Susan Krauss Whitbourne

Abnormal Psychology

Clinical Perspectives on Psychological Disorders

Eighth Edition

Mc Graw Hill Education

ABNORMAL PSYCHOLOGY

Clinical Perspectives on Psychological Disorders

EIGHTH EDITION

SUSAN KRAUSS WHITBOURNE

University of Massachusetts Amherst

Mc Graw Hill Education

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To my wonderful family: Richard, Stacey, Jenny, Erik, Teddy, and Scarlett

ABOUT THE AUTHOR

Courtesy of Susan Whitbourne

Susan Krauss Whitbourne is Professor of Psychology at the University of Massachusetts Amherst. She teaches large undergraduate classes in addition to teaching and supervising doctoral students in developmental and clinical psychology. Her clinical experience has covered both inpatient and outpatient settings. Professor Whitbourne is a Fellow of the American Psychological Association.

Professor Whitbourne received her PhD from Columbia University and has a Diplomate in Geropsychology from the American Board of Professional Psychology. She taught at the State University of New York at Geneseo and the University of Rochester. At the University of Massachusetts, she received the University's Distinguished Teaching Award, the Outstanding Advising Award, and the College of Arts and Sciences Outstanding Teacher Award. In 2001, she received the Psi Chi Eastern Region Faculty Advisor Award and in 2002, the Florence Denmark Psi Chi National Advisor Award. In 2003, she received both the APA Division 20 and Gerontological Society of America Mentoring Awards. She served as the Departmental Honors Coordinator from 1990–2010 and currently is the Psi Chi Faculty Advisor and the Director of the Office of National Scholarship Advisement in the Commonwealth Honors College. The author of eighteen books and over 170 journal articles and book chapters, Professor Whitbourne is regarded as an expert on personality development in mid- and late life. She is President-Elect of the Eastern Psychological Association, Chair of the Behavioral and Social Sciences Section of the Gerontological Society of America, and is on the APA Board of Educational Affairs. She served as APA Council Representative to Division 20 (Adult Development and Aging), having also served as Division 20 President. She is a Fellow of APA's Divisions 20, 1 (General Psychology), 2 (Teaching of Psychology), 9 (Society for the Psychological Study of Social Issues), 12 (Clinical Psychology), and 35 (Society for the Psychology of Women). Professor Whitbourne served as an item writer for the Educational Testing Service, was a member of APA's High School Curriculum National Standards Advisory Panel, wrote the APA High School Curriculum Guidelines for Life-Span Developmental Psychology, and serves as an item writer for the Examination for Professional Practice of Psychology. Her 2010 book, *The Search for Fulfillment,* was nominated for an APA William James Award. In 2011, she was recognized with a Presidential Citation from APA. In addition to her academic writing, she edits a blog on *Psychology Today* entitled "Fulfillment at Any Age" and a blog on Huffington Post "Post50" website.

BRIEF CONTENTS

Preface xiv

1 Overview to Understanding Abnormal Behavior 2

2 Diagnosis and Treatment 28

3 Assessment 50

4 Theoretical Perspectives 76

5 Neurodevelopmental Disorders 108

6 Schizophrenia Spectrum and Other Psychotic Disorders 140

7 Depressive and Bipolar Disorders 166

8 Anxiety, Obsessive-Compulsive, and Trauma- and Stressor-Related Disorders 190

9 Dissociative and Somatic Symptom Disorders 220

10 Feeding and Eating Disorders; Elimination Disorders; Sleep-Wake Disorders; and Disruptive, Impulse-Control, and Conduct Disorders 242

11 Paraphilic Disorders, Sexual Dysfunctions, and Gender Dysphoria 264

12 Substance-Related and Addictive Disorders 292

13 Neurocognitive Disorders 326

14 Personality Disorders 354

15 Ethical and Legal Issues 384

McGraw-Hill Education Psychology's APA Documentation Style Guide

Glossary G-1

References R-1

Name Index I-1

Subject Index I-10

CONTENTS

Preface xiv

CHAPTER 1

Overview to Understanding Abnormal Behavior 2

Case Report: Rebecca Hasbrouck 3

1.1 What Is Abnormal Behavior? 4

1.2 The Social Impact of Psychological Disorders 5

1.3 Defining Abnormality 6

1.4 What Causes Abnormal Behavior? 8

Biological Contributions 8

Psychological Contributions 8

Sociocultural Contributions 9

The Biopsychosocial Perspective 9

1.5 Prominent Themes in Abnormal Psychology Throughout History 10

Spiritual Approach 11

Humanitarian Approach 12

Scientific Approach 14

1.6 Research Methods in Abnormal Psychology 16

1.7 Experimental Design 16

What's in the *DSM-5*: Definition of a Mental Disorder 18

1.8 Correlational Design 18

You Be the Judge: Being Sane in Insane Places 19

1.9 Types of Research Studies 20

Survey 20

Laboratory Studies 21

The Case Study 21

REAL STORIES: Vincent van Gogh: Psychosis 22

Single Case Experimental Design 23

Research in Behavioral Genetics 24

Bringing It All Together: Clinical Perspectives 26

Return to the Case: Rebecca Hasbrouck 26

SUMMARY 26

KEY TERMS 27

CHAPTER 2

Diagnosis and Treatment 28

Case Report: Pedro Padilla 29

2.1 Psychological Disorder: Experiences of Client and Clinician 30

The Client 30

The Clinician 31

2.2 The Diagnostic Process 31

Diagnostic and Statistical Manual (*DSM-5*) 32

What's in the *DSM-5*: Changes in the *DSM-5* Structure 33

Additional Diagnostic Information 33

Culture-Bound Syndromes 35

2.3 Steps in the Diagnostic Process 37

Diagnostic Procedures 37

Case Formulation 38

Cultural Formulation 39

2.4 Planning the Treatment 40

Goals of Treatment 40

Treatment Site 41

- Psychiatric Hospitals 41
- Specialized Inpatient Treatment Centers 41
- Outpatient Treatment 42
- Halfway Houses and Day Treatment Programs 42
- Other Treatment Sites 42

Modality of Treatment 43

You Be the Judge: Psychologists as Prescribers 44

Determining the Best Approach to Treatment 44

2.5 The Course of Treatment 45

The Clinician's Role in Treatment 45

The Client's Role in Treatment 45

REAL STORIES: Daniel Johnston: Bipolar Disorder 46

2.6 The Outcome of Treatment 47

Return to the Case: *Pedro Padilla* 47

SUMMARY 48

KEY TERMS 49

CHAPTER 3
Assessment 50

Case Report: Ben Robsham 51

3.1 Characteristics of Psychological Assessments 52

3.2 Clinical Interview 53

3.3 Mental Status Examination 56

3.4 Intelligence Testing 57

Stanford-Binet Intelligence Test 57

Wechsler Intelligence Scales 58

3.5 Personality Testing 60

Self-Report Tests 60

Projective Testing 63

REAL STORIES: Ludwig van Beethoven: Bipolar Disorder 66

3.6 Behavioral Assessment 67

3.7 Multicultural Assessment 67

3.8 Neuropsychological Assessment 68

What's in the *DSM-5*: Section 3 Assessment Measures 69

You Be the Judge: Psychologists in the Legal System 70

3.9 Neuroimaging 72

3.10 Putting It All Together 73

Return to the Case: *Ben Robsham* 73

SUMMARY 74

KEY TERMS 75

CHAPTER 4
Theoretical Perspectives 76

Case Report: Meera Krishnan 77

4.1 Theoretical Perspectives in Abnormal Psychology 78

4.2 Biological Perspective 78

Theories 78

Role of the Nervous System 78

Role of Genetics 78

Treatment 84

What's in the *DSM-5*: Theoretical Approaches 86

4.3 Trait Theory 86

4.4 Psychodynamic Perspective 88

Freud's Theory 88

Post-Freudian Psychodynamic Views 90

Treatment 92

4.5 Behavioral Perspective 93

Theories 93

You Be the Judge: Evidence-Based Practice 94

Treatment 95

4.6 Cognitive Perspective 96

Theories 96

Treatment 97

4.7 Humanistic Perspective 98

Theories 98

Treatment 99

4.8 Sociocultural Perspective 101

Theories 101

REAL STORIES: Sylvia Plath, Major Depressive Disorder 102

Treatment 103

4.9 Biopsychosocial Perspectives on Theories and Treatments: An Integrative Approach 105

Return to the Case: *Meera Krishnan* 105

SUMMARY 106

KEY TERMS 107

CHAPTER 5
Neurodevelopmental Disorders 108

Case Report: Jason Newman 109

5.1 Intellectual Disability (Intellectual Developmental Disorder) 111

Causes of Intellectual Disability 112

Genetic Abnormalities 112

What's in the *DSM-5*: Neurodevelopmental Disorders 114

Environmental Hazards 115

Treatment of Intellectual Disability 116

5.2 Autism Spectrum Disorder 117

Theories and Treatment of Autism Spectrum Disorder 119

Rett Syndrome 121

REAL STORIES: Daniel Tammet: Autism Spectrum Disorder 122

High-Functioning Autism Spectrum Disorder, Formerly Called Asperger's Disorder 123

5.3 Learning and Communication Disorders 124

Specific Learning Disorder 124

Communication Disorders 127

5.4 Attention-Deficit/Hyperactivity Disorder (ADHD) 128

Characteristics of ADHD 128

ADHD in Adults 130

Theories and Treatment of ADHD 131

You Be the Judge: Prescribing Psychiatric Medications to Children 133

5.5 Motor Disorders 135

Developmental Coordination Disorder 135

Tic Disorders 136

Stereotypic Movement Disorder 136

5.6 Neurodevelopmental Disorders: The Biopsychosocial Perspective 137

Return to the Case: Jason Newman 137

SUMMARY 138

KEY TERMS 139

CHAPTER 6
Schizophrenia Spectrum and Other Psychotic Disorders 140

Case Report: David Marshall 141

6.1 Schizophrenia 143

What's in the *DSM-5*: Schizophrenia Subtypes and Dimensional Ratings 147

Course of Schizophrenia 148

You Be the Judge: Schizophrenia Diagnosis 149

6.2 Brief Psychotic Disorder 150

6.3 Schizophreniform Disorder 151

6.4 Schizoaffective Disorder 151

6.5 Delusional Disorders 152

6.6 Theories and Treatment of Schizophrenia 153

Biological Perspectives 153

Theories 153

REAL STORIES: Elyn Saks: Schizophrenia 156

Treatments 157

Psychological Perspectives 158

Theories 158

Treatments 159

Sociocultural Perspectives 160

Theories 160

Treatments 161

6.7 Schizophrenia: The Biopsychosocial Perspective 163

Return to the Case: David Marshall 163

SUMMARY 164

KEY TERMS 165

CHAPTER 7
Depressive and Bipolar Disorders 166

Case Report: Janice Butterfield 167

7.1 Depressive Disorders 168

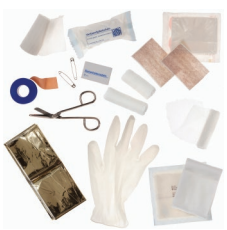
Major Depressive Disorder 168

Persistent Depressive Disorder (Dysthymia) 170
Disruptive Mood Dysregulation Disorder 170
Premenstrual Dysphoric Disorder 171
7.2 Disorders Involving Alternations in Mood 171
Bipolar Disorder 171
REAL STORIES: Carrie Fisher: Bipolar Disorder 172
Cyclothymic Disorder 175
7.3 Theories and Treatment of Depressive and Bipolar Disorders 175
Biological Perspectives 175
Biological Theories 175
Antidepressant Medications 176
What's in the *DSM-5*: Depressive and Bipolar Disorders 178
Bipolar Medications 178
Alternative Biologically Based Treatments 179
Psychological Perspectives 180
Psychodynamic Approaches 180
Behavioral and Cognitive-Behavioral Approaches 180
Interpersonal Approaches 182
Sociocultural Perspectives 184
7.4 Suicide 184
You Be the Judge: Do-Not-Resuscitate Orders for Suicidal Patients 186
7.5 Depressive and Bipolar Disorders: The Biopsychosocial Perspective 187
Return to the Case: Janice Butterfield 187
SUMMARY 188
KEY TERMS 189

