, N. S., Illfelder-Kaye, J., & Robiner, W. N. (2005). Professional development: Training for professionalism as a foundation for competent practice in psychology. *Professional Psychology: Research and Practice*, *36*, 367–375. http://dx.doi.org/10.1037/0735-7028.36.4.367

Fouad, N. A., Grus, C. L., Hatcher, R. L., Kaslow, N. J., Hutchings, P. S., Madson, M., . . . Crossman, R. E. (2009). Competency benchmarks: A model for understanding and measuring competence in professional psychology training and education. *Training and Education in Professional Psychology*, *3*(4, Suppl.), S5–S26. http://dx.doi.org/10.1037/a0015832

Franke, A., & Arvidsson, B. (2011). Research supervisors' different ways of experiencing supervision of doctoral students. *Studies in Higher Education*, *36*, 7–19. http://dx.doi.org/10.1080/03075070903402151

Groccia, J., & Buskist, W. (2011). Need for evidence-based teaching. *New Directions for Teaching*

*and Learning*, *2011*(128), 5–11. http://dx.doi.org/10.1002/tl.463

Groody, A. (2004). Mini-mentors: Differences in mentoring between PsyD and PhD psychology doctoral students. *Dissertation Abstracts International: Section B. Sciences and Engineering*, *64*(10), 5199.

Grus, C. L. (2014, September). *Learning in a digital world*. Paper presented at the 2014 Education Leadership Conference, Washington, DC.

Health Insurance Portability and Accountability Act of 1996 (HIPAA), Pub. L. No. 104-191, 42 U.S.C. § 300gg, 29 U.S.C. §§ 1181–1183, and 42 U.S.C. §§ 1320d–1320d9 (1996).

Institute of Medicine. (2001). *Crossing the quality chasm: A new health system for the 21st century*. Washington, DC: National Academy Press.

Johnson, W. B. (2014). Mentoring in psychology education and training: A mentoring relationship continuum model. In W. B. Johnson & N. J. Kaslow (Eds.), *The Oxford handbook of education and training in professional psychology* (pp. 272–290). New York, NY: Oxford University Press.

Johnson, W. B., & Huwe, J. M. (2003). *Getting mentored in graduate school*. Washington, DC: American Psychological Association.

Johnson, W. B., Koch, C., Fallow, G. O., & Huwe, J. M. (2000). Prevalence of mentoring in clinical versus experimental doctoral programs: Survey findings, implications and recommendations. *Psychotherapy: Theory, Research, Practice, Training*, *37*, 325–334. http://dx.doi.org/10.1037/0033-3204.37.4.325

Jordan, K. (2014). Initial trends in enrollment and completion of massive open online courses. *International Review of Research in Open and Distance Learning*, *15*, 133–160.

Kennedy, M. M. (2008). The place of teacher education in teachers' education. In M. Cochran-Smith, S. Feiman-Nemser, D. J. McIntyre, & K. E. Demers (Eds.), *Handbook of research on teacher education: Enduring questions in changing contexts* (3rd ed., pp. 1199–1203). New York, NY: Routledge.

Koller, D., Ng, A., Do, C., & Chen, Z. (2013). Retention and intention in massive open online courses: In depth. *Educause Review Online*. Retrieved from http://www.educause.edu/ero/article/retention-and-intention-massive-open-online-courses-depth-0

Kram, K. E. (1988). *Mentoring at work: Developmental relationships in organizational life*. Lanham, MD: University Press of America.

Malloy, K. A., Dobbins, J. E., Ducheny, K., & Winfrey, L. L. (2010). The management and supervision competency: Current and future directions. In M. B. Kenkel & R. L. Peterson (Eds.), *Competency-based education for professional psychology* (pp. 161–178). http://dx.doi.org/10.1037/12068-009

Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, *50*, 370–396. http://dx.doi.org/10.1037/h0054346

McCallin, A., & Nayar, S. (2012). Postgraduate research supervision: A critical review of current practice. *Teaching in Higher Education*, *17*, 63–74. http://dx.doi.org/10.1080/13562517.2011.590979

McHolland, J. (1992). National Council of Schools of Professional Psychology core curriculum conference resolutions. In R. L. Peterson, J. D. McHolland, R. J. Bent, E. Davis-Russell, G. E. Edwall, K. Polite, . . . G. Stricker (Eds.), *The core curriculum in professional psychology* (pp. 155–176). Washington, DC: American Psychological Association.

McIlvried, J. (2000, August). Mentoring undergraduates: Everything you always wanted to know. In M. Page (Chair), *Mentoring across the psychology life span*. Symposium conducted at the 108th Annual Convention of the American Psychological Association, Washington, DC.

Mitchell, D. (2013). Twenty evidence-based strategies for enhancing learning. *Transylvanian Journal of Psychology, Special Issue*, 13–32.

Mulvey, T. A., & Kohout, J. L. (2010). *2008 APA student affiliate survey*. Washington, DC: Center for Workforce Studies, American Psychological Association. Retrieved from http://www.apa.org/workforce/publications/08-student/tables.pdf

Murphy, N., Bain, J., & Conrad, L. (2007). Orientations to research higher degree supervision. *Higher Education*, *53*, 209–234. http://dx.doi.org/10.1007/s10734-005-5608-9

National Council of Schools and Programs in Professional Psychology. (2007). *Competency developmental achievement levels (DALs) of the National Council of Schools and Programs in Professional Psychology (NCSPP)*. Retrieved from http://www.ncspp.info/DALof%20NCSPP%209-21-07.pdf

Noddings, N. (2011). *Philosophy of education* (3rd ed.). Boulder, CO: Westview Press.

Norcross, J. C. (2011). *Psychotherapy relationships that work: Evidence-based responsiveness* (2nd ed.). http://dx.doi.org/10.1093/acprof:oso/9780199737208.001.0001

Norcross, J. C., & Karpiak, C. P. (2012a). Clinical psychologists in the 2010s: 50 years of the APA Division of Clinical Psychology. *Clinical Psychology: Science and Practice*, *19*, 1–12. http://dx.doi.org/10.1111/j.1468-2850.2012.01269.x

Norcross, J. C., & Karpiak, C. P. (2012b). Teaching clinical psychology: Four seminal lessons that all can master. *Teaching of Psychology*, *39*, 301–307.

Ochoa, A. (2011). The scholarship of teaching: Yesterday, today, and tomorrow. *Journal of the Professoriate*, *6*, 100–116.

Patient Protection and Affordable Care Act, Pub. L. No. 111-148, 42 U.S.C. §§ 18001–18121 (2010).

Paul, G. L. (1967). Strategy of outcome research in psychotherapy. *Journal of Consulting Psychology*, *31*, 109–118. http://dx.doi.org/10.1037/h0024436

Picciano, G. (2012). The evolution of big data and learning analytics in American higher education. *Journal of Asynchronous Learning Networks*, *16*, 9–21.

Potter, M. K., & Kustra, E. (2011). The relationship between scholarly teaching and SOTL: Models, distinctions, and clarifications. *International Journal for the Scholarship of Teaching and Learning*, *5*, 1–18.

Raue, K., & Lewis, L. (2011). *Students with disabilities at degree-granting postsecondary institutions*. Washington, DC: U.S. Government Printing Office. Retrieved from http://nces.ed.gov/pubs2011/2011018.pdf

Reich, J. (2007). Laptops in class: Mend it don't end it. *Christian Science Monitor*, *99*(118), 9.

Roberts, M. C., Borden, K. A., Christiansen, M. D., & Lopez, S. J. (2005). Fostering a culture shift: Assessment of competence in the education and careers of professional psychologists. *Professional Psychology: Research and Practice*, *36*, 355–361.

Rotter, J. (1954). *Social learning and clinical psychology*. Englewood Cliffs, NJ: Prentice Hall. http://dx.doi.org/10.1037/10788-000

Schwartz, B. M., & Gurung, R. A. (Eds.). (2012). *Evidence-based teaching for higher education*. http://dx.doi.org/10.1037/13745-000

Severinsson, E. (2012). Research supervision: Supervisory style, research-related tasks, importance and quality—Part 1. *Journal of Nursing Management*, *20*, 215–223. http://dx.doi.org/10.1111/j.1365-2834.2011.01361.x

Shattuck, K., Zimmerman, W. A., & Adair, D. (2014). Continuous improvement of the QM rubric and review processes: Scholarship of integration and application. *Internet Learning*, *3*, 25–34.

Stanton, M. (2010). The consultation and education competency. In M. B. Kenkel & R. L. Peterson (Eds.), *Competency-based education for psychology professionals* (pp. 143–159). http://dx.doi.org/10.1037/12068-008

Stedmon, J., Wood, J., Curle, C., & Haslam, C. (2006). Development of PBL in the training of clinical psychologists. *Psychology Learning and Teaching*, *5*, 52–60. http://dx.doi.org/10.2304/plat.2005.5.1.52

Stoloff, M., McCarthy, M., Keller, L., Varfolomeeva, V., Lynch, J., Makara, K., . . . Smiley, W. (2010). The undergraduate psychology major: An examination of structure and sequence. *Teaching of Psychology*, *37*, 4–15. http://dx.doi.org/10.1080/00986280903426274

Vargas, J. S. (2009). *Behavior analysis for effective teaching*. New York, NY: Routledge.

Villegas, A. M., & Davis, D. E. (2008). Preparing teachers of color to confront racial/ethnic disparities in educational outcomes. In M. Cochran-Smith, S. Feiman-Nemser, D. J. McIntyre, & K. E. Demers (Eds.), *Handbook of research on teacher education: Enduring questions in changing contexts* (3rd ed., pp. 583–605). New York, NY: Routledge.

Weiner, B. (2012). An attribution theory of motivation. In P. A. M. VanLange, A. W. Kruglanski, & E. T. Higgins (Eds.), *Handbook of theories of social psychology* (Vol. 1, pp. 135–155). http://dx.doi.org/10.4135/9781446249215.n8

Wilson-Doenges, G., & Gurung, R. (2013). Benchmarks for scholarly investigations of teaching and learning. *Australian Journal of Psychology*, *65*, 63–70. http://dx.doi.org/10.1111/ajpy.12011

Yerkes, R. M., & Dodson, J. D. (1908). The relationship of strength of stimulus to rapidity of habit-formation. *Journal of Comparative Neurology and Psychology*, *61*, 319–328.

Zinkiewicz, L., Hammond, N., & Trapp A. (2003). *Applying psychology disciplinary knowledge to psychology teaching and learning: A review of selected psychological research and theory with implications for teaching practice* (Series No. 2). York, England: Higher Education Academy Psychology Network.

CHAPTER 31

# ADVOCACY

*Brian N. Baird and Michael J. Sullivan*

The topic of advocacy is a nontraditional one for a handbook of clinical psychology. Yet if not for advocacy efforts by psychologists, the training, research, and practice of clinical psychology would not exist as it does today (Lorion et al., 1996). Many of the things practicing psychologists might take for granted—licensing laws, the existence of public psychiatric hospitals and mental health clinics, compensation for psychological services under Medicare and Medicaid, student loans and grants for training, mental health care for veterans, mental health parity—all came about because psychologists, working together with elected representatives and other policymakers, helped develop or shape the laws that established, fund, or guide these endeavors. Psychologists have also been prominent in the development of many progressive policies and laws helping marginalized and vulnerable populations, including children, elderly individuals, people of color, individuals with disabilities, veterans, and lesbian, gay, bisexual, and transgender (LGBT) people.

Including a chapter on advocacy in the *APA Handbook of Clinical Psychology* recognizes the need for psychologists and graduate students to educate policymakers about the ways in which psychological services meet societal needs and merit appropriate funding. In this chapter, we discuss advocacy at a broader level than clinical psychologists' traditional support of individuals, families, and small groups. Our focus here is on psychology influencing governmental and administrative entities that make the laws, issue the regulations, and authorize funding for research, education, and health services.

In this chapter, we offer a context for understanding the importance of advocacy with all three branches of government—legislative, executive, and judicial—at both the federal and the state levels. We provide practical advice on how to advocate to officials who make the policies governing psychology as a profession. We do so from the experience of being clinical psychologists with specialized careers in this area: as a member of Congress who served for 6 terms (12 years) in the U.S. House of Representatives and responded to daily requests from constituents (Brian N. Baird) and as the American Psychological Association's (APA's) Assistant Executive Director for State Advocacy who assisted 60 state, provincial, and territorial psychological associations with organizational advocacy for psychology for 13 years (Michael J. Sullivan).

## DESCRIPTION AND DEFINITION

To advocate is to support or argue for a cause or policy ("Advocate," 2015). In our particular context, *advocacy* refers to the variety of ways in which an individual psychologist or psychology student informs and seeks help from a governmental representative or public policymaker in a purposeful effort to influence public policy. Most frequently, the individual psychologist is acting as a member of a larger organization or association of colleagues who share the same agenda. It is common practice

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for associations to enlist members to advocate on behalf of an issue. The organization amplifies the voice of the individual and maximizes her or his impact. In this way, the psychologist can act as a citizen advocate and be a crucial part of collective advocacy by organized psychology.

Advocacy is a core competency in professional psychology. APA's Competency Benchmarks define *advocacy* as "actions targeting the impact of social, political, economic or cultural factors to promote change at the individual (client), institutional, and/or systems level" (Fouad et al., 2009, p. S24). This comprehensive understanding of advocacy includes two essential components, empowerment and systems change, that are tied to specific behavioral anchors at different levels of professional development.

Effective advocacy requires a skill set that can be summarized as follows:

1. Knowing what you want and why it matters.
2. Getting to the right people.
3. Telling the right story the right way.
4. Becoming involved politically (optional but important).
5. Repeating as necessary.

The guidance offered in the following section on core activities serves as a primer on political involvement that is perhaps unique in the psychological literature, reflecting the extensive experience and insights of a psychologist who has been a citizen advocate and elected policymaker. We then summarize major achievements in advocacy by professional psychology and look toward future directions, using a new, clinically oriented organizing schema.