CHAPTER **8**
Anxiety, Obsessive-Compulsive, and Trauma- and Stressor-Related Disorders 190

Case Report: Barbara Wilder 191
8.1 Anxiety Disorders 192
Separation Anxiety Disorder 193
Theories and Treatment of Separation Anxiety Disorder 193
Selective Mutism 194
Specific Phobias 195
Theories and Treatment of Specific Phobias 195
What's in the *DSM-5*: Definition and Categorization of Anxiety Disorders 198
Social Anxiety Disorder 198
Theories and Treatment of Social Anxiety Disorder 198
Panic Disorder and Agoraphobia 199
Panic Disorder 199
Agoraphobia 200
Theories and Treatment of Panic Disorder and Agoraphobia 200
Generalized Anxiety Disorder 201
Theories and Treatment of Generalized Anxiety Disorder 202
8.2 Obsessive-Compulsive and Related Disorders 203
Theories and Treatment of Obsessive-Compulsive Disorder 205
Body Dysmorphic Disorder 205
REAL STORIES: Howie Mandel: Obsessive-Compulsive Disorder 206
You Be the Judge: Psychosurgery 207
Hoarding Disorder 209
Trichotillomania (Hair-Pulling Disorder) 210
Excoriation (Skin-Picking) Disorder 212
8.3 Trauma- and Stressor-Related Disorders 213
Reactive Attachment Disorder and Disinhibited Social Engagement Disorder 213
Acute Stress Disorder and Post-Traumatic Stress Disorder 213
Theories and Treatment of Post-Traumatic Stress Disorder 214
8.4 Anxiety, Obsessive-Compulsive, and Trauma- and Stressor-Related Disorders: The Biopsychosocial Perspective 216
Return to the Case: Barbara Wilder 217
SUMMARY 217
KEY TERMS 219

CHAPTER **9**
Dissociative and Somatic Symptom Disorders 220



Case Report: Rose Marston 221
9.1 Dissociative Disorders 222
Major Forms of Dissociative Disorders 222

Theories and Treatment of Dissociative Disorders 223

REAL STORIES: Herschel Walker: Dissociative Identity Disorder 224

You Be the Judge: Dissociative Identity Disorder 226

9.2 Somatic Symptom and Related Disorders 228

Somatic Symptom Disorder 228

Illness Anxiety Disorder 229

Conversion Disorder (Functional Neurological Symptom Disorder) 229

Conditions Related to Somatic Symptom Disorders 230

Theories and Treatment of Somatic Symptom and Related Disorders 231

What's in the *DSM-5*: Somatic Symptom and Related Disorders 233

9.3 Psychological Factors Affecting Other Medical Conditions 233

Relevant Concepts for Understanding Psychological Factors Affecting Other Medical Conditions 234

Stress and Coping 234

Emotional Expression 237

Personality Style 238

Applications to Behavioral Medicine 239

9.4 Dissociative and Somatic Symptom Disorders: The Biopsychosocial Perspective 240

Return to the Case: *Rose Marston* *240*

SUMMARY 241

KEY TERMS 241

CHAPTER **10**

Feeding and Eating Disorders; Elimination Disorders; Sleep-Wake Disorders; and Disruptive, Impulse-Control, and Conduct Disorders 242

Case Report: Rosa Nomirez 243

10.1 Eating Disorders 244

Characteristics of Anorexia Nervosa 245

REAL STORIES: Portia de Rossi: Anorexia Nervosa and Bulimia Nervosa 246

Characteristics of Bulimia Nervosa 248

Binge-Eating Disorder 249

Theories and Treatment of Eating Disorders 249

Avoidant/Restrictive Food Intake Disorder 251

What's in the *DSM-5*: Reclassifying Eating, Elimination, Sleep-Wake, and Disruptive, Impulse Control, and Conduct Disorders 251

Eating Disorders Associated with Childhood 251

10.2 Elimination Disorders 252

10.3 Sleep-Wake Disorders 253

10.4 Disruptive, Impulse-Control, and Conduct Disorders 255

Oppositional Defiant Disorder 255

Intermittent Explosive Disorder 256

Conduct Disorder 258

Impulse-Control Disorders 258

Pyromania 259

Kleptomania 259

You Be the Judge: Legal Implications of Impulse-Control Disorders 260

10.5 Eating, Elimination, Sleep-Wake, and Impulse-Control Disorder: The Biopsychosocial Perspective 261

Return to the Case: *Rosa Nomirez* *262*

SUMMARY 263

KEY TERMS 263

CHAPTER **11**

Paraphilic Disorders, Sexual Dysfunctions, and Gender Dysphoria 264

Case Report: Shaun Boyden 265

11.1 What Patterns of Sexual Behavior Represent Psychological Disorders? 266

11.2 Paraphilic Disorders 268

Pedophilic Disorder 269

Exhibitionistic Disorder 270

Voyeuristic Disorder 270

Fetishistic Disorder 271
Frotteuristic Disorder 272
Sexual Masochism and Sexual Sadism Disorders 272
Transvestic Disorder 273
Theories and Treatment of Paraphilic Disorders 273
Biological Perspectives 274
Psychological Perspectives 275
You Be the Judge: Treatment for Sex Offenders 277
11.3 Sexual Dysfunctions 277
Arousal Disorders 279
Disorders Involving Orgasm 280
Disorders Involving Pain 281
Theories and Treatment of Sexual Dysfunctions 281
What's in the DSM-5: The Reorganization of Sexual Disorders 282
Biological Perspectives 282
Psychological Perspectives 283
REAL STORIES: Sue William Silverman: Sex Addiction 284
11.4 Gender Dysphoria 286
Theories and Treatment of Gender Dysphoria 287
11.5 Paraphilic Disorders, Sexual Dysfunctions, and Gender Dysphoria: The Biopsychosocial Perspective 289
Return to the Case: *Shaun Boyden* *289*
SUMMARY 290
KEY TERMS 291

CHAPTER 12
Substance-Related and Addictive Disorders 292

Case Report: Carl Wadsworth 293
12.1 Key Features of Substance Disorders 295
What's in the DSM-5: Combining Abuse and Dependence 296
12.2 Disorders Associated with Specific Substances 296
Alcohol 298
Theories and Treatment of Alcohol Use Disorders 300
Biological Perspectives 300
Psychological Perspectives 302
Sociocultural Perspective 305
Stimulants 306
Amphetamines 306
Cocaine 307
Cannabis 308
Hallucinogens 310
Opioids 312
You Be the Judge: Prescribing Prescription Drugs 313
Sedatives, Hypnotics, and Anxiolytics 315
Caffeine 315
Tobacco 316
REAL STORIES: Robert Downey Jr.: Substance Use Disorder 317
Inhalants 318
Theories and Treatment of Substance Use Disorders 318
Biological Perspectives 318
Psychological Perspectives 319
12.3 Non-Substance-Related Disorders 319
Gambling Disorder 319
12.4 Substance Disorders: The Biopsychosocial Perspective 323
Return to the Case: *Carl Wadsworth* *323*
SUMMARY 324
KEY TERMS 325

CHAPTER 13
Neurocognitive Disorders

Case Report: Irene Heller 327
13.1 Characteristics of Neurocognitive Disorders 328
13.2 Delirium 330
13.3 Neurocognitive Disorder Due to Alzheimer's Disease 333
Prevalence of Alzheimer's Disease 334
What's in the DSM-5: Recategorization of Neurocognitive Disorders 335

Stages of Alzheimer's Disease 335

Diagnosis of Alzheimer's Disease 335

Theories and Treatment of Alzheimer's Disease 339

Theories 339

You Be the Judge: Early Diagnosis of Alzheimer's Disease 340

Treatment 342

REAL STORIES: Ronald Reagan: Alzheimer's Disease 344

13.4 Neurocognitive Disorders Due to Neurological Disorders Other than Alzheimer's Disease 346

13.5 Neurocognitive Disorder Due to Traumatic Brain Injury 349

13.6 Neurocognitive Disorders Due to Substances/Medications and HIV Infection 350

13.7 Neurocognitive Disorders Due to Another General Medical Condition 351

13.8 Neurocognitive Disorders: The Biopsychosocial Perspective 351

Return to the Case: *Irene Heller* *352*

SUMMARY 352

KEY TERMS 353

CHAPTER **14**

Personality Disorders 354

Case Report: Harold Morrill 355

14.1 The Nature of Personality Disorders 357

Personality Disorders in *DSM-5* 357

What's in the *DSM-5*: Dimensionalizing the Personality Disorders 357

Alternative Personality Disorder Diagnostic System in Section 3 of the *DSM-5* 358

14.2 Cluster A Personality Disorders 361

Paranoid Personality Disorder 361

Schizoid Personality Disorder 362

Schizotypal Personality Disorder 363

14.3 Cluster B Personality Disorders 364

Antisocial Personality Disorder 364

Theories of Antisocial Personality Disorder 366

You Be the Judge: Antisocial Personality Disorder and Moral Culpability 367

REAL STORIES: Ted Bundy: Antisocial Personality Disorder 368

Treatment of Antisocial Personality Disorder 369

Borderline Personality Disorder 370

Theories and Treatment of BPD 372

Histrionic Personality Disorder 374

Narcissistic Personality Disorder 375

14.4 Cluster C Personality Disorders 377

Avoidant Personality Disorder 377

Dependent Personality Disorder 379

Obsessive-Compulsive Personality Disorder 380

14.5 Personality Disorders: The Biopsychosocial Perspective 382

Return to the Case: *Harold Morrill* *382*

SUMMARY 383

KEY TERMS 383

CHAPTER **15**

Ethical and Legal Issues 384

Case Report: Mark Chen 385

15.1 Ethical Standards 386

Competence 388

What's in the *DSM-5*: Ethical Implications of the New Diagnostic System 388

Informed Consent 390

Confidentiality 391

Relationships with Clients, Students, and Research Collaborators 396

You Be the Judge: Multiple Relationships Between Clients and Psychologists 397

Record Keeping 397

15.2 Ethical and Legal Issues in Providing Services 398

Commitment of Clients 398

Right to Treatment 399

Refusal of Treatment and Least Restrictive Alternative 400

15.3 Forensic Issues in Psychological Treatment 401

The Insanity Defense 401

REAL STORIES: Susanna Kaysen: Involuntary Commitment 402

Competency to Stand Trial 405

Understanding the Purpose of Punishment 405

Concluding Perspectives on Forensic Issues 406

Return to the Case: Mark Chen 406

SUMMARY 407

KEY TERMS 407

connect McGraw-Hill Education Psychology's APA Documentation Style Guide

Glossary G-1

References R-1

Name Index I-1

Subject Index I-10

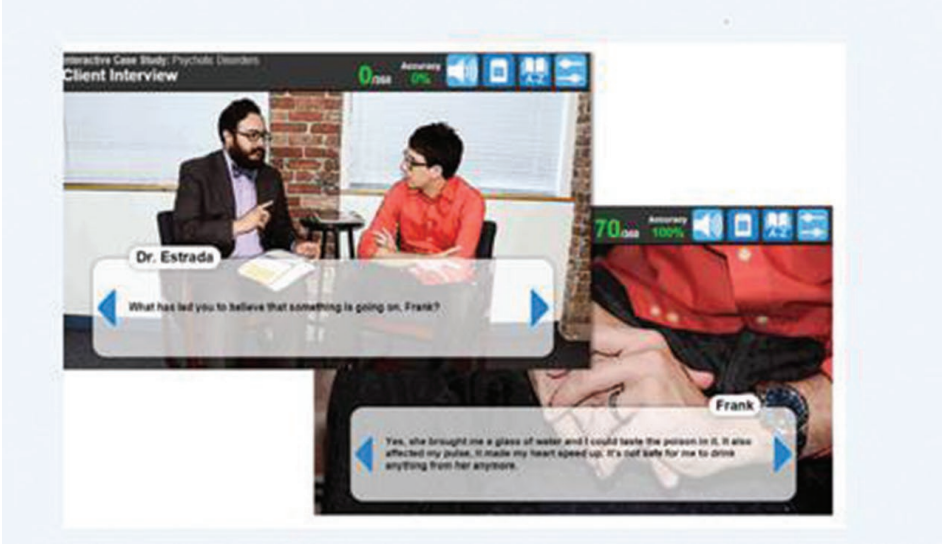
PREFACE

With its case-based approach, *Abnormal Psychology: Clinical Perspectives on Psychological Disorders* helps students understand the human side of psychological disorders. Updated with *DSM-5* content, the Eighth Edition ties concepts together with an integrated, personalized learning program, providing students the insight they need to study smarter and improve performance.

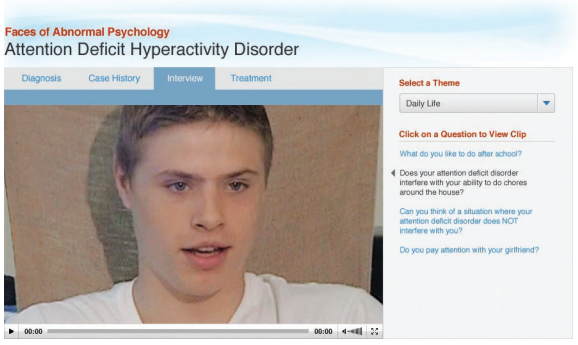
connect® McGraw-Hill Education Connect is a digital assignment and assessment platform that strengthens the link between faculty, students, and course work. Connect for Abnormal Psychology includes assignable and assessable videos, quizzes, exercises, and Interactivities, all associated with learning objectives for *Abnormal Psychology: Clinical Perspectives on Psychological Disorders,* Eighth Edition.

Thinking Critically about Abnormal Psychology

NEW! **Interactive Case Studies** help students understand the complexities of psychological disorders. Co-developed with psychologists and students, these immersive cases bring the intricacies of clinical psychology to life in an accessible, gamelike format. Each case is presented from the point of view of a licensed psychologist, a social worker, or a psychiatrist. Students observe sessions with clients and are asked to identify major differentiating characteristics associated with each of the psychological disorders presented. Interactive Case Studies are assignable and assessable through McGraw-Hill Education's Connect.



Updated with *DSM-5* content, **Faces of Abnormal Psychology** connects students to real people living with psychological disorders. Through its unique video program, Faces of Abnormal Psychology helps students gain a deeper understanding of psychological disorders and provides an opportunity for critical thinking.

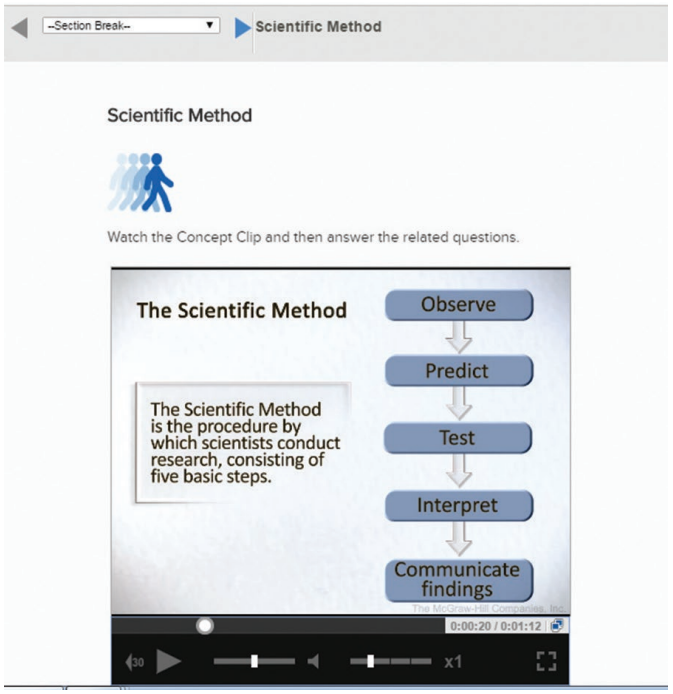


Informing and Engaging Students on Psychological Concepts

Using Connect for Abnormal Psychology, students can learn the course material more deeply and study more effectively than ever before.

At the *remember* and *understand* levels of Bloom's taxonomy, **Concept Clips** help students break down key themes and difficult concepts. Using easy-to-understand analogies, visual cues, and colorful animations, Concept Clips make psychology meaningful to everyday life. The Eighth Edition includes Concept Clips on topics such as The Scientific Method, Independent and Dependent Variables, Correlation, Major Depressive Disorder, and Stress and Coping.

At the *apply, analyze,* and *evaluate* levels of Bloom's taxonomy, **Interactivities** allow students to engage with the content to practice and apply their understanding of psychology to the world with fun, stimulating activities. **NewsFlash** exercises tie current news stories to key psychological principles and learning objectives. After interacting with a contemporary news story, students are assessed on their ability to make the connection between real life and research findings. Cases are revisited across chapters, encouraging students to consider multiple perspectives.



Better Data, Smarter Revision, Improved Results

Students study more effectively with SmartBook.

- **Make It Effective.** Available in Connect and SmartBook® creates a personalized reading experience by highlighting the most impactful concepts a student needs to learn at that moment in time. This ensures that every minute spent with SmartBook is returned to the student as the most value-added minute possible.
- **Make It Informed.** Real-time reports quickly identify the concepts that require more attention from individual students—or the entire class. SmartBook detects the content a student is most likely to forget and brings it back to improve long-term knowledge retention.

Students helped inform the revision strategy.

- **Make It Precise.** Systematic and precise, a heat map tool collates data anonymously collected from thousands of students who used Connect Abnormal Psychology's LearnSmart.
- **Make It Accessible.** The data is graphically represented in a heat map as "hot spots" showing specific concepts with which students had the most difficulty. Revising these concepts, then, can make them more accessible for students.

Connect Reports: Personalized Grading on the Go, Made Easier

Whether a class is face-to-face, hybrid, or entirely online, Connect provides the tools needed to reduce the amount of time and energy that instructors must spend to administer their courses. Easy-to-use course management tools allow instructors to spend less time administering and more time teaching, while reports allow students to monitor their progress and optimize study time.

- **Connect Insight** is a one-of-kind visual analytics dashboard—now available for both instructors and students—that provides at-a-glance information regarding student performance.

- The **Category Analysis Report** details student performance relative to specific learning objectives and goals, including APA learning goals and outcomes and levels of Bloom's taxonomy.
- The **At-Risk Student Report** provides instructors with one-click access to a dashboard that identifies students who are at risk of dropping out of the course due to low engagement levels.
- The **LearnSmart Reports** allow instructors and students to easily monitor progress and pinpoint areas of weakness, giving each student a personalized study plan to achieve success.

Clinical Perspectives on Psychological Disorders

The subtitle, *Clinical Perspectives on Psychological Disorders,* reflects the emphasis in each of the prior editions on the experience of clients and clinicians in their efforts to facilitate each individual's maximum functioning. Each chapter begins with an actual case study that typifies the disorders in that chapter, then returns to the case study at the end with the outcome of a prescribed treatment on the basis of the best available evidence. Throughout the chapter, the author translates the symptoms of each disorder into terms that capture the core essence of the disorder. The philosophy is that students should be able to appreciate the fundamental nature of each disorder without necessarily having to memorize diagnostic criteria. In that way, students can gain a basic understanding that will serve them well regardless of their ultimate professional goals.

In this Eighth Edition, the author refreshes many of the cases to reflect stronger ethnic diversity and age distribution.

Above all, the study of abnormal psychology is the study of profoundly human experiences. To this end, the author has developed a biographical feature entitled "Real Stories." You will read narratives from the actual experiences of celebrities, sports figures, politicians, authors, musicians, and artists ranging from Ludwig van Beethoven to Herschel Walker. Each story is written to provide insight into the particular disorder covered within the chapter. By reading these fascinating biographical pieces, you will come away with a more in-depth personal perspective to use in understanding the nature of the disorder.

The author has developed this text using a scientist-practitioner framework. In other words, you will read about research informed by clinical practice. The author presents research on theories and treatments for each of the disorders based on the principles of "evidence-based practice." This means that the approaches are tested through extensive research informed by clinical practice. Many researchers in the field of abnormal psychology also treat clients in their own private offices, hospitals, or group practices. As a result, they approach their work in the lab with the knowledge that their findings can ultimately provide real help to real people.

Chapter-by-Chapter Changes

As mentioned, this Eighth Edition was revised in response to student heat map data that pinpointed the topics and concepts where students struggled the most. This was reflected primarily in Chapters 6, 7, 11, 14, and 15.

This edition reflects the most recent revision to the Diagnostic and Statistical Manual of Mental Disorders (DSM) published by the American Psychiatric Association in 2013 and known as *DSM-5*. The *DSM-5* was written following a lengthy process of revising the previous edition, the *DSM-IV-TR,* involving hundreds of researchers contributing to task forces intended to investigate each of the major categories of disorders. We will still talk about the *DSM-IV-TR* in some chapters, if only as a contrast to the *DSM-5*. Each chapter has a section entitled "What's in the *DSM-5*" which highlights the critical changes introduced in 2013 and shows why they matter. Additionally, because so much of our current understanding of research on psychological disorders used earlier editions of the DSM for diagnostic purposes, students will still encounter findings based on the prior diagnostic system. It generally takes a few years for research to catch up with new diagnostic terminology both because of the amount of time it takes for articles to reach publication stage, and also because there may be no available research instruments based on the new diagnostic criteria. From the student's point of view, the conceptual frameworks that inform the way we think about psychological disorders are most important.

Adding to this complexity is the fact that an entirely different classification system, the International Classification of Diseases (ICD) is used by countries outside of the U.S. and Canada as well as in the U.S. for governmental insurance agencies. We will discuss the ICD when relevant, particularly as it relates to international comparisons.