## CORE ACTIVITIES

Most clinical psychologists choose the profession because they want to help people have better lives. It does not take long, however, to realize that the factors shaping people's lives and opportunities extend far beyond the therapeutic relationships between psychologists and clients. The opportunities for psychologists to serve people are, in many ways, determined by external factors and advocacy, the history of which many practitioners are largely unaware. Recognizing this reality, a strong case can be made that training psychologists to influence public policy may be just as important to the well-being of clients and the success of psychologists as are any of the more traditional professional skills (Lating, Barnett, & Horowitz, 2010).

### Knowing What You Want and Why It Matters

The starting point for all advocacy efforts must be a clear understanding of what the current situation is, how it got that way, what the problem or opportunity is, what can be done to address it, and why it makes sense to do so.

Research has suggested lack of knowledge as one of the key reasons psychologists cite for not becoming involved in advocacy (Heinowitz et al., 2012). From a practical standpoint, psychologists do not need to be the world's leading expert on a topic but only to acquire and know a reasonable amount of information because the people with whom they will be meeting will count on their expertise and knowledge. This is especially the case with most elected officials, who are dealing with vast numbers of other issues besides psychology.

In some cases, psychologists' own personal knowledge of a subject will provide the basis to answer the main questions. If, for example, a specialist in working with juvenile drug abusers becomes aware of a shortage of treatment facilities, the psychologist might gather information about the incidence and prevalence of the problem, survey the available facilities in the region, compare need with capacity, review the literature on treatment effectiveness, and offer a proposal for addressing the problem.

In other situations, psychologists may not have personal experience but are working along with others in a professional association to address an issue the association's government affairs team has identified. In such instances, some education and training are typically provided before delegations of individuals visit with their representatives. In advocating for one's association, it is important to understand the issue and the messaging well, ask critical questions, consider what the representative or staff member might ask, and then practice before making the actual visits.

## Getting to the Right People

Americans are fortunate to live not only in a democracy, but in a constitutional, democratic republic. That means that citizens elect people to represent them and, as such, part of their job is to hear the concerns of citizens. Elected representatives may not always agree with all of their constituents, and citizens may not always agree with the people in office, but there is an underlying assumption that representatives and government officials should at least listen to citizens and, more fundamentally, there is a guaranteed First Amendment constitutional right to petition the government for redress of grievances. Keeping that fundamental right in mind can reduce any fear or reticence one might have about contacting an elected or agency official.

**Elected representatives.** The fundamental rule of advocacy with elected representatives is this: It is a thousand times more effective to meet with someone in person than it is to send them an email, letter, or phone message.

One often hears that people should write their representative, and there is certainly nothing wrong with doing so, but be aware that at the federal level and in large states each representative may get hundreds of communications every day. Even the most well-intentioned representative cannot possibly read all of this correspondence, so staff members typically read, sort, tally, and help prepare responses. In most offices, the elected representative will at least review the general response to an issue to be sure it is consistent with the representative's position, but it is not practical for all incoming letters to come to the personal attention of the representative.

Compare that reality with the impact of a personal meeting, either in the representative's office or at a public forum such as a town hall. Those settings are the best opportunities to advocate, and certain guidelines can help psychologists be most effective and, more important, help ensure that the effect will be a desired one rather than something counterproductive.

One of the best opportunities to meet personally with a representative or at least with staff is through a personal visit to the representative's office. Representatives and senators at the federal level have offices in Washington, DC, and in their state or district. State legislators may not all have district offices, but they do spend time in their district and often have regular places for meetings with constituents. Every elected legislator likely has designated staff who take requests for meetings with constituents and try to schedule such meetings as the time and priorities of the representative allow. This scheduling is not an easy task because the demands on the time of an elected official typically outweigh the time available.

To get on the calendar, think strategically and make the case relevant from both a policy and a political perspective. Letting the scheduler know who you are, why you want to meet with the representative, and why it matters is essential. As a general rule, the less time you ask for, the more likely you are to get at least some time. Being demanding or exhibiting negative attitudes, such as rudeness or discourtesy, will surely be counterproductive; in contrast, patience, understanding, and gentle persistence can go a long way.

**Legislative staff.** It is not at all uncommon to not have a personal office meeting with an elected representative but to instead meet with his or her designated staff member, often referred to as a *legislative assistant (LA)*. This is sometime seen by beginning advocates as a sign that one is not taken seriously, but avoid that conclusion, keeping in mind how busy representatives are. How, for example, could one person simultaneously attend two committee hearings, meet with three different constituent groups, vote on the floor of the House, and attend a fundraiser? Simultaneous demands such as these are typical in the daily life of members of Congress.

Staff, therefore, are extremely important—indeed essential. Effective advocates recognize that importance and value the staff's time and expertise. Ultimately, it is often staff who make recommendations to the elected official about what legislation should or should not be cosponsored or voted for or against and why. Recognizing this, success with an elected representative involves cultivating and maintaining a relationship with his or her staff.

**Agency officials and staff.** Advocacy is often thought of as involving communications with

elected officials, that is, dealing with the legislative branch of government. However, a great deal of authority and decision making reside with agency officials in the executive branch of government. For example, in a process called *rule making*, agencies are tasked with implementing the details of laws that have been passed by legislative bodies. Just as it is important to identify which elected officials should be contacted, understanding and connecting with the right agency leaders and staff can make the difference between success or failure of advocacy. As a general rule, psychologists should be familiar with the following: state professional licensing or certification agencies, agencies managing health care programs, public assistance agencies, and education agencies. The actions of these agencies can have a direct impact on the profession and practice of psychologists.

In contrast to the essential impact of personal visits with elected officials, in most cases agencies respond as well or better to written input during public comment periods. These periods are typically required to allow the public to offer comments about rules, regulations, or other actions that an agency is proposing. Because most clinical psychologists will not have the time or expertise to monitor agency rule making, professional association staff or volunteers make it their business to track both the legislative process and the agency rule-making process for their members. Getting on the advocacy email list or other information mechanisms can help one stay informed so that one can offer educated input into the process when called on.

Although earlier we emphasized that in-person meetings with elected officials should be the focus of advocacy, in the case of agencies the tracking of rule making and offering written comments can be quite effective. At the very least, when important matters are under consideration and psychology has a stake in them, psychologists do not want that position to be omitted from the formal record or from the information the agency staff take into consideration. One question that often comes up regarding advocacy with agencies or elected officials is whether it is necessary to register as a lobbyist or pay special fees to advocate with one's representative. At the federal level, all individual citizens have a right to speak with their representative or with agency officials without filing any special paperwork or registration unless one is paid for providing such services. Even then, the pay and time spent on lobbying must exceed certain amounts. Each state handles lobbying registration differently: In some states, even unpaid citizen activists who regularly advocate with elected officials or agencies have to file simple registration and keep track of whom they visit and when. This is not usually a particularly burdensome requirement, and it should not dissuade psychologists from advocacy.

## Telling the Right Story the Right Way

Well-crafted messages that are both good politics and good policy can and do find their way into law and policy. The psychologist's job is to prepare the best ways to tell a story that will resonate with elected representatives and achieve the desired result.

**During an office visit.** If you manage to get on the schedule of your elected representative, you are most likely to have 15 minutes or less for the meeting. This may not seem like much time, but relative to all the demands on the elected representative, this is actually quite a lot of time, so make the most of it. Remember that 15 minutes on any given day will be in the context of perhaps as many as 20 other such meetings with other constituents, all of whom are equally concerned about and committed to their own issues.

Hearing this reality might lead one to despair that there is no way to exert an impact, but there are important things to keep in mind that can make your direct office interactions impactful:

1. *Remember to think like a psychologist*. This means, among other things, thinking about with whom you are meeting. What are her or his interests, needs, and goals? What do you know about his or her background? What does psychological research in general tell us about persuasion and change? What does research on decision making and heuristics tell us about how information is most effectively conveyed? As you think about these things, be mindful of the many competing

interests and pressures on elected officials and agency personnel.

2. *Be polite and respectful*. You may not agree with an individual you are seeking to influence, and you may even dislike the person for a number of reasons. But ask yourself whether theory or research into behavior change has suggested that being hostile, condescending, or critical would have a positive impact. It takes a remarkably objective and thick-skinned representative or staff member to consider the merits of an argument without being put off by an adverse tone or, worse, to purposefully take a contrary position simply out of spite. The goal in advocacy is not to vent one's spleen or win an argument but rather to have a specific desired impact.

Advocacy messages need to be crafted intentionally and strategically, and stated in as few, yet as impactful, words as possible. Here is an example:

> Congresswoman, first of all, thank you for taking your valuable time to meet with us. We know of your interest in the well-being of young people, which is why we have come to speak to you today. In your congressional district, an estimated [number] of young people abuse and are addicted to dangerous drugs, most commonly heroin or methamphetamine. These youngsters need and can benefit from effective interventions, but only [number] residential treatment programs exist in your district. That's why we're asking you to support H.R. [bill number], which would provide matching funding to local communities that establish and maintain treatment programs for adolescents. As clinical psychologists, we work with young people, and we know the research demonstrates that, if treated early in supportive environments, they can turn their lives around. We have brought with us today stories of several young people from your district and a letter from a parent, [name], who as you know is prominent in the community of [name] and has chosen to speak out so others can receive the kind of help her own daughter received. We would be happy to answer any questions you might have or offer any support we can for this effort.

Note the following about this summary. First, it is brief. Second, it provides the key information and makes it relevant by including facts related to the representative's district. Third, it proposes a solution. Fourth, it makes the story personal and human by including an individual example. The final element, which is not included in the preceding description, is "an ask": a specific, direct request for an action. The reason it was not yet presented is because it's best to first give a person time to process the information, have a chance to discuss it, and then make the request.

At this point, one of a few things usually happens. Either the person says she or he will sign on as requested or, more typically, says she or he will review the information and take it under consideration. If the person says she or he will cosponsor, that is a wonderful result. Then you can express your appreciation and offer to convey the good news to others in your professional community who also support the legislation.

If there is not an immediate commitment to take the requested action, do not be disappointed. You may have helped move this person from the precontemplation stage of behavior change to the contemplation stage (Prochaska & Norcross, 2002).

**At town halls.** As an alternative or in addition to meeting directly with an elected representative in his or her office, psychologists can speak about their issue at a town hall or other public forum. In contrast to the already brief message of the 15-minute office visit, a town hall meeting requires a statement or question that is no more than 1 minute long. Such brevity can prove challenging, especially for academics, but lengthy polemics are off-putting to the rest of the audience and unlikely to have a positive impact on the representative.

For most people, such brevity does not come naturally, especially if they are understandably nervous about standing up and speaking at a town hall. To deal with both the need for brevity and a bit of

anxiety, practice what you want to say with others and ask them to give you honest feedback about whether what you are saying makes sense, is compelling, and is brief. Do not assume you will know what to say and will say it well when the time comes. This is a unique opportunity, one not to be wasted.

It is perfectly acceptable to bring along written material to leave with the representative or with staff. However, keep in mind that here again brevity is a virtue and relevance is a necessity. Lengthy white papers are unlikely to be read or have an impact. By comparison, succinct, focused summaries that get across the essential information, make it relevant to the policymaker, and contain a specific, achievable request are much more likely to be successful.

**Using media and public opinion.** It is helpful to think of other ways psychologists can communicate their message and thereby indirectly amplify direct advocacy efforts. Media campaigns and third-party validators are two useful elements of such efforts.

Remember that elected and agency officials must deal with many issues and with multiple interest groups. It is one thing to ask an elected official or agency to take an action if you are a professional with a vested interest or subject expertise. That may have some effect, but your message will be much more successful if it is amplified by media coverage and public awareness so that a great many constituents, not only professionals, will understand and care about the issue. Particularly for an elected representative, knowing that the public is aware of and cares about an issue makes it much more appealing politically. The combination of good policy and good politics should be your goal because it is certainly the goal of most successful elected and agency personnel.

In the political world, gaining media attention for an issue is known as "earned media," in contrast to paid media such as campaign ads. Many issues do not lend themselves easily to earned media efforts, but others are prime opportunities if people recognize the potential and craft a compelling story. The take-home message here is to consider what would be the take-home message for a media story. Ask yourself, "What would be interesting about this and who would care?"

Consider a psychologist who is interested in improving psychological services for runaway teens. The psychologist might approach a legislator and share the factual information about the number of teens in need, the scarcity of treatment programs, the risks the teens face, and so forth. That alone might do some good, but imagine how much more effective it would be if the psychologist also built a media strategy to package the story, then give an elected representative an opportunity to be part of the story in the role of caring, responsible problem solver.

Elected officials and their staff consume the media like anyone else and, perhaps even more important, so do voters. If a special report airs and gets good viewer response, it will be much more appealing for the elected official to support a policy than it would be if the public was unaware of the problem. It is even better if the elected official can be made aware of the issue beforehand and somehow be in the story as a hero fighting for the solution. Again, when good policy meets good politics, the chances of success are much improved.

Closely related to and occasionally part of media advocacy is the strategy of enlisting third-party validators. A third-party validator is typically an individual or entity that provides supportive input or public statements. On occasion, a professional association is itself a third-party validator for an issue. That means an elected or agency official or perhaps the media may reference the professional expertise of an association, an individual professional, or research in support of a particular policy.

Third parties can also include celebrities. For better or worse, celebrities draw the attention of the public, and having a well-known person speak out on a position can go far to draw public and politician attention and ensure crowded committee hearings.