Other content changes include the following:

Chapter 1

- Reorganized the history of abnormal psychology section to present more clearly the major themes underlying the development of the spiritual, humanitarian, and scientific approaches

- Updated the list of behaviors in the range from "normal" to "abnormal"
- Added a discussion of randomized control trials to the research methods section

Chapter 2

- Updated and expanded material on *DSM-5*
- New discussion of Z codes in *ICD-10*
- Updated language used to describe the client and clinician
- Expanded the description of the diagnostic process
- Expanded the distinction between short-term and long-term goals
- New material on the outcome of treatment

Chapter 3

- Updated discussion of psychological assessment
- Expanded material on personality testing
- Added discussion of executive functioning
- New material on diffusion tensor imaging (DTI)

Chapter 4

- Expanded description of the role of neurotransmitters in psychological disorders
- Increased focus on the role of genetics
- Updated explanation of genetics and epigenetics
- Expanded discussion of post-Freudian psychodynamic theorists
- New material on the phenomenon of transference

Chapter 5

- Increased discussion on fetal alcohol syndrome and fetal alcohol spectrum disorder (FASD)
- Updated prevalence statistics and discussion of standards of diagnosis for autism spectrum disorder
- Expanded discussion of behavioral strategies for individuals with autism spectrum disorder to help improve health and overall well-being
- New discussion of the genetic basis of Rett syndrome
- Updated coverage of ADHD in adults
- Revised discussion on medications for ADHD

Chapter 6

- New statistics on gender differences in aging among people with schizophrenia
- Revised discussion of criteria associated with a diagnosis of schizophrenia
- Updated research on cognitive symptoms and their neurological basis in schizophrenia
- Discussion of catatonia as a separate disorder in *DSM-5*
- New material on schizophrenia as a spectrum disorder
- Added research on neuroplasticity and schizophrenia
- Expanded discussion of shared psychotic disorder
- Updated coverage of neuroimaging methods for identifying changes in brain structures
- New findings on cognitive behavioral therapy for psychosis
- New discussion of auditory training as a treatment method

Chapter 7

- Updated material on health risks for people with bipolar disease in middle and later life
- Included new research on neuroscience of depressive disorders
- Expanded discussion of the role of genetics in major depressive disorder
- Updated research on psychotherapy for depressive disorders, including mindfulness training
- Provided results of randomized clinical trials on cognitive-behavioral and interpersonal therapy for depressive and bipolar disorders
- Revised discussion of antidepressant medications for mood disorders
- Updated statistics on suicide rates by age group
- Examined evidence in support of resilience model for reducing suicide risk

Chapter 8

- Included new research on role of environmental influences in genetic contributions to separation anxiety disorder
- Discussed role of sociocultural factors in separation anxiety disorder
- Updated treatment methods of selective mutism to include cognitive-behavioral therapy
- Presented support for virtual reality exposure therapy
- Expanded treatment of motivational interviewing, acceptance and commitment therapy, and mindfulness/meditation in treating anxiety disorders
- Replaced Paula Deen with Howie Mandel in Real Stories
- Added dialectical behavior therapy (DBT) as a method of treating hoarding disorder

Chapter 9

- Included research on relationship between somatic symptoms and anxiety and depressive disorders
- Expanded treatment of illness anxiety disorder
- Provided clearer explanation of conversion disorder
- Updated research on coping mechanisms in later adulthood
- Included discussion of compassion fatigue
- Updated research on the field of behavioral medicine

Chapter 10

- Described long-term outcomes for women with eating disorders
- Expanded role of neurotransmitters in eating disorders
- Added new information on genetic studies of eating disorders
- Expanded treatment of family therapy for eating disorders
- Described therapy for sleep-wake disorders in more detail
- Updated cognitive-behavioral therapy for intermittent explosive disorder
- Provided new research on genetic risk for conduct disorder

Chapter 11

- Expanded discussion of paraphilic disorders
- New epidemiological data on pedophilic disorder
- Expanded description of research on sexual masochism and sexual sadism
- Increased discussion of treatment of individuals with paraphilic disorders
- New material on female sexual interest/arousal disorder
- Updated research on relationship between body image and sexual functioning
- Updated discussion of treatment of female sexual interest/arousal disorder
- Expanded material on theories and treatment of gender dysphoria including discussion of transgender individuals

Chapter 12

- Updated all prevalence statistics on illicit substances
- Provided summary of recent work on diathesis-stress model of alcohol use disorders
- Discussed role of mindfulness training in substance use disorders

Chapter 13

- Updated prevalence statistics on Alzheimer's disease
- Provided updated information on biological causes of Alzheimer's disease
- New discussion of chronic traumatic encephalography (CTE)

Chapter 14

- Included new research on personality traits in relation to personality disorders
- Added research on the traits of fearless dominance and dark triad in individuals high in psychopathy
- Updated research on genetic contributions to personality disorders
- Expanded discussion of therapy for antisocial personality disorder, including motivational interviewing

- New discussion of long-term prospects of children and adolescents diagnosed with borderline personality disorder
- New research on mentalization therapy for borderline personality disorder
- New discussion of the distinction between grandiose and vulnerable narcissism
- Discussed cognitive-behavioral therapy and mindfulness training in the treatment for people with dependent personality disorder

Chapter 15

- Updated information on changes in the APA Ethics Code regarding enhanced interrogation methods
- New material on certification of psychologists with diplomate status

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The **Instructor's Manual** provides many tools useful for teaching the Eighth Edition. For each chapter, the Instructor's Manual includes an overview of the chapter, teaching objectives, suggestions and resources for lecture topics, classroom activities, and essay questions designed to help students develop ideas for independent projects and papers.

The **Test Bank** contains over 2,000 testing items. All testing items are classified as conceptual or applied, and referenced to the appropriate learning objective. All test questions are available within the TestGen™ software.

The **PowerPoint** slides, now WCAG accessible, are key points of each chapter and contain key illustrations, graphs, and tables for instructors to use during their lectures.

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It has been particularly satisfying to work on this edition with my daughter, Jennifer L. O'Brien, Ph.D., who served as my research assistant and author of all the Case Reports and Real Stories in the text. A psychologist at the Massachusetts Institute of Technology (MIT) Medical Mental Health and Counseling services, Jenny received her Ph.D. in 2015 from American University, completed a Predoctoral Internship at the Durham V.A. Hospital and a Postdoctoral Internship at the Boston V.A. Hospital. Her wide range of experiences both with veterans and university students gives her a unique perspective and set of insights that inform the entire book.

Finally, a great book can't come together without a great publishing team. I'd like to thank the editorial team, all of whom worked with me through various stages of the publishing process. Special gratitude goes to my editor, Krista Bettino, whose vision helped me present the material in a fresh and student-oriented manner. Joanne Fraser served as product developer and I could not ask for more thorough and knowledgeable support in the revising of this edition. I also wish to thank Sandy Wille and Deb Hash, of the Production Team at McGraw-Hill, whose assistance in preparing the manuscript was incredible.

A Letter from the Author

I am very glad that you are choosing to read my textbook. The topic of abnormal psychology has never been more fascinating or relevant. We constantly hear media reports of celebrities having meltdowns for which they receive quickie diagnoses that may or may not be accurate. Given all of this misinformation in the mind of the public, I feel that it's important for you to be educated in the science and practice of abnormal psychology. At the same time, psychological science grabs almost as many headlines in all forms of news media. It seems that everyone is eager to learn about the latest findings ranging from the neuroscience of behavior to the effectiveness of the newest treatment methods. Such advances in brain-scanning methods and studies of psychotherapy effectiveness are greatly increasing our understanding of how to help treat and prevent psychological disorders.

Particularly fascinating are the *DSM-5* changes. Each revision of the DSM brings with it controversies and challenges and the *DSM-5* is no exception. Despite challenges to the new ways that the *DSM-5* defines and categorizes psychological disorders, it is perhaps more than any earlier edition based on strong research. Scientists and practitioners will continue to debate the best ways to interpret this research. We all will benefit from these dialogues.

The profession of clinical psychology is also undergoing rapid changes. With changes in health care policy, it is very likely that more and more professionals ranging from psychologists to mental health counselors will be employed in providing behavioral interventions. By taking this first step toward your education now, you will be preparing yourself for a career that is increasingly being recognized as vital to helping individuals of all ages and all walks of life to achieve their greatest fulfillment.

I hope you find this text as engaging to read as I found to write. Please feel free to e-mail me with your questions and reactions to the material. As a user of McGraw-Hill's Connect in my own introductory psychology class, I can also vouch for its effectiveness in helping you achieve mastery of the content of abnormal psychology. I am also available to answer any questions you have, from an instructor's point of view, about how best to incorporate this book's digital media into your own teaching.

Thank you again for choosing to read this book!

Best,
Susan Krauss Whitbourne, PhD
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Overview to Understanding Abnormal Behavior

OUTLINE

Case Report: Rebecca Hasbrouck
What Is Abnormal Behavior?
The Social Impact of Psychological Disorders
Defining Abnormality
What Causes Abnormal Behavior?
- Biological Contributions
- Psychological Contributions
- Sociocultural Contributions
- The Biopsychosocial Perspective

Prominent Themes in Abnormal Psychology Throughout History
- Spiritual Approach
- Humanitarian Approach
- Scientific Approach

Research Methods in Abnormal Psychology
Experimental Design
What's in the *DSM-5*: Definition of a Mental Disorder
Correlational Design
You Be the Judge: Being Sane in Insane Places
Types of Research Studies
- Survey
- Laboratory Studies
- The Case Study

Real Stories: Vincent van Gogh: Psychosis
- Single Case Experimental Design
- Research in Behavioral Genetics

Bringing It All Together: Clinical Perspectives
Return to the Case: Rebecca Hasbrouck
Summary
Key Terms

Learning Objectives

1.1 Distinguish between normal but unusual behavior and between unusual but abnormal behavior.

1.2 Understand how explanations of abnormal behavior have changed through time.

1.3 Articulate the strengths and weaknesses of research methods.

1.4 Describe types of research studies.

CHAPTER 1

Case Report: Rebecca Hasbrouck

Demographic information: 18-year-old Caucasian female.

Presenting problem: Rebecca self-referred to the university counseling center. She is a college freshman, living away from home for the first time. After the first week of school, Rebecca reports that she is having trouble sleeping, is having difficulty concentrating in her classes, and often feels irritable. She is frustrated by the difficulties of her coursework and states she is worried that her grades are beginning to suffer. She also reports that she is having trouble making friends at school and that she has been feeling lonely because she has no close friends here with whom she can talk openly. Rebecca is very close to her boyfriend of 3 years, though they have both started attending college in different cities. She was tearful throughout our first session, stating that, for the first time in her life, she feels overwhelmed by feelings of hopelessness. She reports that although the first week at school felt like "torture," she is slowly growing accustomed to her new lifestyle, but she still struggles with missing her family and boyfriend, as well as her friends from high school.

Relevant past history: Rebecca has no family history of psychological disorders. She reported that sometimes her mother tends to get "really stressed out" though she has never received professional mental health treatment.

Symptoms: Depressed mood, difficulty falling asleep (insomnia), difficulty concentrating on schoolwork. She denied suicidal ideation.

Case formulation: Although it appeared at first as though Rebecca was suffering from a major depressive episode, she did not meet the diagnostic criteria. While the age of onset for depression tends to be around Rebecca's age, given her lack of a family history of depression and that her symptoms were occurring in response to a major stressor, the clinician determined that Rebecca was suffering from adjustment disorder with depressed mood.

Treatment plan: The counselor will refer Rebecca for psychotherapy. Therapy should focus on improving her mood, and also should allow her a space to discuss her feelings surrounding the major changes that have been occurring in her life.

Sarah Tobin, PhD
Clinician

Rebecca Hasbrouck's case report summarizes the pertinent features that a clinician would include when first seeing a client after an initial evaluation. Each chapter of this book begins with a case report for a client whose characteristics are related to the chapter's topic. A fictitious clinician, Dr. Sarah Tobin, who supervises a clinical setting that offers a variety of services, writes the case reports. In some instances, she provides the services, and in others, she supervises the work of another psychologist. For each case, she provides a diagnosis using the official manual adopted by the profession known as the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5)* (American Psychiatric Association, 2013).

At the end of the chapter, after you have developed a better understanding of the client's disorder, we will return to Dr. Tobin's description of the treatment results and expected future outcomes for the client. We also include Dr. Tobin's personal reflections on the case, to help you gain insight into the clinician's experience in working with psychologically disordered individuals.

The field of abnormal psychology is filled with countless fascinating stories of people who suffer from psychological disorders. In this chapter, we will try to give you some sense of the reality that psychological disturbance is certain to touch everyone, to some extent, at some point in life. As you progress through this course, you will almost certainly develop a sense of the challenges people associate with psychological problems. You will find yourself drawn into the many ways that mental health problems affect the lives of individuals, their families, and society. In addition to becoming more personally exposed to the emotional aspects of abnormal psychology, you will learn about the scientific and theoretical basis for understanding and treating the people who suffer from psychological disorders.

1.1 What Is Abnormal Behavior?

It's possible that you know someone very much like Rebecca, who is suffering from more than the average degree of adjustment difficulties in college. Would you consider her psychologically disturbed? Would you consider giving her a diagnosis? What if she showed up at your door, looking as if she were ready to harm herself?

At what point do you draw the line between someone who has a psychological disorder and someone who, like Rebecca, has an adjustment disorder? Is it even necessary to give Rebecca any diagnosis at all? Questions about normality and abnormality such as these are basic to our understanding of psychological disorders.

Perhaps you yourself are, or have been, unusually depressed, fearful, or anxious. If not you, quite possibly someone you know has struggled with a psychological disorder or its symptoms. It may be that your father struggles with alcoholism, your mother has been hospitalized for severe depression, your sister has an eating disorder, or your brother has an irrational fear. If you have not encountered a psychological disorder within your immediate family, you have very likely encountered one in your extended family and circle of friends. You may not have known the formal psychiatric diagnosis for the problem, and you may not have understood its nature or cause, but you knew that something was wrong and recognized the need for professional help.

This young woman's apparent despair may be the symptoms of a psychological disorder.

Until they are forced to face such problems, most people believe that "bad things" happen only to other people. You may think that other people have car accidents, succumb to cancer, or in the psychological realm, become severely depressed. We hope that reading this textbook will help you go beyond this "other people" syndrome. Psychological disorders are part of the human experience, touching the life—either directly or indirectly—of every person. However, they don't have to destroy those lives. As you read about these disorders and the people who suffer with them, you will find that these problems can be treatable, if not preventable.

1.2 The Social Impact of Psychological Disorders

Psychological disorders affect both the individual and the other people in the individual's social world. Put yourself in the following situation. You receive an urgent text from the mother of your best friend, Jeremy. You call Jeremy's mother and find out he's been admitted to a psychiatric hospital and he wants to see you. According to Jeremy's mother, only you can understand what he is going through. The news is puzzling and distressing. Coming out of the blue, you had no idea that he had any psychological problems. You ponder what you will say to him when you see him. This is your closest friend, but now you wonder how all of this will change. How much can you ask him about what he's going through? How is it that you never saw any of this coming? Unsure about what to do when you get there, you wonder what kind of shape he'll be in and whether he'll even be able to communicate with you. What will it be like to see him in a psychiatric hospital? What will he expect of you, and what will this mean for the future of your relationship?

Now imagine the same scenario, but instead you receive news that Jeremy was just admitted to the emergency room of a general hospital with an acute appendicitis. You know exactly how to respond when you go to see him. You will ask him how he feels, what exactly is wrong with him, and when he will be well again. Even though you might not like hospitals very much, at least you have a pretty good idea about what hospital patients are like. It does not seem peculiar to imagine Jeremy as a patient in this kind of hospital. The appendectomy won't seem like anything special, and you would probably not even consider whether you could be friends with him again after he is discharged. He'll be as good as new in a few weeks, and your relationship with him will resume unchanged.

Now that you've compared these two scenarios, consider the fact that people with psychological disorders frequently face situations such as Jeremy's in which even the people who care about them aren't sure how to respond to their symptoms. Furthermore, even after their symptoms are under control, individuals like Jeremy continue to experience profound and long-lasting emotional and social effects as they attempt to resume their former lives. The disorder itself may also bring about anguish and personal suffering. Like Rebecca, they must cope with feelings of loneliness and sadness. Rather than

The family of individuals with psychological disorders face significant stress when their relatives must be hospitalized.

enjoying her newfound independence while at college like her classmates, she is experiencing extreme amounts of sadness and loneliness. She is unable to focus on her studies, make new friends, or even sleep.

stigma
A label that causes certain people to be regarded as different, defective, and set apart from mainstream members of society.

There is associated with psychological disorders a great deal of **stigma,** a label that causes certain people to be regarded as different, defective, and set apart from mainstream members of society. The negative attitudes attached to psychological disorders exist even in our current society in which there is more awareness of the prevalence of mental health issues. Social attitudes toward people with psychological disorders range from discomfort to outright prejudice. Language, humor, and stereotypes portray psychological disorders in a negative light and many people fear that those who have these disorders are violent and dangerous.

There seems to be something about a psychological disorder that makes people want to distance themselves from it as much as possible. The result of these stereotypes is social discrimination, which only serves to complicate the lives of the afflicted even more. Making matters worse, people experiencing symptoms of a psychological disorder may not avail themselves of the help they could receive from treatment because they have incorporated these stigmatized views of mental illness (Clement et al., 2015).

In the chapters that follow, you will read about a wide range of disorders involving mood, anxiety, substance use, sexuality, and thought disturbance. The case descriptions will give you a glimpse into the feelings and experiences of people who have these disorders, and you may find that some of these individuals seem similar to you or to people you know. As you read about the disorders, put yourself in the place of the people who have these conditions. Consider how they feel and how they would like people to treat them. We hope that you will realize that our discussion is not about disorders, but about the people with these disorders.

1.3 Defining Abnormality

There is a range of behaviors that people consider "normal." Where do you draw the line? From the following examples, decide which of these you regard as abnormal.

- Feeling jinxed when your "lucky" seat in an exam is already occupied when you get to class
- Being unable to sleep, eat, study, or talk to anyone else for days after a lover says, "It's over between us"
- Breaking into a cold sweat at the thought of being trapped in an elevator
- Swearing, throwing pillows, and pounding fists on the wall in the middle of an argument with a roommate
- Refusing to eat solid food for days at a time in order to stay thin
- Engaging in a thorough hand-washing after coming home from a bike ride
- Protesting the rising cost of college by joining a picket line outside the campus administration building
- Being convinced that people are constantly being critical of everything you do
- Drinking a six-pack of beer a day in order to be "sociable" with friends
- Playing videogames for hours at a time, avoiding other study and work obligations

If you're like most people, you probably found it difficult to decide which of these behaviors would be normal and which would be abnormal. It is surprisingly difficult to make this distinction because so many of them are part of everyday life. You can see now why mental health professionals grapple with the appropriate definition of abnormality. Yet, criteria need to exist for mental health professionals to use in their work with clients so they can proceed to provide appropriate treatment.

Looking back on this list of behaviors, think now about how each would rate if you apply the five criteria for a psychological disorder used by mental health professionals. In reality, no one would diagnose a psychological disorder on the basis of a single behavior, but using these criteria can at least give you some insight into the process that clinicians use when deciding whether a given client has a disorder or not.

The first criterion for a psychological disorder is **clinical significance,** meaning that the behavior involves a degree of impairment that a clinician can observe. People who feel jinxed about not having a lucky seat available for an exam would fit this criterion only if they could not concentrate on the exam at all unless they sat in that seat.

clinical significance
The criterion for a psychological disorder in which the behavior being evaluated involves a measurable degree of impairment that the clinician can observe.

Second, to be considered evidence of a psychological disorder, a behavior must reflect a dysfunction in a psychological, biological, or developmental process. Concretely, this means that even if scientists do not currently know what that dysfunction is, they assume that it can one day be discovered.

The third criterion for abnormality is the behavior must be associated with significant distress or disability in important realms of life. This may sound similar to clinical significance, but the idea of distress or disability is that it applies to how the individual feels or behaves beyond having a measurable effect that the clinician can observe. The individual either feels negatively affected by the behavior ("distress") or suffers negative consequences in life as a result ("disability"). People may enjoy playing videogames to a point, but if they exclude their other obligations, this will negatively affect their lives. They may also feel distressed but unable to stop themselves from engaging in the behavior.

Fourth, the individual's behavior cannot simply be socially "deviant" as defined in terms of religion, politics, or sexuality. The person who refuses to eat meat for religious, political, or other personal reasons would not be considered to have a psychological disorder by this standard. However, if that person restricts all food intake to some level far below what is healthy, then that individual may meet one of the other criteria for abnormality such as clinical significance and/or the distress-disability dimension.

The fifth and final criterion for a psychological disorder is that it reflects a dysfunction within the individual. A psychological disorder cannot reflect a difference in political beliefs between citizens and their governments. Those campus protesters who want to keep college costs down could not, according to this criterion, be considered psychologically disordered, although they may be putting themselves at risk if they never attend a single class.

As you can see, deciding which behaviors are normal and which are not is a difficult proposition. Furthermore, when it comes to making an actual diagnosis of a client, the

This woman is distressed over her inability to fall asleep, but does this mean she has a psychological disorder?

mental health professional must further weigh the merits versus disadvantages of using a diagnostic label. The merits are that the individual will receive treatment (and be able to receive insurance reimbursement) but the disadvantages can be that the individual will be labeled with a psychological disorder that becomes part of his or her health records. At a later point in life, that diagnosis may make it difficult for the individual to qualify for certain jobs.

Fortunately, mental health professionals have these criteria to guide them, with extensive manuals that allow them to feel reasonably confident that they are assigning diagnoses when appropriate. These five criteria, and the specific diagnoses for the many forms of psychological disorders that can affect people, form the core content of this course.

1.4 What Causes Abnormal Behavior?

For the moment, we will leave behind the question of whether behavior is abnormal or normal while we look at the potential factors that can be involved in leading individuals to experience a psychological disorder. As you will learn, we can best conceptualize abnormal behavior from multiple vantage points. Following from the **biopsychosocial perspective,** abnormal behavior is seen as reflecting a combination of biological, psychological, and sociocultural factors as these evolve over time in the individual's growth and development.

biopsychosocial perspective
A model in which the interaction of biological, psychological, and sociocultural factors is seen as influencing the development of the individual.

Biological Contributions

Starting first with the biological part of the equation, the factors within the body that can contribute to abnormal behavior include genetic abnormalities that alone, or in combination with the environment, influence the individual's psychological functioning. Within the biopsychosocial perspective, these biological influences must impact or alter some feature of nervous system functioning.