## Becoming Involved Politically (Optional but Important)

Psychologists often express a belief that the best way they can influence public policy is to provide a lengthy white paper or in-person expertise on policy. The reality, however, is that the biggest problem for most politicians is not the need for

more information; rather, it is having too much information and too little time. If you want to help an elected official and influence policy, first help to elect the official. This reality should not come as a surprise. Ask yourself if you would personally be more likely to listen to someone if you knew they had worked hard or contributed generously to support your own election efforts. This does not mean that campaign contributions or volunteering will buy access but that if the people who would support positions you care about do not win their elections, they cannot very well promote those policies in office.

**Supporting campaigns.** If campaign involvement and political fundraising seem distasteful to you, welcome to the world of the politician. Like you, many politicians would much rather keep the money and fundraising out of it entirely and focus on policy and personal interactions. Until the United States establishes publicly financed campaigns, however, candidates need funds to run their organizations and pay for the broadcast, print, online and other media it takes to get their name and message out.

A colleague once said, "I just don't want to do all this. It's not how I want to be involved." That is perfectly understandable, and psychologists can still have input and advocate effectively without being politically involved. At the same time, do not be surprised when people you support and who might support your issues lose elections because the other candidate had more resources and more supporters, ran more ads, and, at the end of the day, got more votes.

On the positive side of political involvement, those who have become involved in volunteering and fundraising for candidates they believe in can testify that it is tremendously satisfying when their work, and, yes, their dollars, help that person win an election and serve their district, state, or nation. Politically engaged colleagues will also tell you that having helped in such ways often builds lasting relationships with the elected representatives and their staffs, relationships that can prove more effective and successful in your advocacy efforts.

The question then becomes how best to be involved in politics. Like it or not, let's start with money. Few psychologists can afford to be big donors, but that does not mean political fundraising and contributions cannot be part of an advocacy strategy.

Several possibilities exist for this. Perhaps the easiest is to contribute to your professional association's political action committee, or PAC. PACs serve to concentrate money and are allowed by law to give more in direct contributions to candidates than can be given by single individuals. More important, PACs for professional groups are associated explicitly by name with the association. In psychology, the main PAC at the federal level is the American Psychological Association Practice Organization PAC (APAPO-PAC). When psychologists contribute to this PAC, the money is combined with that of multiple contributors to allow the PAC directors to write a larger check to candidates who are strategically identified as being most important to the key issues in question at the time. From a candidate's perspective, it is clear that a check coming from a PAC with *Psychological Association* as part of its name is connected with psychologists. That connection might not at all be obvious if you write a smaller individual contribution directly to the candidate.

Along with or as an alternative to contributing to a PAC, psychologists can be more personally involved by attending fundraisers. Such events can provide yet another opportunity for personal interaction with a candidate or elected person. This is particularly the case if the fundraiser is in a small venue, such as a private house, or if there is a relatively exclusive event, which can sometimes be reserved for higher level contributors. In most cases, these smaller fundraisers involve opportunities to mingle, during which psychologists may meet briefly and directly with the individual. There may also be brief question-and-answer periods in which attendees can raise issues.

In this context, perhaps the best way of ensuring that your issue will have a chance to be heard is for you to be the host of the event. Here, again, it is possible to work with the PAC to make this happen. If there is a candidate or elected official whose support for an issue is or would be particularly important, consider contacting his or her campaign

and offering to host an event. Be aware that if you do this, you will also be expected to raise a certain minimal dollar amount. Often, a candidate will have paid staff fundraising professionals who will help with the details of setting up a fundraiser.

**Volunteering on campaigns.** As expensive and money-driven as modern campaigns are, there is still a strong need for grassroots volunteers. As psychologists contemplate becoming involved in a campaign, such a variety of tasks need to be performed that there is usually a place for almost every person or ability. Volunteers can sign up for everything from direct public interaction, such as through knocking on doors or leafleting houses, to behind-the-scenes tasks like data entry, preparing campaign packets, or even helping to keep the campaign office organized. Not all of these activities will give you a high profile or direct access to a candidate, but if the person you support wins the election, the ability to say, "I was proud to work on your campaign" is a pretty good way to introduce yourself.

**Seeking elective office.** As influential as it can be for psychologists to advocate with elected officials and agency staff, there is nothing more effective than having psychologists on the inside directly crafting policy as members of elected bodies. In some respects, this might be considered the ultimate form of advocacy. Several psychologists have served in Congress, including Ted Strickland (Ohio, 1993–1995, 1997–2007); Brian Baird (Washington, 1999–2011); Tom Osborne (Nebraska, 2001–2007); Tim Murphy (Pennsylvania, 2003–present); Judy Chu (California, 2009–present); and Alan Lowenthal (California, 2013–present). Many other psychologists have served in state legislatures and in local office.

A number of psychologist legislators have contributed firsthand accounts of their motivations and experiences in seeking and serving in public office (e.g., Sullivan et al., 1995; Sullivan & VandenBos, 2002). Psychologists considering this specialized career path can learn much from these accounts.

Not surprisingly, psychologists in elected office have had strong involvement in mental health, education, vulnerable populations, and other issues directly related to the work of the profession. At the same time, their research and statistical training plus understanding of science have enabled psychologists in office to contribute significantly to many other policy areas. Currently, Representative Tim Murphy has proposed major reforms to the nation's mental health system (the Helping Families in Mental Health Crisis Act) that are shining a spotlight on the unmet needs of families living with serious mental illness (Murphy, 2013). This is but one illustration of why the more psychologists who serve, the better it is for the profession and for their states and the nation.

**Serving in appointed office.** Serving in the executive branch of government may be a more accessible form of involvement in public policymaking for most psychologists than getting elected to the legislative branch. Significant numbers of psychologists have served as agency heads and commissioners and in other public administrative and public policy roles. These positions frequently entail considerable responsibility for shaping the delivery of educational and health services, in which psychologists have extensive expertise. The firsthand accounts of psychologists who have served in such positions serve as instructive guides (e.g., Sullivan, 1997; Sullivan et al., 1998).

## Repeating as Necessary

The final key element of effective advocacy is to repeat the process as necessary until you achieve your goal. Persistence and perseverance prove essential (DeLeon et al., 2006). It is extremely rare—indeed, it almost never happens—that a single visit is so persuasive that a representative decides to champion a cause and then proceeds directly to legislative success. That should not be discouraging so much as it should encourage psychologists to stay at it, work with others, and be persistent.

Far more typical is a long process of repeated visits with multiple representatives over the course of a number of years before success is achieved. So, too, legislation evolves and is modified, compromises are reached, and coalitions are formed but, eventually, good things can happen. This process rewards constituents who are well informed, who are reasonably concise in their presentations, who meet personally and in public forums with their elected officials, who provide additional information, and who repeat their message on a consistent basis. If psychologists

follow that example, then the eventual chances of success will be much improved.

In the final analysis, this discussion of the core activities of advocacy entails a commitment to exercise civil rights. Just as clinical psychologists entered the field with a commitment to helping others, advocacy, when practiced for the right reasons and in the right ways, can serve that same function. Psychologists can personally make a great difference for the profession, their clients, and their community.

## MAJOR ACHIEVEMENTS

The discussion thus far has focused largely on how and why to engage in advocacy, but it is also important to appreciate the contributions already made by psychology advocates. Advocacy for clinical psychology has a long history of success achieved by APA; the state, provincial, and territorial psychological associations (SPTAs); and allied psychological organizations such as the National Register of Health Service Psychologists, and the Association of State and Provincial Psychology Boards. Groups of individual clinical psychologists, such as the self-named "Dirty Dozen" forefathers of the profession (Wright & Cummings, 2001), have also been successful advocates.

Since World War II, these entities have acted, alone or in combination, to achieve landmark developments in the evolution of professional psychology. These achievements can be summarized as falling into five clusters that roughly correspond to chronological eras and that have similar developmental content. They include psychology licensure laws, enabling provision of care; third-party coverage of psychological services, guaranteeing reimbursement of care; mental health parity laws, ensuring equality of care; expanded roles in health services delivery, increasing access to care; and effective policies for vulnerable populations, reducing disparities in care.

### Psychology Licensure Laws: Enabling Provision of Care

Licensure laws established the statutory basis for psychology as a profession, beginning with Connecticut in 1945 and ending with Missouri in 1977 (Reaves, 2006). These original laws included licensure statutes that delineated a scope of practice for psychology, as well as a handful of certification laws that protected only the title *psychologist*. Over time, these laws have had to be revisited or revised, either because of legislative sunsetting provisions, changing title protection to full scope-of-practice acts, or expanding scope of practice.

The amount of advocacy work that goes into passage or modification of a licensing law should not be underestimated. This is where many expensive turf battles are played out among competing professions, such as psychology's experience of being historically opposed by organized psychiatry at every statutory expansion of its clinical autonomy (e.g., Resnick, 1997). Intraprofessional rivalries sometimes surface with licensure legislation as well, such as differential titles and practice granted to doctorally trained psychologists and master's-level psychological assistants in some states.

Because professions are licensed and regulated at the state level, the state psychological associations have played a central role in advocating for licensure laws. APA has long supported and empowered the SPTAs, beginning with the first Model Act for State Licensure of Psychologists in 1955, through the "sunset crisis" of the late 1970s when psychology licensure laws began to expire, and to more recent years. The APA Practice Directorate and later the APA Practice Organization have provided large amounts of technical support and financial assistance through grants to SPTAs from the Committee for the Advancement of Professional Practice, to help them defend and expand the scope of practice of psychology.

The essential connection between licensure laws and advocacy is highlighted in the fact that APA's leading award for advocacy is named for a proponent of Connecticut's pioneering licensure law. Since its inception in 1993, nearly 500 psychologists have been honored for their advocacy work with the APA Karl F. Heiser Award for Advocacy (APA Division 31, 2015). They represent a cadre of seasoned advocates in the profession.

### Third-Party Coverage of Psychological Services: Guaranteeing Reimbursement

The pioneers in advocacy achieved many successes in getting insurers to pay for psychological services.

A major initiative was freedom-of-choice laws that required insurers to reimburse psychological services if they reimbursed mental health services offered by other providers. These direct recognition laws started in New Jersey and Michigan in 1969 and were eventually adopted by more than 40 states and the District of Columbia, with most enacted by the early 1980s (Resnick, 1997).

As often happens in advocacy, passage of a law does not guarantee immediate resolution of the problem the law was intended to address. In a landmark ruling in 1980, a Federal Court of Appeals upheld an antitrust lawsuit brought by the Virginia Academy of Clinical Psychologists and future APA president Robert Resnick against Blue Shield of Virginia. This decision eliminated the insurer's requirement that psychologists' services be supervised and billed through physicians in clear defiance of the state's freedom-of-choice statute (Resnick, 1985).

Major advocacy gains also took place at the federal level during this era. Recognition of psychologists for reimbursement purposes became the norm in a wide range of programs, including programs of the Social Security Administration, the Civilian Health and Medical Plan for the Uniformed Services, and the U. S. Civil Service Commission (Fox, 2008). Arguably the most important gain occurred later in this era when Congress added psychologists as independent providers under the Medicare program in 1989 (Buie, 1990). This advance was the direct result of concerted advocacy efforts by APA's Practice Directorate and the SPTAs (Welch, 1990). It greatly expanded the number of citizens with access to covered psychological services in the future.

## Mental Health Parity Laws: Ensuring Equality of Care

Many individuals and organizations in the mental health community worked for decades to achieve coverage of mental health benefits by insurance companies that equaled coverage for medical benefits. This struggle to achieve parity exemplified several key dynamics in advocacy: the long-term commitment needed to build on incremental progress, the importance of coalitions in magnifying political influence, the function of states as laboratories of democracy, and the successive legislative approximations needed to achieve the final goal.

Several states were early adopters of minimum mandated mental health benefits laws in the 1970s and 1980s. By the 1990s, a growing number of states had passed limited forms of mental health parity (National Conference of State Legislatures, 2015). These state experiments seeded the receptiveness of Congress to take action that would apply to insurers and federal programs that were beyond the reach of state regulation. The Mental Health Parity Act of 1996, championed by Senators Paul Wellstone (D-Minnesota) and Pete Domenici (R-New Mexico), became the first federal law to equalize lifetime limits and annual limits for mental health benefits with those for medical and surgical benefits. As such, it had great symbolic importance. However, it did not apply to copays and deductibles, nor did it cover substance abuse services.

After the enactment of additional parity laws in the states in subsequent years, Congress passed the historic Paul Wellstone and Pete Domenici Mental Health Parity and Addiction Equity Act in 2008. This law provided for equality of mental and physical benefits beginning in 2010, extending this coverage for behavioral health services to millions of Americans not previously covered by state laws. Even so, this law did not mandate coverage if insurance plans did not cover mental health and addiction services.

Only with the passage and subsequent rulemaking for the Patient Protection and Affordable Care Act were mental health and substance abuse disorder services defined as an essential health benefit that must be offered by most insurance plans, at parity with medical and surgical benefits. An estimated 62 million Americans in individual and small-group markets gained access to these benefits beginning in 2014 (U.S. Department of Health and Human Services, 2013). All told, it had taken the better part of four decades to achieve this unprecedented outcome. Like the struggle for civil rights laws, to which it has sometimes been compared, the fight for mental health parity represented a multigenerational effort by advocates who ultimately prevailed by dint of their vision and persistence in engaging the political process.

## Expanded Roles in Health Services Delivery: Increasing Access to Care

Two major areas of grassroots advocacy at the state level have generated noteworthy expansions of clinical psychology's involvement in health services. The first movement involved hospital privileges, or the recognition of psychologists' autonomy in providing clinical services in hospitals and having a full voice in hospital policymaking by medical staffs. California pioneered the way with the first hospital practice statute for psychology in 1978 (Dörken, 1983), and 17 additional states had followed suit through the end of the 1990s. The hospital privileges movement focused on improving access to psychologists' care in the most common institutional setting in which medical services were delivered. In promoting continuity of patient care when a psychologist's patient was hospitalized, this movement expanded the traditional focus of clinicians beyond solo practitioner office settings.