The most relevant genetic influences for our purposes are inherited factors that alter the functioning of the nervous system. However, psychological disorders can also be produced by environmental influences alone if these affect the brain or related organs of the body. For example, people with thyroid disturbances may experience wide mood or activity level fluctuations. Brain injury resulting from a head trauma can result in altered thoughts, memory loss, and changes in mood.

Within the biopsychosocial perspective, social factors interact with biological and psychological contributions, in that environmental influences can alter behavior. Exposure to toxic substances in the environment can also alter an individual's emotions and behavior by their effects on the nervous system. Additionally, environmental deprivation caused by poverty, malnutrition, or social injustice can place individuals at risk by threatening their physical health, which in turn affects their mental health.

Psychological Contributions

You are probably more familiar with the idea that psychological disturbances are the causes of altered psychological functioning or behavior. Within the biopsychological perspective, however, psychological causes are viewed as part of a larger constellation of factors influenced by something going on within the body interacting with exposure to a certain environment.

We might argue, however, that from a strictly psychological perspective, some causes of abnormal behavior reflect entirely psychological factors. For example, individuals may find themselves repeating distressing behaviors that are instilled through learning experiences. They may also express emotional instability as the result of feeling that their parents or caretakers could not be relied on to watch over them.

Although there are no pure psychological causes in the biopsychosocial perspective, those that reflect learning, life experiences, or exposure to certain situations may be thought of as reflecting predominantly psychological influences. These can also include difficulty coping with stress, illogical fears, susceptibility to uncontrollable emotions,

and a host of other dysfunctional thoughts, feelings, and behaviors that lead individuals to meet the criteria for psychological disorder.

Sociocultural Contributions

sociocultural perspective
The theoretical perspective that emphasizes the ways that individuals are influenced by people, social institutions, and social forces in the world around them.

The term **sociocultural perspective** refers to the various circles of influence on the individual ranging from close friends and family to the institutions and policies of a country or the world as a whole. These interact in important ways with biological processes affecting the brain, as discussed, and with the psychological contributions that occur through exposure to particular experiences.

One important unique sociocultural contribution to psychological disorders is discrimination, whether based on social class, income, race and ethnicity, sexual orientation, or gender. Discrimination not only limits people's ability to experience psychological well-being, but can also have direct effects on physical health and development. For example, it has long been known that people from lower economic income and status brackets are more likely to have psychological disorders due to the constant strain of being discriminated against as well as lack of access to education and health resources.

As we pointed out earlier, moreover, people who are diagnosed with a psychological disorder are likely to be stigmatized as a result of their symptoms and diagnostic label. The stress of carrying the stigma of mental illness increases the emotional burden for these individuals and their loved ones. Because it may prevent them from seeking badly needed help, it also perpetuates a cycle in which many people in need become much worse.

The stigma of psychological disorders affects people from ethnic and racial minorities more severely than those from mainstream society. For example, European American adolescents and their caregivers are twice as likely as members of minority groups to define problems in mental health terms or to seek help for such problems (Roberts, Alegría, Roberts, & Chen, 2005).

The existence of multiple forms of discrimination means, then, that individuals must cope not only with their symptoms and the stigma of their symptoms, but also with the negative attitudes toward their socially defined group. Clinicians working with individuals from discriminated-against groups are increasingly learning the importance of taking these factors into account in both diagnosis and treatment. We will learn about the specific guidelines that mental health experts are developing to help ensure that clinicians receive adequate training in translating theory into practice.

The Biopsychosocial Perspective

Table 1 summarizes the three categories of causes of psychological disorders. As you have seen, disturbances in any of these areas of human functioning can contribute to the development of a psychological disorder. Furthermore, although this breakdown is helpful, it is important to keep in mind the many possible interactions among these three sets of influences.

TABLE 1 **Causes of Abnormal Behavior**

Biological	Genetic inheritance
	Physiological changes
	Exposure to toxic substances
Psychological	Past learning experiences
	Maladaptive thought patterns
	Difficulties coping with stress
Sociocultural	Social policies
	Discrimination
	Stigma

Hieronymous Bosch's *Removal of the Stone of Folly* depicted a medieval "doctor" cutting out the presumed source of madness from a patient's skull. The prevailing belief was that spiritual possession was the cause of psychological disorder.

The Greeks sought advice from oracles, wise advisors who made pronouncements from the gods.

As you will see when reading about the conditions in this textbook, the degree of influence of each of these variables differs among disorders. For some disorders, such as schizophrenia, biology seems to play a particularly dominant role. For other disorders, such as stress reactions, psychological factors predominate. Conditions such as post-traumatic stress disorder as a result, for example, from experiences under a terrorist regime, have a primarily sociocultural cause.

The biopsychosocial perspective also incorporates a developmental viewpoint. This means that it is important to understand how these three sets of influences change over the course of an individual's life. Some circumstances place the individual at risk, particularly if these occur at certain points in life. Young children may be especially subject to such factors as inadequate nutrition, harsh parental criticism, and neglect. Protective factors, on the other hand, such as loving caregivers, adequate health care, and early life successes, can reduce an individual's likelihood of developing a disorder. These early risk-protective factors become part of the individual's susceptibility to developing a disorder, and they remain influential throughout life.

In later adulthood, different risk and protective factors may play a role. Individuals who are experiencing physical health problems due to a lifetime of poor dietary habits may be more likely to develop psychological symptoms due to altered cardiovascular functioning. On the other hand, if they have developed an extensive social support network, this can somewhat offset the risk presented by their poor physical health.

At all ages, the biological, psychological, and sociocultural factors continue to interact and affect the individual's mental health and well-being as well as the expression of a particular psychological disorder (Whitbourne & Meeks, 2011). This framework can be used to provide an understanding of the causes of abnormality and, just as importantly, the basis for treatment.

1.5 Prominent Themes in Abnormal Psychology Throughout History

The greatest thinkers of the world, from ancient times to the present, have attempted to explain the varieties of human behavior that we now regard as evidence for a psychological disorder. Throughout history, three prominent themes seem to recur: the spiritual,

the humanitarian, and the scientific. **Spiritual explanations** regard abnormal behavior as the product of possession by evil or demonic spirits. **Humanitarian explanations** view psychological disorders as the result of cruelty, stress, or poor living conditions. **Scientific explanations** look for causes that we can objectively measure, such as biological alterations, faulty learning processes, or emotional stressors.

We will follow the trajectories of each of these perspectives throughout history. As you will see, each one has had its period of major influence, but the issues remain the same today in some ways as in ancient times, in that the actual causes of psychological disturbance remain unknown. The scientific approach will undoubtedly provide the key toward discovering what causes psychological disorder, but it will nevertheless be important for mental health professionals to follow the principles of the humanitarian approach. Spiritual explanations may never completely disappear from the horizon, but the idea that psychological disorder can be understood will certainly provide the best prospects for turning that understanding into treatment.

spiritual explanations
Regard psychological disorders as the product of possession by evil or demonic spirits.

humanitarian explanations
Regard psychological disorders as the result of cruelty, stress, or poor living conditions.

scientific explanations
Regard psychological disorders as the result of causes that we can objectively measure, such as biological alterations, faulty learning processes, or emotional stressors.

Spiritual Approach

Archaeological evidence dating back to 8000 B.C. suggests that the spiritual explanation prevailed in prehistoric times. Skulls were discovered in caves inhabited by prehistoric peoples in which a hole had been cut, a process called **trephining.** It would appear that these holes were cut as an effort to release the "evil spirits" from the person's head (Maher & Maher, 1985). Archaeologists have found trephined skulls from many countries and cultures, ranging from the Far and Middle East to Britain and South America (Gross, 1999). The idea that the spirits can be literally released from the skull suggests that across cultures, people believed that the cause of psychological disturbance lay in the head rather than in other parts of the body.

trephining
The process of cutting a hole in the skull to allow so-called "evil spirits" to escape.

The ritual of **exorcism** is another practice used to cure psychological disturbance, in which evil spirits are ritually driven away. A shaman, priest, or medicine man carries out rituals that put the individual under extreme physical and mental duress.

During the Middle Ages, people used a variety of magical rituals and exorcism to "cure" people with psychological disorders, but this also took the form of treating these individuals as sinners, witches, or personifications of the devil. Accordingly, they were punished severely. This view of afflicted individuals as possessed by evil spirits became apparent from the 1486 book, *Malleus Maleficarum*, in which two German Dominican

exorcism
A way to cure psychological disturbance by ritually driving away evil spirits.

In this modern-day re-enactment of a trial for witchcraft, a woman is tortured for her supposed crimes.

Dorothea Dix was a Massachusetts reformer who sought to improve the treatment of people with psychological disorders in the mid-1800s.

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monks justified their punishment of "witches." Depicting them as heretics and devils who the Church had to destroy in the interest of preserving Christianity, the book's authors recommended "treatments" such as deportation, torture, and burning at the stake.

Starting in the 1500s, and continuing up until the late 1600s, the majority of individuals accused of witchcraft were women. The burning and hanging of witches by the Puritans in the United States eventually ended after the Salem witchcraft trials (1692–93) when townspeople began to doubt the authenticity of the charges.

Although the spiritual approach is no longer the prevalent view in Western culture as an explanation for psychological disorders, there are still pockets of believers in modern society. Across other cultures, however, shamans and medicine men continue to practice, reflecting perhaps longstanding cultural and religious beliefs.

Humanitarian Approach

The humanitarian approach to psychological disorders developed in part as a reaction against the spiritual approach and its associated punishment of people with psychological disorders. Starting in the Middle Ages, the poorhouses and monasteries became established as shelters to house these individuals who often were ostracized by their families. It remains present today as the underlying basis for reforms in mental health treatment and the actions of mental health advocacy groups.

From the Middle Ages to the present time, the humanitarian movement has remained an important perspective. However, until relatively recently, it was not possible without some type of scientific basis for treatment for individuals with psychological disorders to receive the type of care that would guarantee their welfare.

Returning to the Middle Ages, then, although the shelters built to house individuals with psychological disorders could not offer treatment, they initially provided some protection. Unfortunately, without an effective treatment, the shelters increasingly became overcrowded and inhospitable. Rather than provide protection, ironically, they became places of neglect, abuse, and maltreatment.

Adding to the growth of their populations, the widespread belief that psychologically disturbed people lacked ordinary sensory capabilities led to such practices as not providing them with heat, clean living conditions, or appropriate food. In general, during the sixteenth and seventeenth centuries, views about medicine were primitive. Thus, as was true for people with physical illness, the "treatment" of people with psychological disorders involved bleeding, forced vomiting, and purging.

By the end of the eighteenth century, throughout hospitals in France, Scotland, and England, a few courageous people began to recognize the inhumanity of the conditions in the poorhouses and monasteries housing those with psychological disorders. They initiated sweeping reforms in an attempt to reverse these harsh practices. The idea of **moral treatment** took hold—the notion that people could develop self-control over their behaviors if they had a quiet and restful environment. Institutions following this model used restraints only if absolutely necessary, and even in those cases the patient's comfort came first.

moral treatment
The notion that people could develop self-control over their behaviors if they had a quiet and restful environment.

Yet again, however, conditions in the asylums originally formed to protect patients began to worsen in the early 1800s due to overcrowding and the increasing use by staff of physical punishment as a means of control. In 1841, Boston schoolteacher Dorothea Dix (1802–1887) took up the cause of reform. Horrified by the inhumane conditions in the asylums, Dix appealed to the Massachusetts legislature for more state-funded public hospitals to provide humane treatment for mental patients. From Massachusetts, Dix spread her message throughout North America and Europe.