California's history with hospital privileges illustrates—again—the repetitive nature of advocacy sometimes needed to bring about enduring change. The state's original law had to be amended three subsequent times (1980, 1996, 1998) in efforts to ensure full implementation of the letter and spirit of the law across both private and public hospital settings. It also had to be litigated by a private group of psychologists with substantial assistance from APA in the 1990 landmark case of *California Association of Psychology Providers v. Rank* (1990). In that case, the California Supreme Court ruled that psychologists were permitted to have primary responsibility for patient care and did not require psychiatric supervision (Enright et al., 1990). The advent of managed care with dramatic decreases in hospital lengths of stay eventually stalled the momentum of the hospital privileges movement.

The second movement concerns prescriptive authority, or the ability of psychologists with postdoctoral education and training in psychopharmacology to prescribe medications. This movement began with a U.S. Department of Defense Psychopharmacology Demonstration Program in the early 1990s, championed by Senator Daniel Inouye of Hawaii (Newman et al., 2000). The movement accelerated in the first decade of the 2000s (Fox et al., 2009) and is ongoing, with laws authorizing psychologists to prescribe being enacted in New Mexico (2002), Louisiana (2004), and Illinois (2014). The territory of Guam and the State of Indiana enacted statutory prescribing provisions in the 1990s that have yet to be implemented, and the legislatures of Hawaii and Oregon passed prescriptive authority bills that suffered gubernatorial vetoes in 2007 and 2010, respectively. The APA Practice Organization has facilitated the state initiatives and implemented credentialing of prescribing psychologists through its Psychopharmacology Examination for Psychologists.

The prescriptive authority movement improves access to the full range of mental health care in underserved and rural areas in which there are more psychologists than psychiatrists. It also promotes a uniquely psychological model for prescribing (Newman, 2000), which has been described as "no pills without skills" and also as the ability to "unprescribe" when indicated (Clay, 2014). This evolution in psychology's training and practice mirrors similar advances in scope of practice made by other nonphysician health care professions such as optometrists, dentists, nurse practitioners, and pharmacists.

A final example of the expansion of psychological services in health care delivery was the adoption of the six new health and behavior Current Procedural Terminology billing codes in 2002 (APA Practice Organization, 2004). These codes allowed psychologists, for the first time, to bill for a variety of services delivered in the prevention, treatment, and management of physical health problems without the necessity of making a mental health diagnosis. The APA Practice Directorate and other key APA representatives developed and won inclusion of the codes in the Current Procedural Terminology manual published by the American Medical Association.

## Effective Policies for Vulnerable Populations: Reducing Disparities in Care

Psychology advocacy has not been restricted to internal matters of practice. Individual psychologists have long been at the forefront of developing programs and laws helping vulnerable populations, such as the Head Start program (Zigler, 2010). The archetypal achievement in public policy advocacy was the work

of psychologists Kenneth and Mamie Phipps Clark with the National Association for the Advancement of Colored People in the 1954 Supreme Court case *Brown v. Board of Education* (Benjamin & Crouse, 2002). Their psychological research was instrumental in having the Court find that racial segregation in schools was psychologically damaging to children and, therefore, unconstitutional. Changing the entire educational policy of the nation epitomizes the reach of inspired advocacy.

Through initiatives of its Public Interest and other directorates, APA has advocated extensively to improve services for vulnerable and underserved populations. These populations include children, youths, and families; aging individuals; ethnic minorities and people of color; individuals with disabilities; people with HIV and AIDS; residents of rural areas; victims of trauma, violence, and abuse; victims of natural disasters; veterans; and others. These groups suffer a higher burden of illness, injury, disability, or mortality and have less access to quality care than other populations. Such disparities in health and health care are being addressed, in part, through a major advocacy achievement of APA's Education Directorate, the Graduate Psychology Education program.

The federal government has long funded medical training and schools through its Graduate Medical Education program. Psychology training and departments were historically excluded from such federal support until APA successfully advocated with Congress to establish the Graduate Psychology Education program in 2002. This achievement concretized federal recognition of the importance of psychology education and training, with the program awarding 137 grants totaling $49 million to doctoral, postdoctoral, and internship programs to date. Equally important, by administering the Graduate Psychology Education program in the federal agency responsible for designating health professional shortage areas (the Health Resources and Services Administration), the behavioral and mental health needs of vulnerable and underserved populations are being addressed (U.S. Department of Health and Human Services, 2015). Psychology trainees are trained alongside other health professionals in integrated health care settings, making this program a model interdisciplinary effort to reduce disparities in health and health care.

In concluding this review of major achievements by psychology advocates, we want to make note of advocacy training opportunities that are available for clinical psychologists. APA offers an online Continuing Education module on advocacy. The APA Practice Directorate pioneered the State Leadership Conference in the mid-1980s, which brings the leaders and staff of all 60 SPTAs to Washington, DC, every year for advocacy training and visits to Capitol Hill (Sullivan, Newman, & Abrahamson, 2007). State psychological associations provide advocacy training through legislative days in state capitols. Volunteering for leadership roles in SPTAs can lead to real-world experience in effecting systems change at the societal level, in contrast to traditional clinical change at the individual and small-group levels. Both APA and SPTAs provide mentoring opportunities (Burney et al., 2009).

## FUTURE DIRECTIONS

We anticipate that the following areas are among those that will require advocacy by clinical psychology in the future.

- *Psychology licensure laws*. Advocacy efforts will target confusing variations in licensure requirements across different states that currently impede professional mobility and interjurisdictional practice (DeMers, Van Horne, & Rodolfa, 2008). Both the Association of State and Provincial Psychology Boards and the National Register of Health Service Psychologists have adopted mobility mechanisms that have partially succeeded in addressing this problem. Psychology's capacity to deliver a full range of services will be affected by further progress, or the lack thereof, in this area.
- *Third-party coverage of psychological services*. States are on the cusp of passing statutes sought by medical societies to authorize and reimburse the practice of telemedicine. SPTAs and local psychologists need to ensure that these laws include provisions for telepsychology (Drude, 2015). Unlike the history with Medicare, this is psychology's opportunity to get in on the ground

floor of new technology-driven reimbursement systems.

- *Mental health parity laws*. Psychology will continue to play a major role in mental health coalitions seeking full implementation and enforcement of the Mental Health Parity and Addiction Equity Act of 2008. In addition, psychology faces its own cultural challenge of increasing participation and eligibility for reimbursement in Medicaid, especially because the Patient Protection and Affordable Care Act has significantly expanded the number of Medicaid patients eligible for parity coverage (Clay, 2015; see Chapter 32, this volume).
- *Expanded roles in health services delivery*. The number of states granting prescriptive authority to appropriately trained psychologists will increase, however slowly, as a result of sustained grassroots advocacy (Fox et al., 2009). More federal facilities, besides the military and the U.S. Public Health Service, will authorize prescriptive authority for state-licensed prescribers. These initiatives are a subset of many evolving practice pattern changes that will increase overall partnerships between psychology and primary care (McDaniel & deGruy, 2014).
- *Effective policies for vulnerable populations*. Continued advocacy efforts by stakeholders, including psychologists, will target disparities in health and health care. This will unfortunately be necessitated by media coverage of crises involving groups such as children of immigrant parents; high school dropouts who are subsequently incarcerated; lesbian, gay, bisexual, and transgender victims of school bullying; and psychiatric patients who fall through the cracks of the mental health system. More psychology training programs will address the needs of vulnerable populations with the incentive of Graduate Psychology Education funding; this will sensitize a greater number of psychologists to the need for engaging in social justice advocacy.
- *Support for psychological and social science research*. As a research-guided profession, psychology contributes to and depends on basic and applied research within the field and across the social sciences. Federal funding for such research regularly comes under scrutiny and in some cases direct attack from some political sectors. This trend has been increasing in recent years, and psychologists will need to anticipate and respond effectively to such measures to sustain the research that will continue to advance knowledge and the profession (e.g., APA Science Directorate, 2015).

Finally, we anticipate the development of a culture of advocacy in psychology (Lating et al., 2010). Such a culture can be driven by an overarching vision of how psychology can improve health and make people's lives better and, one hopes, will be internalized more and more as part of the professional identity of practicing psychologists (Lorion et al., 1996). Such a culture will include routine training in advocacy in psychology graduate programs; up until now it has mostly been done in some of the professional schools and by the American Psychological Association of Graduate Students (Lating et al., 2010; Martin, 2006). A culture of advocacy will recognize that advocating for the profession's interests and giving back to society are not mutually exclusive—quite the contrary. A culture of advocacy will recognize that psychologists are citizens in a helping profession, and that if we take care of society, society will take care of us.

## References

Advocate. (2015). *Merriam-Webster Dictionary*. Retrieved from http://www.merriam-webster.com/dictionary/advocate

American Psychological Association: Division 31. (2015). *Karl F. Heiser Presidential Award for Advocacy*. Retrieved from http://www.apadivisions.org/division-31/awards/heiser.aspx

American Psychological Association Practice Organization. (2004). *Health and behavior CPT codes*. Retrieved from http://www.apapracticecentral.org/reimbursement/billing/secure/new-codes.aspx

American Psychological Association Science Directorate. (2015). *Stand for science* [Briefing sheet]. Retrieved from http://www.apa.org/about/gr/science/stand-for-science.aspx

Benjamin, L. T., Jr., & Crouse, E. M. (2002). The American Psychological Association's response to Brown v. Board of Education: The case of Kenneth B. Clark. *American Psychologist*, *57*, 38–50.

Buie, J. (1990). Medicare victory caps 25-year political effort. *APA Monitor*, *21*(1), 18.

Burney, J. P., Celeste, B. L., Johnson, J. D., Klein, N. C., Nordal, K. C., & Portnoy, S. M. (2009). Mentoring professional psychologists: Programs for career development, advocacy, and diversity. *Professional Psychology: Research and Practice*, *40*, 292–298. http://dx.doi.org/10.1037/a0015029

California Association of Psychology Providers v. Rank, 793 P.2d 2, 796 (Calif. 1990).

Clay, R. A. (2014). On the reservation: How prescribing psychologists are improving access to care at one Indian Health Service facility. *Monitor on Psychology*, *45*(8), 46–49.

Clay, R. A. (2015). Removing barriers to Medicaid. *Monitor on Psychology*, *46*(5), 63–64.

DeLeon, P. H., Loftis, C. W., Ball, V., & Sullivan, M. J. (2006). Navigating politics, policy, and procedure: A firsthand perspective of advocacy on behalf of the profession. *Professional Psychology: Research and Practice*, *37*, 146–153. http://dx.doi.org/10.1037/0735-7028.37.2.146

DeMers, S. T., Van Horne, B. A., & Rodolfa, E. R. (2008). Changes in training and practice of psychologists: Current challenges for licensing boards. *Professional Psychology: Research and Practice*, *39*, 473–479. http://dx.doi.org/10.1037/0735-7028.39.5.473

Dörken, H. (1983). Advocacy and the legislative process: Representation in a changing world. *American Psychologist*, *38*, 1210–1215. http://dx.doi.org/10.1037/0003-066X.38.11.1210

Drude, K. P. (2015). Movement for interstate psychology practice advances. *National Psychologist*, *24*(3), 5.

Enright, M. F., Welch, B. L., Newman, R., & Perry, B. M. (1990). The hospital: Psychology's challenge in the 1990s. *American Psychologist*, *45*, 1057–1058. http://dx.doi.org/10.1037/0003-066X.45.9.1057

Fouad, N. A., Grus, C. L., Hatcher, R. L., Kaslow, N. J., Hutchings, P. S., Madson, M. B., . . . Crossman, R. E. (2009). Competency benchmarks: A model for understanding and measuring competence in professional psychology across training levels. *Training and Education in Professional Psychology*, *3*(4, Suppl.), S5–S26. http://dx.doi.org/10.1037/a0015832

Fox, R. E. (2008). Advocacy: The key to survival and growth of professional psychology. *Professional Psychology: Research and Practice*, *39*, 633–637. http://dx.doi.org/10.1037/0735-7028.39.6.633

Fox, R. E., DeLeon, P. H., Newman, R., Sammons, M. T., Dunivin, D. L., & Baker, D. C. (2009). Prescriptive authority and psychology: A status report. *American Psychologist*, *64*, 257–268. http://dx.doi.org/10.1037/a0015938

Heinowitz, A. E., Brown, K. R., Langsam, L. C., Arcidiacono, S. J., Baker, P. L., Badaan, N. H., . . . Cash, R. E. (2012). Identifying perceived personal barriers to public policy advocacy within psychology. *Professional Psychology: Research and Practice*, *43*, 372–378. http://dx.doi.org/10.1037/a0029161

Helping Families in Mental Health Crisis Act of 2015, H.R. 2646, 114th Cong.

Lating, J. M., Barnett, J. E., & Horowitz, M. (2010). Creating a culture of advocacy. In M. B. Kenkel & R. L. Peterson (Eds.), *Competency-based education for professional psychology* (pp. 201–208). http://dx.doi.org/10.1037/12068-011

Lorion, R. P., Iscoe, I., DeLeon, P. H., & VandenBos, G. R. (1996). *Psychology and public policy: Balancing public service and professional need*. Washington, DC: American Psychological Association.

Martin, S. (2006). Lessons in advocacy. *gradPSYCH Magazine*, *4*(2). Retrieved from http://www.apa.org/gradpsych/2006/03/advocacy.aspx

McDaniel, S. H., & deGruy, F. V., III. (2014). An introduction to primary care and psychology. *American Psychologist*, *69*, 325–331. http://dx.doi.org/10.1037/a0036222

Mental Health Parity Act of 1996, Pub. L. No. 104-204, 110 Stat. 2944.

Murphy, T. (2013). *Helping families in mental health crisis act*. Retrieved from http://murphy.house.gov/helpingfamiliesinmentalhealthcrisisact#BillInformation

National Conference of State Legislatures. (2015). *Mental health benefits: State laws mandating or regulating*. Retrieved from http://www.ncsl.org/research/health/mental-health-benefits-state-mandates.aspx

Newman, R. (2000). Professional point: A psychological model for prescribing. *Monitor on Psychology*, *31*(3), 45.

Newman, R., Phelps, R., Sammons, M. T., Dunivin, D. L., & Cullen, E. A. (2000). Evaluation of the Psychopharmacology Demonstration Project: A retrospective analysis. *Professional Psychology: Research and Practice*, *31*, 598–603.

Patient Protection and Affordable Care Act, Pub. L. No. 111-148, 42 U.S.C. §§ 18001–18121 (2010).

Paul Wellstone and Pete Domenici Mental Health Parity and Addiction Equity Act of 2008, Pub. L. No. 110-343, Div. C., Title V, Subtitle B (§ 511 et seq.), 122 Stat. 3881.

Prochaska, J. O., & Norcross, J. C. (2002). Stages of change. In J. C. Norcross (Ed.), *Psychotherapy relationships that work: Therapist contributions and response to patients* (pp. 303–313). New York, NY: Oxford University Press.

Reaves, R. P. (2006). The history of licensure of psychologists in the United States and Canada. In T. J. Vaughn (Ed.), *Psychology licensure and*

*certification: What students need to know* (pp. 17–26). http://dx.doi.org/10.1037/11477-002

Resnick, R. J. (1985). The case against the Blues: The Virginia challenge. *American Psychologist*, *40*, 975–983. http://dx.doi.org/10.1037/0003-066X.40.9.975

Resnick, R. J. (1997). A brief history of practice—expanded. *American Psychologist*, *52*, 463–468. http://dx.doi.org/10.1037/0003-066X.52.4.463

Sullivan, M. J. (Ed.). (1997). Psychologists in public administrative and public policy roles [Special section]. *Professional Psychology: Research and Practice*, *28*, 317–337.

Sullivan, M. J., Groveman, A. M., Heldring, M. B., DeLeon, P. H., & Beauchamp, B. (1998). Public policy leadership opportunities for psychologists. *Professional Psychology: Research and Practice*, *29*, 322–327. http://dx.doi.org/10.1037/0735-7028.29.4.322

Sullivan, M. J., McNamara, K. M., Ybarra, M., & Bulatao, E. Q. (Eds.). (1995). Psychologists as state legislators [Special section]. *Professional Psychology, Research and Practice*, *26*, 445–464. http://dx.doi.org/10.1037/0735-7028.26.5.445

Sullivan, M. J., Newman, R., & Abrahamson, D. J. (2007). The State Leadership Conference: A history and appreciation. *Psychological Services*, *4*, 123–134. http://dx.doi.org/10.1037/1541-1559.4.2.123

Sullivan, M. J., & VandenBos, G. R. (Eds.). (2002). Psychologists as legislators. [Special section]. *Professional Psychology: Research and Practice*, *33*, 277–288.

U.S. Department of Health and Human Services. (2013). *Affordable Care Act expands mental health and substance use disorder benefits and federal parity protections for 62 million Americans*. Retrieved from http://aspe.hhs.gov/health/reports/2013/mental/rb_mental.cfm

U.S. Department of Health and Human Services, Health Resources and Services Administration. (2015). *Graduate psychology education (GPE)*. Retrieved from http://bhpr.hrsa.gov/grants/mentalbehavioral/gpe.html

Welch, B. (1990). Professional point: Medicare win demonstrates bill's strength in Congress. *APA Monitor*, *21*(1), 18.

Wright, R. H., & Cummings, N. A. (Eds.). (2001). *The practice of psychology: The battle for professionalism*. Phoenix, AZ: Zeig, Tucker, & Theisen.

Zigler, E. (2010). Commentary: Are we promising too much for preschool education programs? In A. J. Reynolds, A. J. Rolnick, M. M. Englund, & J. A. Temple (Eds.), *Childhood programs and practices in the first decade of life: A human capital integration* (pp. 235–240). http://dx.doi.org/10.1017/CBO9780511762666.013

CHAPTER 32

# PUBLIC POLICY

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One of the hallmarks of a mature profession is its willingness to become engaged in addressing society's most pressing needs. To have a significant impact, individuals within the profession must be personally involved in public policy and be collectively committed over a prolonged period of time. Substantive change often takes far longer to accomplish than one might first imagine.

In this chapter, we summarize public policy as a core activity of clinical psychology and review emerging opportunities to influence policy related to federal health care legislation (e.g., the Patient Protection and Affordable Care Act of 2010 [ACA]), health benefits, research, graduate training, public health, and Congress itself. We do so from more than 100 years of collective experience as psychologists engaged in shaping public policy, as a former chief of staff for a U.S. Senator (Patrick H. DeLeon), an APA Congressional Fellow (Sandra Wilkniss), a Robert Wood Johnson Health Policy Fellow (Robert G. Frank), and direct advocates for policy changes at the federal (Frank) and state (Stephanie A. Reid-Arndt) levels.

## DESCRIPTION AND DEFINITION

Broadly speaking, public policy includes actions taken by government or its representatives to address a particular societal issue. This can include "laws, regulatory measures, courses of action, and funding priorities" (Kilpatrick, 2010, p. 1). To influence public policy, individuals and organizations can engage in activities ranging from education and advocacy directed to the public and policymakers to participation in the policymaking process as government staff, appointees, and elected officials.

Psychology has made substantial progress over the past 30 years in recognizing the importance of participating in the public policy process, often as a result of the visionary leadership and persistent dedication of individuals committed both to supporting policies that will serve the greater good and to demonstrating the roles that psychology can have in bettering society. As detailed in an early call for involvement in advocacy (DeLeon et al., 1982), organized psychology's engagement in the public policy arena dates back to the establishment of the Association for the Advancement of Psychology in 1974. Even today, the association's original bylaws capture the essence of the value and purpose of psychology's engagement in public policy, defining itself as an organization to

> promote human welfare through the advancement of the science and profession of psychology by the promotion of the interest of all psychology; by the representation of psychology before public and governmental bodies, by seeking out and contributing to the passage of important social and psychological issues in current legislation and to advocate to the legislative, judicial and executive branches of the government the ethical and scientific views of the American Psychological Community. (Association for the Advancement of Psychology, 1977, p. 1)

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Although psychologists may believe that their unique data-oriented expertise possesses the answer to many of the complex issues facing the nation, we postulate that the profession vastly overestimates the extent to which those who actually establish the country's domestic and foreign policies appreciate this expertise or even understand the nuances of the profession's arguments, at either the administrative or the legislative level. Consistently over the years, for example, law and business have been the predominant professional backgrounds of the members of the U.S. Congress. During the 112th Congress (2011–2012), 55 senators were lawyers, and none possessed a doctoral degree (Congressional Research Service, 2012). The reality is that these professionals obtain most of their knowledge about psychology and the behavioral sciences from undergraduate courses they may have taken or, more likely, from the popular media.

Thus, it is incumbent upon psychologists as individuals and psychology as an organized profession to embrace psychologists' potential to utilize their expertise to identify and support beneficial public policies. Throughout this chapter, we highlight some of the successes achieved and discuss some of the ongoing initiatives championed by psychology and its leaders. In addition, because tackling inequities in health care access and utilization is arguably one of the greatest needs of our time, we examine public policy contributions to our changing health care landscape (e.g., the ACA) and discuss its implications for psychology.

## CORE ACTIVITIES IN PUBLIC POLICY

Psychologists have numerous opportunities to influence governmental actions, including, but not limited to, engaging in direct advocacy and education of policymakers, conducting and disseminating research with implications for public policy, participating in policy fellowships, and assuming elected or appointed governmental leadership positions. In addition, for many years organized psychology has been expanding its activities in the public policy arena to the benefit of society as well as the profession. Many units within the American Psychological Association (APA; e.g., the Practice Organization, Public Interest Directorate, Governance Affairs, Public and Member Communications) seek to demonstrate to the general public and policy makers how psychological research and intervention can inform decisions about programs, initiatives and legislation addressing society's well-being.

There are numerous examples of the positive societal effects brought by individual psychologists in the public policy arena. Some have focused on supporting legislation that will benefit patient populations that psychologists serve. One exemplar is Mitchell Rosenthal's efforts to advance legislation for people with traumatic brain injury and his leadership in the creation of a national database on traumatic brain injury (Reid-Arndt, Frank, & Hagglund, 2010). Others have translated psychological inquiry into guidance for policy-promoting improvements in public health. Exemplars here are the many psychologists whose research on addiction, behavior change, and public health interventions significantly influenced the success of tobacco control policy and programs over the past 25 years (DeAngelis, 2014).

Psychologists have also engaged in public policy with the intent of advancing and protecting the profession. Recognizing the critical need for federal funding to support the training of future generations of psychologists, advocacy by one coauthor (RGF) for the inclusion of psychology in graduate medical education (GME) funding (Reid-Arndt, Stucky, et al., 2010) represented a significant policy accomplishment. Ongoing organized advocacy, led by Cynthia Belar of the APA Education Directorate, to address psychology training funding needs also led to the establishment of the Health Resources and Services Administration Graduate Psychology Education program in 2002. The only federal initiative directed specifically at funding graduate psychology training, this program is currently funded at a higher rate than it was at its inception, and it continues to support the training of psychology students in caring for underserved populations (e.g., rural and underserved urban individuals, older adults, children).

Among the more significant, and controversial, advocacy efforts on behalf of the profession of psychology in the past 25-plus years have been those aimed at obtaining prescription privileges for appropriately trained psychologists. The notion that APA

ought to seek prescription privileges for psychology was first introduced in 1972 by Nick Cummings, past APA president (1979) and visionary of the future of psychology in health care. At that time, a committee of the APA board deliberated for a year and decided to not recommend pursuit of prescription privileges. Then, in November 1984, U.S. Senator Daniel K. Inouye urged psychologists at the annual meeting of the Hawaii Psychological Association to seek prescriptive authority to improve the availability of comprehensive, quality mental health care. Although subsequent legislation in Hawaii supporting a feasibility study did not pass, the groundwork for continued efforts was in place.

During congressional deliberations on the Fiscal Year 1989 Appropriations Bill for the U.S. Department of Defense (1988), the conferees directed the department to establish a "demonstration pilot training project under which military psychologists may be trained and authorized to issue appropriate psychotropic medications under certain circumstances" (p. 34). Five years later, in June 1994, Navy Commander John Sexton and Lt. Commander Morgan Sammons became the first graduates of the Department of Defense psychopharmacology training program at Walter Reed Army Medical Center.

Also in 1989, the APA Board of Professional Affairs held a special meeting chaired by Norma Simon. The board strongly endorsed immediate research and study regarding the feasibility and the appropriate curricula in psychopharmacology so that psychologists might provide broader service to the public and more effectively meet the psychological and mental health needs of society. Furthermore, the board strongly recommended that focused attention on the responsibility of preparing the profession to address current and future needs of the public for psychologically managed psychopharmacological interventions be made APA's highest priority.

At the APA Council of Representatives meeting in Boston in 1990, a motion to establish an ad hoc Task Force on Psychopharmacology was approved by a vote of 118 to 2. The task force, chaired by Michael Smyer, was charged with exploring the desirability and feasibility of psychopharmacology prescription privileges for psychologists and determining what training would be required. Their 1992 report to the council concluded that practitioners, with combined training in psychopharmacology and psychosocial treatments, could be viewed as a new form of health care professional, expected to bring to health care delivery the best of both psychological and pharmacological knowledge.

At its August 1995 meeting in New York, with only two hands raised in opposition, the Council of Representatives voted to formally endorse prescriptive privileges for appropriately trained psychologists and called for the development of model legislation and a model training curriculum. By the 1996 Toronto meeting of the council, the governance elements of APA had completed their work, and the council formally adopted both a model prescription bill and a training curriculum. At its 1997 convention in Chicago, the council authorized the APA College of Professional Psychology to develop an examination in psychopharmacology suitable for use by state and provincial licensing boards once their legislatures have granted prescriptive authority to psychologists.

These collective efforts by the Council of Representatives paved the way for psychology to work at the state level to promote legislation adding prescription privileges to psychologists' scope of practice. As of 2015, legislation supporting psychologists' right to prescribe medications has been passed and signed into law in Guam (December 1999) and in four states—Indiana (1993), New Mexico (March 2002), Louisiana (March 2004), and Illinois (June 2014); however, colleagues in Guam and Indiana have yet to implement their already enacted legislation. Progress has been made in other states as well, although continued efforts are needed. In Hawaii, legislation was passed allowing prescription privileges (2007) but was vetoed by Governor L. Lingle. In Oregon, legislation was successfully passed in both houses (2010) and then was vetoed by Governor T. Kulongoski. Providing a clear example of the persistence that is needed for successful public policy advocacy, the APA Practice Organization maintains that prescriptive authority is critical to position the field to maximally participate in the changing health care environment and continues to support the efforts of state psychological associations to obtain prescription privileges.

Successes in traumatic brain injury legislation, tobacco control policies, psychology education funding, and the ongoing promotion of prescription privileges for psychologists highlight the efforts of individual leaders as well as the organizations representing the discipline (e.g., APA). Yet, also important is the rising tide of engagement by individual psychologists who may not set out with the goal of changing specific policy, but who are heeding the call for participating in grassroots advocacy. These direct communications with state and federal legislators on matters of importance to the discipline and the people psychologists serve can have a significant effect. As noted by others (DeLeon et al., 2011), it is often these individual and personal interactions with legislators and their representatives that can incite the interest and support for particular policies or programs.