Over the next 100 years, governments built scores of state hospitals throughout the United States following the humanitarian model originally advocated by Dix. Once again, however, it was only a matter of time before the hospitals became overcrowded and understaffed. It simply was not possible to cure people by providing them with the

Although deinstitutionalization was designed to enhance the quality of life for people who had been held years in public psychiatric hospitals, many individuals left institutions only to find a life of poverty and neglect on the outside.

well-intentioned but ineffective interventions proposed by moral treatment. However, the humanitarian goals that Dix advocated had a lasting influence on the mental health system. Her work was carried forward into the twentieth century by advocates of the **mental hygiene** movement, a term that reflects the goal of helping individuals maintain mental health and prevent the development of psychological disorders.

mental hygiene
The focus within psychiatry on helping individuals maintain mental health and prevent the development of psychological disorders.

Public outrage over the worsening situation in mental hospitals finally led to a more widespread realization that mental health services required dramatic changes. The federal government took emphatic action in 1963 with the passage of groundbreaking legislation. The Mental Retardation Facilities and Community Mental Health Center Construction Act of that year initiated a series of changes that would affect mental health services for decades to come. Legislators began to promote policies designed to move people out of institutions and into less restrictive programs in the community, such as vocational rehabilitation facilities, day hospitals, and psychiatric clinics. After their discharge from the hospital, people entered **halfway houses**—rehabilitation-oriented group living homes that provided a supportive environment to support their learning the necessary social skills to reenter the community.

halfway house
A community treatment facility designed for deinstitutionalized clients leaving a hospital who are not yet ready for independent living.

Making deinstitutionalization possible was the development, in the 1950s, of pharmacological treatments that for the first time in history could successfully control the symptoms of psychological disorders. Now, patients could receive treatments that would allow them to live for extended periods of time on their own outside psychiatric hospitals. This legislation paved the way for the deinstitutionalization movement and subsequent efforts to continue to improve community treatment.

By the mid-1970s, the state mental hospitals, once overflowing with patients, were practically deserted. These hospitals freed hundreds of thousands of institutionally confined people to begin living with greater dignity and autonomy. This process, known as the **deinstitutionalization movement,** promoted the release of psychiatric patients into community treatment sites.

deinstitutionalization movement
The release of hundreds of thousands of patients from mental hospitals starting in the 1960s.

Unfortunately, the deinstitutionalization movement did not completely fulfill the dreams of its originators. Rather than abolishing inhumane treatment, deinstitutionalization created another set of woes. Many of the promises and programs hailed as alternatives to institutionalization ultimately failed to come through because of inadequate planning and insufficient funds. Patients were shuttled back and forth between hospitals, halfway houses, and shabby boarding homes, never having a sense of stability or respect. Although the intention of releasing patients from psychiatric hospitals was to free people

TABLE 2 Healthy People 2020 Goals

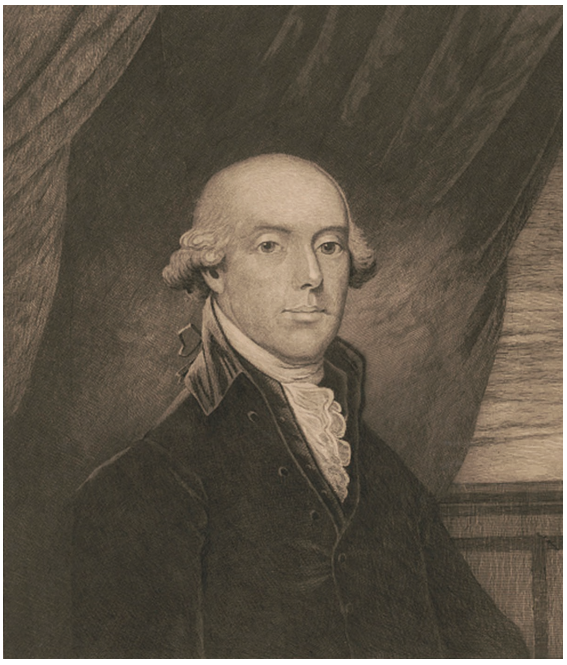
In late 2010, the U.S. government's Healthy People project released goals for the coming decade. These goals are intended both to improve the psychological functioning of individuals in the United States and to expand treatment services.

- Reduce the suicide rate.
- Reduce suicide attempts by adolescents.
- Reduce the proportion of adolescents who engage in disordered eating behaviors in an attempt to control their weight.
- Reduce the proportion of persons who experience major depressive episodes.
- Increase the proportion of primary care facilities that provide mental health treatment onsite or by paid referral.
- Increase the proportion of children with mental health problems who receive treatment.
- Increase the proportion of juvenile residential facilities that screen admissions for mental health problems.
- Increase the proportion of persons with serious mental illness (SMI) who are employed.
- Increase the proportion of adults with mental disorders who receive treatment.
- Increase the proportion of persons with co-occurring substance abuse and mental disorders who receive treatment for both disorders.
- Increase depression screening by primary care providers.
- Increase the proportion of homeless adults with mental health problems who receive mental health services.

http://www.healthypeople.gov/2020/topicsobjectives2020/pdfs/MentalHealth.pdf

who had been deprived of basic human rights, the result may not have been as liberating as many had hoped. All too often, people who would have been in psychiatric hospitals four decades ago are moving through a circuit of shelters, rehabilitation programs, jails, and prisons. A disturbing number of these individuals spend long periods of time as homeless and marginalized members of society.

Advocates of the humanitarian approach today suggest new forms of compassionate treatment for people who suffer from psychological disorders. These advocates encourage mental health consumers to take an active role in choosing their treatment. Various advocacy groups have worked tirelessly to change the way the public views mentally ill people and how society deals with them in all settings. These groups include the National Alliance for the Mentally Ill (NAMI), as well as the Mental Health Association, the Center to Address Discrimination and Stigma, and the Eliminate the Barriers Initiative. The U.S. federal government has also become involved in antistigma programs as part of efforts to improve the delivery of mental health services through the President's New Freedom Commission (Hogan, 2003). Looking forward into the next decade and beyond, the U.S. government has set the Healthy People 2020 initiative goals as focused on improving significantly the quality of treatment services (Table 2).



Dr. Benjamin Rush, founder of American psychiatry, was an ardent reformer who promoted the scientific study of psychological disorders.

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Scientific Approach

We now return again to ancient times when, surprisingly, the early Greek philosophers took a scientific approach to understanding psychological disorders. Hippocrates (ca. 460–377 B.C.), considered the founder of modern medicine, believed that four important bodily fluids influenced physical and mental health, leading to four personality dispositions. To treat a psychological disorder would require ridding the body of the excess fluid. Although he was obviously incorrect, Hippocrates was far ahead of his time in putting forth the notion that mental health reflected factors within the body rather than possession by evil spirits.

Several hundred years later, the Roman physician Claudius Galen (A.D. 130–200) developed a system of medical knowledge based on anatomical studies. This approach also helped to advance the position that diseases had their source in abnormal bodily functioning.

The scientific approach would eventually recede for hundreds of years as the predominant view of psychological disorder in favor of explanations rooted in the spiritual perspective. Benjamin Rush (1745–1813), the founder of American psychiatry, rekindled interest in the scientific approach to psychological disorders. In 1783, Rush joined the medical staff of Pennsylvania Hospital. Appalled by the poor treatment of psychologically disturbed patients there, Rush advocated for improvements such as placing patients in their own wards, giving them occupational therapy, and prohibiting hospital visits from curiosity seekers looking for entertainment.

Reflecting the prevailing methods of the times, though, Rush also supported the use of bloodletting and purging in the treatment of psychological disorders as well as the so-called "tranquilizer" chair, intended to reduce blood flow to the brain by binding the patient's head and limbs. Rush also recommended submerging patients in cold shower baths and frightening them with death threats. He thought that by inducing fear, he could counteract their violent behavior (Deutsch, 1949).

The next major advance occurred in 1844, when a group of 13 mental hospital administrators formed the Association of Medical Superintendents of American Institutions for the Insane. This organization eventually changed its name to the American Psychiatric Association. One year later, in 1845, German psychiatrist Wilhelm Greisinger published *The Pathology and Therapy of Mental Disorders*, which proposed that "neuropathologies" were the cause of psychological disorders. Further advances occurred when German psychiatrist Emil Kraepelin (1856–1926) promoted a classification system much like that applied to medical diagnoses. He proposed that disorders could be identified by their patterns of symptoms. Ultimately, this work provided the scientific basis for current diagnostic systems.

Positive psychology emphasizes personal growth through meditation and other alternate routes to self-discovery.

While these advances in medical science and psychiatry were taking place, the early roots of a psychological approach to abnormality began to emerge in the early 1800s, when European physicians experimented with hypnosis for therapeutic purposes. Eventually, these efforts led to the groundbreaking work of Viennese neurologist Sigmund Freud (1856–1939), who in the early 1900s developed psychoanalysis, a theory and system of practice that relied heavily on the concepts of the unconscious mind, inhibited sexual impulses, and early development.

Throughout the twentieth century, psychologists continued to develop models based on observations of the behavior of laboratory animals. The work of Russian physiologist Ivan Pavlov (1849–1936), known for his discovery of classical conditioning, became the basis for the behaviorist movement begun in the United States by John B. Watson (1878–1958). B. F. Skinner (1904–1990) formulated a systematic approach to operant conditioning, specifying the types and nature of reinforcement as a way to modify behavior. In the twentieth century, these models continued to evolve into the social learning theory of Albert Bandura (1925–), the cognitive model of Aaron Beck (1921–), and the rational-emotive therapy approach of Albert Ellis (1913–2007).

Most recently, the field of abnormal psychology is benefiting from the **positive psychology** movement, which emphasizes the potential for growth and change throughout life. The movement views psychological disorders as difficulties that inhibit the individual's ability to achieve highly subjective well-being and feelings of fulfillment.

positive psychology
Perspective that emphasizes the potential for growth and change throughout life.

In addition, the positive psychology movement emphasizes prevention rather than intervention. Instead of fixing problems after they occur, this viewpoint proposes that it would be more beneficial to emphasize prevention. Although its goals are similar to those of the humanitarian approach, the positive psychology movement has a strong base in empirical research and as a result is gaining wide support in the field.

The newer models, along with integrative models that take a biopsychosocial approach, are producing the development of empirically based approaches to understanding the causes of psychological disorder. Although some of these may ultimately prove not to retain their utility, the continued shaping and refinement of the field that empirical testing permits will help to ensure that application of the scientific perspective will result in treatments that are both humane and effective.

1.6 Research Methods in Abnormal Psychology

scientific method
The process of testing ideas about the nature of psychological phenomena without bias before accepting these ideas as adequate explanations.

As you've just learned, the scientific approach led to significant advances in the understanding and treatment of abnormal behavior. The essence of the **scientific method** is objectivity: the process of testing ideas about the nature of psychological phenomena without bias before accepting these ideas as adequate explanations.

The scientific method involves a progression of steps from posing questions of interest to sharing the results with the scientific community. Throughout the scientific method, researchers maintain the objectivity that is the hallmark of the scientific approach. This means that they do not let their personal biases interfere with the data collection or interpretation of findings. In addition, researchers must always be open to alternative explanations that could account for their findings. Toward this end, more and more scientists in the field of medicine and psychology are making their data available in open access repositories that allow for other researchers to examine their procedures, analyses, and conclusions.