## THE AFFORDABLE CARE ACT AS AN EXEMPLAR OF PUBLIC POLICY

Although the public policy efforts noted above have had substantial effects on society and the profession, a seismic shift in medical health care and mental health care provision is occurring as a result of the enactment of President Obama's landmark Affordable Care Act. For more than two decades, the United States had been spending far more on health care than any other industrialized nation, yet it continued to lag behind in almost all health outcomes compared with similar industrialized nations (Davis, Schoen, & Stremikis, 2010). Passage of the ACA was a momentous accomplishment, as comprehensive health care reform had been a significant policy agenda for almost every U.S. President, regardless of political affiliation, since Franklin D. Roosevelt (DeLeon & Lewis, 2014).

Federal-level investment in behavioral health policy and financing is in a critical period with the full implementation of the ACA in January 2014, and promulgation of the long-awaited final rule governing mental health parity implementation. These monumental delivery-system changes, along with two influential Supreme Court decisions (affirming the constitutionality of the ACA and requiring states to ensure that people with disabilities receive services in the most integrated setting appropriate to their needs [the Olmstead decision]), have shifted the course of behavioral health policy. Still, efforts to capitalize on this momentum are at risk of waning not in small part as the result of a leadership and innovation vacuum, which psychologists should be eager to fill. Psychologists must capitalize on the multiple points of entry available to them in support of the Triple Aim of health reform writ large. As proposed by the Institute for Healthcare Improvement, a private company engaged in health care innovation, the Triple Aim focuses on better health and better care at lower costs (Institute for Healthcare Improvement, 2014).

### Political Context of the Affordable Care Act

Although the media frequently discuss the ACA as if it were one unified legislative effort, it is more productive to consider the legislation from an overarching policy perspective, rather than by focusing on its statutory components. Many of the underlying assumptions and recommended changes have been openly debated by a wide range of health policy think tanks over the past two decades. Within the U.S. Congress, a number of legislative committees (Senate Finance and Health, Education, Labor, and Pensions Committees; and House Ways and Means and Energy and Commerce Committees) worked collaboratively on elements of the legislation that fell within their jurisdiction. Furthermore, especially in its early stages, the Democratic leadership worked extensively to incorporate and build on Republican recommendations, such as building health delivery reform on the current free market health insurance system, incentivizing individual responsibility to be insured, and learning from the experiences at the state level (Hawaii and Massachusetts, in particular).

Like all complex legislation, the laws associated with the ACA are far from perfect. Although corrective modifications through legislation are the norm, they have been unattainable to date. Also, the intent of the law remains partially unfulfilled, because funding of the many discretionary provisions therein has been stalled as a result of political gridlock. Of particular relevance to psychology, funding has yet to be realized for several loan repayment

scholarship programs, as have expert evaluation efforts designed to bolster the behavioral health workforce (e.g., the National Healthcare Workforce Commission, charged with making recommendations about investment in graduate medical education and workforce development).

## Affordable Care Act Health Care System Changes

The primary aim of the ACA is to expand access to high-quality health care, shift the focus toward prevention and wellness, and begin to tackle the unsustainable growth in health care costs. We provide below the details of this landmark health care legislation to highlight opportunities for psychology in the emerging health care system. In particular, although traditional models of psychology services will continue to exist, we contend that adopting a public health focus, usng psychological expertise to contribute to health promotion and disease prevention, will be critical to ensuring the continued viability of psychology.

**Coverage expansion.** The ACA has potential to expand coverage to almost 50% of the 47 million nonelderly Americans who are currently uninsured (Kaiser Family Foundation, 2015b). Increased coverage and access to care will be achieved via several provisions that took effect on January 1, 2014, including (a) the expansion of Medicaid eligibility to include all adults up to 138% of the federal poverty level, (b) the creation of the health insurance exchanges for people on the individual and small business insurance markets, (c) the creation of a minimum standard for covered benefits, and (d) the inclusion of provisions to address workforce development. Other provisions in place since 2010 have already had a significant impact on coverage and access, such as the provision that children can no longer be discriminated against because of preexisting conditions, the provision that young adults up to age 26 can stay on their parents' insurance, and the requirement that a variety of preventive services be covered at no cost to the individual. In addition, initiatives to bolster community health include significant investment in community health centers, several demonstration projects to introduce new community health models (e.g., integrating primary and behavioral health care), support for increasing clinicians in underserved areas, and incentives to augment the primary care workforce, among others.

From a service delivery standpoint, the ACA makes a concerted effort to drive the nation toward closed systems of care on a capitation basis (finite reimbursement budgets), reminiscent of the HMO approach of President Nixon and the managed care emphasis of President Clinton. Two of the newly established mechanisms are the accountable care organizations (ACOs) and medical homes programs, which are described below. Both of these are broadly defined and discretionary in nature, focusing on certain health care benefits that must be provided and emphasizing team-based care coordination. The long-term policy would have these programs geographically disbursed and affiliated with the entire range of necessary services, which would include inpatient, outpatient, home visits, and long-term care. Economic incentives are provided for their establishment and maintenance.

The evolving systems of care are expected to capitalize on the advances occurring within the communications and technology fields to achieve meaningful use of electronic health records and interoperable systems to support effective patient-centered, cross-provider communication; to give priority to such population-based services as prevention, wellness, and holistic care; to reach underserved communities via telemedicine; and to stress the development of interdisciplinary team approaches. Statutory language underlying these delivery system reforms and associated regulations do not mention psychology. However, the models emerging clearly call for psychologists' involvement at all levels.

The new legislation provides considerable economic resources for this approach. For example, because a major element of the ACA's coverage expansion focus is built on expanding access to the current Medicaid program, lawmakers included ample funding to state Medicaid programs to cover the newly insured expansion population (the federal government covers 100% of the cost for the first 3 years and no less than 90% on a permanent basis). They also included additional funding to increase points of access for the newly insured, increasing

and improving federally qualified community health centers across the country, and temporarily increasing reimbursement for primary care providers to Medicare rates, among other initiatives.

The use of the Medicaid program as a vehicle for increasing the availability of health care services under the ACA has significant implications for clinical psychology. The State of New Mexico provides a concrete example of the convergence of coverage expansion and economic activity under Medicaid. Nearly half (48%) of uninsured New Mexicans are eligible for Medicaid (or Children's Health Insurance Program) as of 2014. Medicaid expansion alone is bringing more than $6 billion in economic activity to the state, creating tens of thousands of jobs—one in five of which is in the health care sector (O'Donnell, 2013).

Because Medicaid will continue to be the single biggest payer of mental health services nationally, shaping and participating in improving behavioral health of Medicaid beneficiaries should be among psychology's priorities. For many years, leaders in psychology have been advocating for the field to unify behind initiatives to obtain appropriate levels of Medicaid funding for behavioral health services (DeLeon, Frank, & Wedding, 1995). Recognizing how critical this will be under new ACA policies, APA has continued efforts to educate psychologists about the importance of working at the state level to address limitations in Medicaid reimbursement. The APA Practice Organization has made available informational resources for state psychological associations engaged in seeking appropriate reimbursement for services. Table 32.1 presents a list of multiple barriers that must be overcome for widespread Medicaid funding of behavioral health services to occur (APA, 2012). In addition to requiring collaborative efforts across psychology at the state and federal levels, overcoming these hurdles will first require widespread recognition from psychologists in practice, academe, industry, and administration that engaging with evolving systems and policies, rather than continuing business as usual, must occur for the field to prosper in the future.

**Mental health benefits and the health insurance marketplace.** Mental health and substance abuse parity go hand in hand with coverage expansion. Under the law, insurance offered in the new Health Insurance Marketplace (formerly known as the Health Insurance Exchange) must cover a core set of essential health benefits, which includes mental health and substance use disorder services. The new marketplaces empower small employers and uninsured individuals to obtain meaningful insurance coverage and financial assistance if coverage

TABLE 32.1

**Barriers to Psychologist Participation and Reimbursement in Medicaid**

| Barrier | Details |
|---|---|
| Limited recognition of independent provision of services | Some states require physician order for initiation of psychology services. |
| Limited provision of services within scope of practice | States vary in whether they reimburse psychologists for testing or therapy services. Some states require that psychologists provide services in an outpatient mental health clinic. |
| Reimbursement for services provided under supervision | Limited or no opportunity for licensed psychologists to bill for services provided by supervised trainees. |
| Limited coverage and payment for health and behavior CPT codes | Very few state Medicaid programs reimburse psychologists for health and behavior codes. |
| Limits on same-day billing | Some states will not reimburse psychologist services provided on the same day as another provider. |
| Limits on telemedicine | States may not cover telemedicine or telehealth services. Of those that do, psychologists may not be identified as eligible professionals. |

*Note*. Adapted from *Compilation of Medicaid State Barriers to Psychological Services*, by the American Psychological Association, 2012, Washington, DC: American Psychological Association. Copyright 2012 by the American Psychological Association.

is unaffordable. Small businesses have extra leverage to negotiate premiums, and those with fewer than 25 full-time equivalents may be eligible for tax credits if they offer health insurance to their employees. As of January 2014, exchanges are operating in each state.

Via Medicaid expansion and the exchanges, the ACA will provide for the largest growth of mental health and substance use coverage in a generation. Approximately 25 million Americans will gain access to these services, and another 30.4 million currently with some coverage will gain federal parity protection. The Mental Health Parity and Addiction Equity Act of 2008 is a federal law that generally prevents group health plans and health insurance issuers that provide mental health and substance use disorder benefits from imposing less favorable benefit limitations on those benefits than on medical–surgical coverage. The final parity rule was promulgated in October 2013, 5 years after enactment of the Mental Health Parity and Addiction Equity Act in 2008, and reflects improvements and expansion of that act under the ACA.

In addition, private insurers who want to offer products on the new health insurance exchanges must meet criteria for qualified health plans, which consists of providing 10 essential health benefits including mental health and substance use treatment. This confluence of improved financing arrangements, increased coverage, and parity protections has the potential to directly affect 62 million Americans (U.S. Department of Health and Human Services, 2013). With effective advocacy for policies supporting best practices in behavioral health and associated reimbursement models in the evolving health care system, psychologists can play an integral role in the expansion of high-quality health care.

The mental health community's direct and immediate partnership with the broader health care system to facilitate implementation will help ensure widespread access to the best behavioral health assessments, interventions, and supporting infrastructure. Although behavioral health has largely been an afterthought to date, pioneers in health care delivery system reform have recently recognized the poor integration of behavioral health throughout the system and have taken steps to address this. For example, during a panel discussion on ACOs, Steven Safyer, president and CEO of Montefiore, one of the innovators in delivery system reform, noted that one of three critical changes in health care delivery in his successful model involves addressing behavioral health via "a collaborative model where we insert mental health guidance for the primary care people and availability of psychiatrists and psychologists" (Alliance for Health Reform, 2013, p. 24).

**Accountable care organizations and medical homes.** Major reforms of delivery systems are focused on value-based financing, integrated care teams, effective care coordination, and a patient-centered focus. In short, health professionals are being incentivized to work in team-based, patient-centered models of care focusing on quality and outcomes; this is in direct contrast to the existing incentive structures favoring volume and intensity of service (Fani Marvasti & Stafford, 2012). These models include shared savings and bundled payment models, such as ACOs and medical homes, and various demonstration projects including one on integrating primary care into community behavioral health (see the Centers for Medicare and Medicaid Services's Health Care Innovation Center website at https://innovation.cms.gov). The most well-known models, ACOs and medical homes, serve as concrete examples of the many possible new roles for psychologists.

As defined by the Centers for Medicare and Medicaid Services (2015), ACOs are

> groups of doctors, hospitals, and other health care providers, who come together voluntarily to give coordinated high quality care to their Medicare patients. The goal of coordinated care is to ensure that patients, especially the chronically ill, get the right care at the right time, while avoiding unnecessary duplication of services and preventing medical errors. When an ACO succeeds both in delivering high-quality care and spending health care dollars more wisely, it will share in the savings it achieves for the Medicare program.

However, ACOs are cropping up in private insurance and in physician-led models in addition to those driven by Medicare, which tend to be hospital-centric. Under the model, the providers assume risk and are rewarded for good outcomes paired with savings (by sharing the savings with Medicare) across the patient population under their care. Because the most costly care is in hospitals and emergency departments, prevention, care coordination, and chronic disease management across the continuum of services are prioritized, and extended hospital stays and readmissions are heavily disincentivized.

The medical home, also known as the *patient-centered medical home*, is team-based health care delivery typically led by a physician, a family-centered comprehensive and coordinated approach to care with a commitment to quality, safety, and maximizing health outcomes (Sia et al., 2004). The medical home model in pediatrics, in which the model originated, is associated with improved access to care and better health (Cooley et al., 2009; Homer et al., 2008). Integration of mental health and primary care is critical to the success of this model (Hogan et al., 2010); not only is the prevalence of mental disorders in the United States high (affecting one in four people), but the lack of access to mental health interventions, and to evidence-based practice, leads many to seek treatment in primary care settings or not at all.

For children, adolescents, and adults in medical care settings, providing colocated, integrated, and targeted behavioral health care services is clinically effective (Blount, 2003) as well as cost effective (Cummings, O'Donohue, & Cummings, 2009). For adults and youths with serious mental illness, who receive most of their care from behavioral health professionals, integrating primary and specialty care into behavioral health may be optimal (Tolan & Dodge, 2005). This is particularly relevant given the early mortality rate—a life span shortened by 8 to 20 years—documented in people with severe mental illness (e.g., Chang et al., 2011; Wahlbeck et al., 2011). Thus, this latter model is being tested in the aforementioned demonstration program provided for by the ACA: More than 100 grants have been awarded to behavioral health primary care provider teams across the country. Of note, the behavioral health roles are taken on by social workers, nurses, and others—a large number of the providers operate with no or very few psychologists.

## PUBLIC POLICY OPPORTUNITIES FOR PSYCHOLOGISTS

In this section, we discuss opportunities for clinical psychologists to respond to public policy–driven changes in the health care environment and to take advantage of hard-won public policy gains to support training in psychology. We also highlight an excellent opportunity to participate in the public policy process—the APA Congressional Fellowship Program.

### Psychology in Accountable Care Organizations and Primary Care Medical Homes

Integration as conceptualized in these two integrated care models is at the heart of health care reform. Many medical home programs are still in early, more experimental phases, but it will not be long until reimbursement structures are developed, disseminated, and institutionalized as models of choice. This is one area in which psychologists must step up or be left wondering why the rich evidence and expertise the field has accumulated over the years was not tapped. Expertise at the systems level and in evidence-based practice is needed. Psychologists are needed who develop evidence-based interventions and who practice, train, and translate between science and service at every stage of human development—from pediatrics to geriatrics. They are needed to select, develop, and validate quality, process, and outcome measures and to guide in judicious, meaningful use of such measures. Psychologists are uniquely trained among the mental health professionals to do this work across the life span, certainly from theoretical, research, and often practice perspectives. Practice models are quickly being promulgated and owned by psychology's partner disciplines—nursing, pharmacy, and psychiatry. To be sure, all are needed on the team, but psychologists can play a vital role. Not only are there new career and policy possibilities, but there are also

opportunities to skillfully bridge the quality chasm and bring behavioral health into the mainstream.

As we now move toward integrated systems of care (ACOs and medical homes, for example) critical questions surface: Does there exist today sufficient numbers of psychologists and other mental health practitioners trained to fill this niche? Or will other disciplines (such as clinical pharmacists and occupational therapists) expand into this uncharted arena? It has long been postulated by those with a comprehensive appreciation for psychology's opportunities in the evolving health care environment (e.g., VandenBos, DeLeon, & Belar, 1991) that psychology needs to recognize emerging opportunities in the dynamic U.S. health care environment and intensify psychologists' engagement in workforce development and transformation of training programs along with their physician, nursing, and pharmacist colleagues who are at the center of this discussion. Leaders of psychology training programs must become aware of the changing behavioral health care environment and develop strategies to prepare their graduates to operate in this environment.

There are few express references to psychology in the ACA or throughout its implementing regulations to date; the underlying statute is permissive in nature and delegates much of the implementation to the states. Psychologists should heed the call to evaluate and translate into practice the solutions to this pressing societal issue and to prepare subsequent generations of psychologists to do the same or risk allowing others to shape their future.

## Research and Evaluation

Of the handful of cost-containment mechanisms established by the ACA, two may feel especially familiar to psychologists: (a) conducting comparative effectiveness research and rapidly translating promising interventions into routine practice, mirroring the translational research focus of the National Institutes of Health, and (b) developing a set of meaningful quality measures to be used in evaluating value-based delivery of care.

The ACA established the Patient-Centered Outcomes Research Institute (PCORI), a nonprofit, quasi-governmental entity, to fund comparative effectiveness research with the goal of improving health care decision making and outcomes. As detailed in its mission statement,

> PCORI helps people make informed healthcare decisions, and improves healthcare delivery and outcomes, by producing and promoting high integrity, evidence-based information that comes from research guided by patients, caregivers and the broader healthcare community. (PCORI, 2014)

Also in the service of the Triple Aim, the Agency for Healthcare Research and Quality of the U.S. Department of Health and Human Services has established a National Quality Strategy with six national priorities (Agency for Healthcare Research and Quality, 2014): (a) making care safer by reducing harm caused in delivery of care; (b) ensuring that each person and family are engaged as partners in their care; (c) promoting effective communication and coordination of care; (d) promoting the most effective prevention and treatment practices for leading causes of mortality, starting with cardiovascular disease; (e) working with communities to promote wide use of best practices to enable healthy living; and (f) making quality care more affordable for individual, families, employers, and governments by developing and spreading new health care delivery models. Furthermore, the U.S. Department of Health and Human Services has contracted with the National Quality Forum, a nonprofit group that sets standards for health care performance measures, to develop stakeholder consensus quality-of-care standards.

On the cost containment side, much of system reform is driven by reimbursement restructuring that, in turn, is reliant on how "quality" care and positive health outcomes are defined for individuals and populations. Physicians expend a great deal of time and energy to ensure the measures have utility and reflect desired health outcomes in their respective disciplines and are streamlined to minimize administrative burdens. Here is another policy point of entry for psychologists—not only to proactively ensure that meaningful behavioral health quality and outcome measures are adopted but also to lead

in measure development, selection, administration, and interpretation and in communication via these tools.

## Prevention and Public Health

The ACA established the Prevention and Public Health Fund with an annual budget of $1 billion to seed innovation in prevention and public health. The intent was to expand on existing national investments to develop and sustain these efforts in shifting from a "sick care system" to a "health care system." To date, the fund has invested in a broad range of evidence-based activities, including community and clinical prevention initiatives; research, surveillance, and tracking; public health infrastructure; immunizations and screenings; tobacco prevention; and public health workforce and training. However, the purpose has not been fully realized because of the efforts to limit funding to ACA programs. Substance Abuse and Mental Health Services Administration–funded programs have been primarily in the suicide prevention and substance use arena. The vast majority of grants have been administered by the Centers for Disease Control and Prevention, suggesting that the psychology–public health interface holds promise for new career and policy directions.

## Long-Term Services and Supports

Another emerging opportunity for clinical psychologists with expertise in serious mental illness is in long-term services and supports, which will grow rapidly with the aging of the population and the forces shifting care from institutions back into the community. Long-term services and supports are "the services and supports used by individuals of all ages with functional limitations and chronic illnesses who need assistance to perform routine daily activities such as bathing, dressing, preparing meals, and administering medications" (Woodcock, 2012, p. 1). The 2011 U.S. Census Bureau American Community Survey estimated that about 55 million Americans experience some combination of difficulty with self-care (i.e., completing activities of daily living), ambulating, and living independently and have difficulty remembering, concentrating, or making decisions.

The Kaiser Family Foundation (2015a) has reported that the majority of Americans ages 65 and older will have long-term care needs, including 70% of Baby Boomers. The challenges are in developing innovative models for high-quality, person-centered care while containing cost, addressing significant workforce shortages in home- and community-based services, and dealing with affordable housing shortages—all of which will increase with the Olmstead decision and associated enhanced consumer choice. Psychology can obviously have significant influence here as well.

## Graduate Training

Substantial changes in the way patient care will be delivered are occurring as a result of health care reimbursement and the consumer movement. Psychology must embrace the reality that knowledge of public policy and public health will be as critical as the expertise psychologists are accustomed to developing in their respective content areas (e.g., clinical psychology). Yet, although health policy is a required core competency of nursing programs, today few doctoral programs in psychology offer courses or concentrations in health care policy or public policy (DeLeon et al., 2015).

The public policy process (legislative and administrative) has its own language, history, and professional culture that psychologists must learn if they are to continue to grow and advance the profession. Although direct patient care and psychological research lead to advances in the field, opportunities to propagate these advances will be shaped by state and federal legislative actions that directly influence the profession—by providing funding for health care at the state (Medicaid) and federal (Medicare) levels, directing monies for psychology training, and dictating scope of practice (e.g., prescription privileges).

To thrive in this new health care environment, psychologists too must be proactive and use, and grow, their existing knowledge of the role of behavioral health factors in medical outcomes. Unless psychology training programs come to appreciate the reality that psychology is one of the nation's health care professions and that the necessary training, research, and clinical reimbursement paradigms

are intimately involved with what is evolving in the health care environment, we would suggest that there will be many missed opportunities in the future.

Although expanding the breadth of psychology training to include coverage of public and health policy issues has yet to be accomplished, there is much to be proud of in psychology's efforts to advance training opportunities at the postdoctoral level. In 1992, under the presidency of Jack Wiggins, the U.S. Department of Veterans Affairs (VA) initiated postdoctoral training programs for VA psychologists. This initiative has steadily grown; in 2013–2014, the VA supported 350 postdoctoral positions, and it is projected to support 400 positions in 2014–2015. Paving the way for attainment of prescription privileges for psychology, in 1994 the U.S. Department of Defense graduated its first two prescribing psychologists. With the development of accreditation standards by APA, postdoctoral specialized training has become increasingly evident in the civilian sector.

However, concerns about the profession's ability to finance training, particularly at the internship and postdoctoral levels, continue to be expressed. Psychology has yet to take advantage of its opportunities in the largest health care education funding program in the world (Frank & Ross, 1995), the GME program. This legislation provided funding for health care professionals in addition to physicians (e.g., dentists, nurses, pharmacists), and yet psychologists were initially ineligible for GME funding despite a long history of clinical psychology practice in hospitals (Glueckauf et al., 1996). Many years of collaborative advocacy led to a determination that psychology postdoctoral programs, but not predoctoral internship programs, were eligible for funding under GME (Frank, Blevins, & Dimoulas, 2004). APA has continued to pursue funding for predoctoral training but has not yet been successful.

Unfortunately, to date only three psychology programs have obtained Centers for Medicare and Medicaid funding for their postdoctoral training (see Stucky et al., 2008). The limited utilization of this potential source of funding for psychology training is a critical missed opportunity that may in part be a result of two key historical barriers: the absence of agreed-on training standards for postdoctoral programs (other than those providing training to support board certification eligibility) and the prevalence of non–hospital-based training (Reid-Arndt, Stucky, et al., 2010).

Addressing the first barrier are APA's expanding efforts to provide guidelines for postdoctoral training for generalists (e.g., in the traditional practice of clinical, counseling, or school psychology) and specialists (e.g., in the areas of clinical health psychology, clinical neuropsychology, and rehabilitation psychology, among others). The passage of the ACA may reduce this second barrier because it includes a provision increasing flexibility in GME funding regulations to encourage training in outpatient settings. However, although postdoctoral programs within the VA system have institutional mandates to seek APA accreditation, there remain a large number of non-VA programs that are not yet seeking APA accreditation. Thus, changes in the field to incentivize efforts to seek APA accreditation are needed to increase the number of training programs eligible for this funding opportunity.

Organized psychology should make increasing postdoctoral training opportunities and achieving widespread use of GME funding for psychology postdoctoral training a high priority. The time for advocacy is now. The Institute of Medicine has convened a workgroup of experts in health care workforce (led by former Centers for Medicare and Medicaid Directors Berwick and Wilensky) to conduct an evaluation of governance and financing of the current GME program. Physician, pharmacist, and nursing groups advocate regularly for GME dollars to support training in their respective disciplines, calling for additional training slots overall, but also educating policymakers about their unique needs for GME support. As a result of failing to do this, psychology is not included on lists of the core health care professions requiring GME dollars, even when delivery system reforms such as those mentioned above are considered.

## American Psychological Association Policy-Related Fellowships

Psychology has much to offer the public, and psychologists have much to gain, by helping to shape

public policy. However, many psychologists may not see how their expertise can positively influence public policy, and those engaged in crafting policy may underestimate the potential value of psychologists' contributions. Recognizing this, APA has created two policy-related fellowships, offering psychologists the opportunity to work directly with policymakers in Congress and the executive branch.

**American Psychological Association Congressional Fellowship Program.** Under the auspices of the APA and the American Association for the Advancement of Science, this program provides psychologists with a unique opportunity to engage in federal-level policymaking. APA provides support for one to six Fellows each year; at the time of its recent 40th anniversary celebration in 2014, the program had sponsored a total of 119 Fellows. Over this period, Fellows have contributed to federal policy development on important issues such as health care reform, youth violence, higher education, and behavioral health research.

From a Fellow's perspective, this 1-year experience is a career-enriching opportunity. Fellows are either immersed in committee-level lawmaking or serve in a personal office in which they gain an appreciation for the multilayered legislative process that balances federal, state, and party influences. With respect to policy issues, a psychology presence is particularly important in this time of mental health parity and health reform, but also because of the unique perspective psychologists bring. Academic, scientific, and critical thinking skills combined with real-world experience add a valuable dimension to the legal and public policy perspectives dominant among congressional staff. As described elsewhere in this chapter, there are numerous leadership opportunities in health reform, from crafting legislation with a sophisticated appreciation for implementation implications to designing, executing, or informing implementation.

**American Psychological Association Executive Branch Science Fellowship Program.** Sponsored by the APA Science Directorate, this program provides an opportunity for psychologists to work for 1 year as special assistants in executive branch agencies engaged in science-related policy, such as the National Institutes of Health, the National Science Foundation, and the U.S. Department of Defense. Fellows may have the opportunity to staff intergovernmental scientific task forces, run peer review panels for federal research funding agencies, and prepare briefs in response to congressional inquiries. As with the APA Congressional Fellowship Program, Fellows in this program participate in public policy seminars coordinated by the American Association for the Advancement of Science.

Psychologists participating in both the Congressional Fellowship Program and the Executive Science Branch Fellowship program offer much more than domain-specific knowledge. Members of Congress and career policy advisors alike appreciate APA Fellows' analytic skills and negotiation strategies as applied to a wide variety of policy areas. As the field of psychology evolves, this insider's view can inform psychology's role in effectively shaping policy and enhancing the relevance of the field's contributions from basic science to practice.

## FUTURE DIRECTIONS

The past several decades have seen a gradual evolution within both psychology and the nation's health care from what was essentially an individual-oriented, provider-driven, fee-for-service care focus to population-oriented systems of care that increasingly rely on evidence-based practices. Reimbursement strategies are moving toward providing incentives for obtaining measurable positive outcomes, including quality-of-life factors, rather than emphasizing particular clinical procedures that might be used. The critical psychosocial nature of health care, including behavioral and environmental factors, is finally being recognized by health policy experts.

From our perspective, as psychology has become a maturing profession, it has begun to embrace its societal responsibility to address the nation's most pressing needs. As a direct result, over the past decade psychology has been formally recognized under a wide range of federal health initiatives (e.g., graduate psychology education funding), and individual colleagues have increasingly been appointed to positions of considerable administrative responsibility and elected to state and federal

offices. As but one example, psychologist Ted Strickland served in the U.S. House of Representatives before being elected governor of Ohio. The APA Congressional Science and Executive Branch Fellowships have been quite successful in exposing numerous colleagues to the nuances of public policy process. Similarly, increasing numbers of psychologists have been appointed to key academic leadership positions (e.g., as presidents of major universities), thus providing the opportunity to further psychology's societal and political acceptance and policy impact.

There are exciting opportunities for psychology to further advance society's understanding of psychologists' potential contributions. With the passage of federal and state mental health parity legislation, supplemented by provisions in the ACA, discrimination between mental health and physical health services will be reduced over time. Psychologists will find many opportunities for employment, as long as their care can be objectively demonstrated to be cost effective and meet the traditional standards of efficacy, similar to those instituted by the Food and Drug Administration for pharmaceutical agents (i.e., safe, effective, and appropriate).

Unprecedented opportunities for psychological and behavioral research will develop with the recent movement by the federal behavioral and biomedical research community toward ensuring that the latest scientific knowledge is made more rapidly available to practitioners (translational research) and the renewed interest in careful exploration of differences between various subpopulations, such as those with rare diseases, resulting from advances in computer technology. We expect that this fundamental change in research philosophy will lead significant resources to become available for in-depth exploration of such topics as cultural preferences for styles of health care delivery, the importance of health literacy, and behavioral strategies for healthy aging—all critical issues for which psychologists possesses unique expertise.

With the increasing emphasis on measured outcomes, and the growing number of nonphysicians being trained, fundamental questions are being raised within the educational community as to what clinical competencies should be required—and regarding the appropriateness of historical limitations on scopes of practice. Recognizing the potential opportunities for psychology to partner with other disciplines (e.g., nursing, medicine) in the provision of health care, under the presidency of Norine Johnson (2001) APA included promoting health in its association bylaws. Within psychology, an increasing number of special interest divisions have been formed (such as health psychology and trauma), and initiatives are being pursued to promote changes in the scope and nature of practice (e.g., to increase the presence of psychology in primary care, to support prescription privileges for appropriately training psychologists).

In the future, psychology will continue to expand the areas in which it has been educating its students, ranging from developing joint degrees in law and psychology to the wide range of health psychology specialties being created, often within health sciences institutions. This has led to new policy and employment opportunities. Over time, clinical psychologists have come to view themselves as more than "merely" mental health professionals, with practitioners increasingly embracing integrated and interdisciplinary care and research and training colleagues developing interdisciplinary initiatives. With this evolution has come the need for training in public health, population health, and health policy and an appreciation for the nuances of the training and practice environment of related disciplines. We foresee that psychology's educational institutions will become more engaged in training the leaders of these new and evolving health care systems, including providing hands-on opportunities and experiences in interdisciplinary health care research. To accomplish this important societal objective will require educational institutions to look carefully at what competencies should be taught, rather than continuing to insist that there is no room for modifications to current curricula.

We predict as well that sustained efforts to educate the public on psychology's role in improving the nation's health and well-being are needed. We have been particularly pleased with the vision that has been demonstrated by APA's publications and communications efforts in this regard. With the advent of technology, APA has been systematically

giving psychology away to the lay public and their elected officials, utilizing a wide range of outlets including traditional publications (e.g., books for parents addressing developmental issues such as divorce and serious illness) and taking advantage of opportunities offered by the web and social media. As noted by Rhea Farberman, executive director of APA Public and Member Communications,

> The Internet and social media are APA's primary public education tools for the 21st century. On the web, we can reach a nearly unlimited international audience, and social media give us the opportunity to have a two-way dialogue with members of the public about their interest in psychology and the questions they have about human behavior. (personal communication, July 28, 2014)

APA websites logged more than 40.3 million visits in 2013, and APA Public Affairs has been offering a monthly audio podcast called "Speaking of Psychology," which has more than 1,600 subscribers per month (APA, 2014).

In our view, the more that psychological knowledge is systematically shared with the public in a nonthreatening manner, the greater respect there will be for the profession and the greater willingness there will be to obtain these services and seek psychology's expertise in policy development. We believe that there are literally an infinite number of agencies and positions that could benefit from the application of psychological expertise, including, but not limited to, the criminal justice system, architectural and city design firms, long-term care facilities, and employment agencies. We are confident that, as the number of clinical psychology graduates continues to expand and the next generation matures, visionary leaders will emerge who will facilitate these policy evolutions.

## References


Agency for Healthcare Research and Quality. (2014). *Working for quality: The national strategy*. Retrieved from http://www.ahrq.gov/workingforquality

Alliance for Health Reform. (2013). *Pioneer ACOs: Lessons learned from participants and dropouts*. Retrieved from http://www.allhealth.org/briefingmaterials/pioneeracostranscript_60.pdf

American Psychological Association. (2012). *Compilation of Medicaid state barriers to psychological services*. Retrieved from http://www.apapracticecentral.org/update/2012/09-27/medicaid-expansion.aspx

American Psychological Association. (2014). 2013 annual report of the American Psychological Association. *American Psychologist*, *69*(5, Suppl.), S1–S48. http://dx.doi.org/10.1037/h0099386

Association for the Advancement of Psychology: 1977. (1978). *American Psychologist*, *33*, 609.

Blount, A. (2003). Integrated primary care: Organizing the evidence. *Families, Systems, and Health*, *21*, 121–133. http://dx.doi.org/10.1037/1091-7527.21.2.121

Centers for Medicare and Medicaid Services. (2015). *Accountable care organizations*. Retrieved from https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/ACO/index.html

Chang, C. K., Hayes, R. D., Perera, G., Broadbent, M. T., Fernandes, A. C., Lee, W. E., . . . Stewart, R. (2011). Life expectancy at birth for people with serious mental illness and other major disorders from a secondary mental health care case register in London. *PLoS ONE*, *6*(5), e19590. http://dx.doi.org/10.1371/journal.pone.0019590

Congressional Research Service. (2012). *Membership of the 112th Congress: A profile*. Retrieved from http://www.senate.gov/reference/resources/pdf/R41647.pdf

Cooley, W. C., McAllister, J. W., Sherrieb, K., & Kuhlthau, K. (2009). Improved outcomes associated with medical home implementation in pediatric primary care. *Pediatrics*, *124*, 358–364. http://dx.doi.org/10.1542/peds.2008-2600

Cummings, N. A., O'Donohue, W. T., & Cummings, J. L. (2009). The financial dimension of integrated behavioral/primary care. *Journal of Clinical Psychology in Medical Settings*, *16*, 31–39. http://dx.doi.org/10.1007/s10880-008-9139-2

Davis, K., Schoen, C., & Stremikis, K. (2010). *Mirror, mirror on the wall: How the performance of the U.S. health care system compares internationally: 2010 update*. Washington, DC: Commonwealth Fund. Retrieved from http://www.commonwealthfund.org/~/media/Files/Publications/Fund%20Report/2010/Jun/1400_Davis_Mirror_Mirror_on_the_wall_2010.pdf

DeAngelis, T. (2014). Thank you for not smoking. *Monitor on Psychology*, *45*, 40–46.

DeLeon, P. H., Frank, R. G., & Wedding, D. (1995). Health psychology and public policy: The political process. *Health Psychology*, *14*, 493–499. http://dx.doi.org/10.1037/0278-6133.14.6.493

DeLeon, P. H., Kenkel, M. B., Oliveira Gray, J. M., & Sammons, M. T. (2011). Emerging policy issues for psychology: A key to the future of the profession. In D. H. Barlow (Ed.), *The Oxford handbook of clinical psychology* (pp. 34–51). New York, NY: Oxford University Press.

DeLeon, P. H., & Lewis, P. C. (2014). Foreword: An important and expanding vision. In S. S. Bush (Ed.), *Psychological assessment of veterans* (pp. xi–xvi). New York, NY: Oxford University Press.

DeLeon, P. H., O'Keefe, A. M., VandenBos, G. R., & Kraut, A. G. (1982). How to influence public policy: A blueprint for activism. *American Psychologist*, *37*, 476–485. http://dx.doi.org/10.1037/0003-066X.37.5.476

DeLeon, P. H., Sells, J. R., Cassidy, O., Waters, A. J., & Kasper, C. E. (2015). Health policy: Timely and interdisciplinary. *Training and Education in Professional Psychology*, *9*, 121–127. http://dx.doi.org/10.1037/tep0000077

Fani Marvasti, F., & Stafford, R. S. (2012). From sick care to health care—Reengineering prevention into the U.S. system. *New England Journal of Medicine*, *367*, 889–891. http://dx.doi.org/10.1056/NEJMp1206230

Fiscal Year 1989 Appropriations Bill for the U.S. Department of Defense. H.R. 4781, H. Conf. Rep. No. 100-1002, Pub. L. No. 100-463, 100th Cong., 1st Sess. (1988).

Frank, R. G., Blevins, N. C., & Dimoulas, E. (2004). Policy and financing of the professional psychology workforce. *Journal of Clinical Psychology in Medical Settings*, *11*, 119–125. http://dx.doi.org/10.1023/B:JOCS.0000025723.42145.6c

Frank, R. G., & Ross, M. J. (1995). The changing workforce: The role of health psychology. *Health Psychology*, *14*, 519–525. http://dx.doi.org/10.1037/0278-6133.14.6.519

Glueckauf, R. L., Frank, R. G., Bond, G. R., McGrew, J. H., & O'Keeffe, J. (Eds.). (1996). *Psychological practice in a changing health care system*. New York, NY: Springer.

Hogan, M. F., Sederer, L. I., Smith, T. E., & Nossel, I. R. (2010). Making room for mental health in the medical home. *Preventing Chronic Disease*, *7*(6), A132. Retrieved from http://www.cdc.gov/pcd/issues/2010/nov/09_0198.htm

Homer, C. J., Klatka, K., Romm, D., Kuhlthau, K., Bloom, S., Newacheck, P., . . . Perrin, J. M. (2008). A review of the evidence for the medical home for children with special health care needs. *Pediatrics*, *122*, e922–e937. http://dx.doi.org/10.1542/peds.2007-3762

Institute for Healthcare Improvement. (2014). IHI Triple Aim Initiative. Retrieved from http://www.ihi.org/Engage/Initiatives/TripleAim/Pages/default.aspx

Kaiser Family Foundation. (2015a). *Medicaid and long-term services and supports: A primer*. Retrieved from http://kff.org/medicaid/report/medicaid-and-long-term-services-and-supports-a-primer

Kaiser Family Foundation. (2015b). *The uninsured: A primer—Key facts about health insurance and the uninsured in the era of health reform*. Retrieved from http://kff.org/report-section/the-uninsured-a-primer-key-facts-about-health-insurance-and-the-uninsured-in-the-era-of-health-reform

Kilpatrick, D. G. (2010). *Definitions of public policy and the law*. Retrieved from https://www.musc.edu/vawprevention/policy/definition.shtml

Mental Health Parity Act of 1996, Pub. L. No. 104-204, 110 Stat. 2944.

O'Donnell, K. (2013) *Everyone wins: Maximizing the economic impact of health care delivery in New Mexico*. Retrieved from http://conalma.org/wp-content/uploads/2013/05/The-Economic-Impact-of-Healthcare-in-New-Mexico_21April.pdf

Olmstead v. L. C., 527 U.S. 581 (1999).

Patient-Centered Outcomes Research Institute. (2014). *About us*. Retrieved from http://www.pcori.org/about-us/mission-and-vision

Patient Protection and Affordable Care Act, Pub. L. No. 111-148, 42 U.S.C. §§ 18001–18121 (2010).

Reid-Arndt, S. A., Frank, R. G., & Hagglund, K. J. (2010). Brain injury and health policy: Twenty-five years of progress. *Journal of Head Trauma Rehabilitation*, *25*, 137–144. http://dx.doi.org/10.1097/HTR.0b013e3181d24313

Reid-Arndt, S. A., Stucky, K., Cheak-Zamora, N., DeLeon, P. H., & Frank, R. G. (2010). Investing in our future: Unrealized opportunities for funding graduate psychology training. *Rehabilitation Psychology*, *55*, 321–330. http://dx.doi.org/10.1037/a0021894

Sia, C., Tonniges, T. F., Osterhus, E., & Taba, S. (2004). History of the medical home concept. *Pediatrics*, *113*(Suppl.), 1473–1478.

Stucky, K., Buterakos, J., Crystal, T., & Hanks, R. (2008). Acquiring CMS funding for an APA-accredited postdoctoral psychology fellowship program. *Training and Education in Professional Psychology*, *2*, 165–175. http://dx.doi.org/10.1037/1931-3918.2.3.165

Tolan, P. H., & Dodge, K. A. (2005). Children's mental health as a primary care and concern: A system for comprehensive support and service. *American Psychologist*, *60*, 601–614. http://dx.doi.org/10.1037/0003-066X.60.6.601

U.S. Department of Health and Human Services. (2013). *Administration issues final mental health and substance use disorder parity rule* [Press

release]. Retrieved from http://www.hhs.gov/news/press/2013pres/11/20131108b.html

VandenBos, G. R., DeLeon, P. H., & Belar, C. D. (1991). How many psychological practitioners are needed? It's too early to know! *Professional Psychology: Research and Practice*, *22*, 441–448. http://dx.doi.org/10.1037/0735-7028.22.6.441

Wahlbeck, K., Westman, J., Nordentoft, M., Gissler, M., & Laursen, T. M. (2011). Outcomes of Nordic mental health systems: Life expectancy of patients with mental disorders. *British Journal of Psychiatry*, *199*, 453–458. http://dx.doi.org/10.1192/bjp.bp.110.085100

Woodcock, C. H. (2012). *Long-term services and supports: Challenges and opportunities for states in difficult budget times*. Retrieved from http://www.nga.org/files/live/sites/NGA/files/pdf/1112ltssbrief.pdf

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