Although the scientific method is based on objectivity, this does not mean that scientists have no personal interest in what they are studying. In fact, many researchers become involved in the pursuit of knowledge in areas that relate to experiences in their own lives, particularly in the field of abnormal psychology. They may have relatives afflicted with certain disorders or they may have become puzzled by a client's symptoms. In conducting their research, however, they cannot let these personal biases get in the way.

Thus, in posing questions of interest, psychological researchers may wonder whether a particular kind of experience led to an individual's symptoms, or they may speculate about the role of particular biological factors. Clinical psychologists are also interested in finding out whether a certain treatment will effectively treat the symptoms of a disorder. In either case, the ideal approach to answering these questions involves a progression through a set of steps in which the psychologist proposes a hypothesis, conducts a study, and collects and analyzes the data. Eventually, they communicate results through publication in scientific journals, which makes it possible for other scientists to examine their data, procedures, and conclusions.

1.7 Experimental Design

independent variable
The variable whose level is adjusted or controlled by the experimenter.

dependent variable
The variable whose value is the outcome of the experimenter's manipulation of the independent variable.

When using experimental design in research, an investigator sets up a test of a hypothesis by constructing the manipulation of a key variable of interest. The variable that the investigator manipulates is called the **independent variable.** The investigator sets up at least two conditions that reflect different levels of the independent variable. In most cases, these conditions are the "experimental" or treatment group (the group that receives the treatment) and the "control" group (the group that receives no treatment or a different treatment). Researchers then compare the groups on the **dependent variable,** which

is the variable that they observe. For example, a researcher may wish to investigate the efficacy of group therapy to reduce the symptoms of a type of anxiety. The independent variable would be the provision of therapy versus control. The dependent variable, measured before and after the independent variable was manipulated, would be number of anxiety symptoms.

Key to the objectivity of experimental research is the requirement that the researchers always randomly assign participants to the different groups. A study would be flawed if all the men were in the experimental group, for example, and all the women were in the control group.

In research on the causes of abnormal behavior, it may be difficult to set up a true experimental study. Many of the variables that are of most interest to psychologists are ones that the investigator cannot control; hence, they are not truly "independent." For example, depression can never be an independent variable because the investigator cannot manipulate it. Similarly, investigators cannot randomly assign people to groups based on their biological sex. Studies that investigate differences among groups not determined by random assignment are known as "quasi-experimental."

The majority of true experimental studies in abnormal psychology, at least those on humans, test not the causes of abnormal behavior but the effectiveness of particular treatments, making it possible to design randomly assigned control and experimental groups. Investigators evaluate a treatment's effectiveness by comparing the groups on dependent variables such as number of symptoms. Depending on the nature of the particular study, there may be more than one experimental group. For example, an investigator may want to compare two different treatments against each other, and a control group.

The gold standard for research in clinical psychology is the **randomized controlled trial (RCT),** in which researchers randomly assign participants to conditions in which they receive different forms of intervention. The key to this method is the use of randomization, which minimizes the chances that bias can enter into the decision of which participants receive which treatment. Because this is such a powerful design, RCT is used as the foundation for **evidence-based treatment,** in which clients receive interventions based on the findings of controlled clinical studies.

randomized controlled trial (RCT)
Experimental method in which participants are randomly assigned to intervention groups.

evidence-based treatment
Treatment in which clients receive interventions based on the findings of controlled clinical studies.

Ideally, in a RCT, prior to conducting the study the investigators define a single primary outcome (i.e., a specific dependent variable). They may also define secondary outcomes, but need to be clear at the outset on their primary focus. Otherwise, the investigators may make the mistake of picking and choosing the results they report in a way that distorts the findings. For example, they may report only the findings that showed statistical significance, even if these did not involve the primary outcome variable. Imagine if a researcher found no effect of a clinical treatment for depression on depression, but instead found that it alleviated anxiety in the participants. This may be of interest, but because it was not predicted based on the study's underlying theory, it has no sound rationale and could have been due to chance factors.

To ensure that RCT-based studies conform to acceptable standards, researchers are increasingly being required to enter their work, prior to its being started, in a public trial registry. If they do not, the research will not be eligible for publication in a top-tier (most prestigious) research journal. Unfortunately, the implementation of these standards is falling behind; as of 2013–14, in the area of health psychology and behavioral medicine, about half of the eligible published studies had been registered and only 21 percent reported primary outcomes (Riehm, Azar, & Thombs, 2015). Perhaps a word to the consumer is needed, then, on the importance of checking out the adherence of a study to these guidelines before seeking a new intervention.

Beyond the RCT design, well-controlled research in clinical psychology has a **placebo condition** in which participants receive a treatment similar to the experimental treatment, but one that lacks the key feature of the treatment of interest. If the study is evaluating effectiveness of medication, the placebo would have inert ingredients. If participants are randomly assigned to placebo versus treatment, the design is referred to as a **placebo-controlled randomized clinical trial.**

placebo condition
Condition in an experiment in which participants receive a treatment similar to the experimental treatment, but lacking the key feature of the treatment of interest.

placebo-controlled randomized clinical trial
Experimental method in which participants are randomly assigned to a placebo versus treatment group.

What's in the *DSM-5*

Definition of a Mental Disorder

There are five criteria for a mental disorder in the *DSM-5*, the same number as was included in *DSM-IV*. The criteria still refer to "clinically significant" to establish the fact that the behaviors under consideration are not passing symptoms or minor difficulties. *DSM-5* refers to the behaviors as reflecting dysfunction in psychological, biological, or developmental processes, terms that *DSM-IV* did not use. Both the *DSM-IV* and *DSM-5* state that disorders must occur outside the norm of what is socially accepted and expected for people experiencing particular life stresses. *DSM-5* also specifies that the disorder must have "clinical utility," meaning that, for example, the diagnoses help guide clinicians in making decisions about treatment. During the process of writing the *DSM-5,* the authors cautioned against changing the lists of disorders (either adding to or subtracting from) without taking into account potential benefits and risks. For example, they realized that adding a new diagnosis might lead to labeling as "abnormal" a behavior previously considered "normal." The advantage of having the new diagnosis must outweigh the harm of categorizing a "normal" person as having a "disorder." Similarly, deleting a diagnosis for a disorder that requires treatment (and hence insurance coverage) might leave individuals who still require that treatment vulnerable to withholding of care or excess payments for treatment. With these cautions in mind, the *DSM-5* authors also recommend that the criteria alone are not sufficient for making legal judgments or eligibility for insurance compensation. These judgments would require additional information beyond the scope of the diagnostic criteria alone.

In studies evaluating effectiveness of therapy, scientists must design the placebo in a way that mimics, but is not the same as, the actual therapy. Ideally, researchers would want the placebo participants to receive treatments of the same frequency and duration as the experimental group participants who are receiving psychotherapy.

Expectations about the experiment's outcome can affect both the investigator and the participant. These so-called "demand characteristics" can compromise the conclusions about the intervention's true effectiveness. Obviously, the investigator should be as unbiased as possible, but there still may be subtle ways that he or she communicates cues that affect the participant's response. The participant may also have a personal agenda in trying to prove or disprove the study's supposed true intent. The best way to eliminate demand characteristics is to use a **double-blind** method, which shields both investigator and participant from knowing either the study's purpose or the nature of the patient's treatment.

double-blind
An experimental procedure in which neither the person giving the treatment nor the person receiving the treatment knows whether the participant is in the experimental or control group.

In studies involving medication, a completely inert placebo may not be sufficient to establish true experimental control. In an "active placebo" condition, researchers build the experimental medication's side effects into the placebo. If they know that a medication produces dry mouth, difficulty swallowing, or upset stomach, then the placebo must also mimic these side effects or participants will know they are receiving placebos.

1.8 Correlational Design

correlational design
Study in which researchers test the relationships between variables that they cannot experimentally manipulate.

Studies based on a **correlational design** involve tests of relationships between variables that researchers cannot experimentally manipulate. The correlation statistic is expressed in terms of a number between +1 and −1. Positive numbers represent positive correlations, meaning that, as scores on one variable increase, scores on the second variable increase as well. For example, because one aspect of depression is that it causes a disturbance in normal sleep patterns, you would expect then that scores on a measure of depression would be positively correlated with scores on a measure of sleep disturbances. Conversely, negative correlations indicate that, as scores on one variable increase, scores on the second variable decrease. An example of a negative correlation is the relationship between depression and self-esteem. The more depressed people are, the lower their scores are on a measure of self-esteem. In many cases, there is no correlation between two variables. In other words, two variables show no systematic relationship with each other. For example, depression is unrelated to height but it may be related to sleep disturbances, such that the more depressed people are, the more sleep disturbances they experience.

The key feature of correlational studies is that they cannot determine cause and effect. Just knowing that there is a correlation between two variables does not tell you whether one variable causes the other. The correlation simply tells you that the two variables are associated with each other in a particular way. Sleep disturbance might cause a higher score on a measure of depression, just as a high degree of depression might cause more

You Be the Judge

Being Sane in Insane Places

In the early 1970s, psychologist David Rosenhan embarked upon a groundbreaking study that was to shatter people's assumptions about the difference between "sane" and "insane." Motivated by what he regarded as a psychiatric diagnostic system that led to the hospitalization of people inappropriately diagnosed as having schizophrenia, Rosenhan and his co-workers decided to conduct their own experiment to put the system to the test. See whether you think their experiment proved the point.

Eight people with no psychiatric history of symptoms of any kind, employed in a variety of professional occupations, checked themselves into psychiatric hospitals complaining about hearing voices that said, "Empty," "Hollow," and "Thud." These were symptoms that psychiatric literature never reported. In every other way, the "pseudopatients" provided factual information about themselves (except their names and places of employment). Each pseudopatient was admitted to his or her respective hospital; once admitted, they showed no further signs of experiencing these symptoms. However, the hospital staff never questioned their need to be hospitalized; quite the contrary, their behavior on the hospital wards, now completely "normal," was taken as further evidence of their need for continued hospitalization. Despite the efforts of the pseudopatients to convince the staff that there was nothing wrong with them, it took from 7 to 52 days for their discharge. Upon their release, they received the diagnosis of "schizophrenia in remission" (meaning that they, for the moment, no longer would have a diagnosis of schizophrenia).

There was profound reaction in the psychiatric community to the Rosenhan study. If it was so easy to institutionalize nonpatients, wasn't there something wrong with the diagnostic system? How about the tendency to label people as "schizophrenic" when there was nothing wrong with them, and to hang on to the label even when they no longer showed any symptoms? Additionally, the pseudopatients reported that they felt dehumanized by the staff and failed to receive any active treatment. Once on the outside, they could report to the world at large about the failings of psychiatric hospitals to provide appropriate treatment. True patients would not have received so much sympathetic press, and therefore this study's findings could have a much broader impact on attitudes toward institutionalization.

Now, you be the judge. Do you think that it was unethical for Rosenhan to devise such a study? The mental health professionals at the hospitals had no idea that they were the "subjects" of the study. They had responded to what seemed to them to be serious psychological symptoms by individuals voluntarily seeking admission. At the point of discharge, the fact that the doctors labeled the pseudopatients as being in remission implied that they were symptom free, but there was no reason for the staff to doubt the truth of the symptoms. On the other hand, had the staff known they were in a study, they might have reacted very differently, and as a result, the study would not have had an impact.

How about the quality of this study from a scientific point of view? There was no control condition so it was not truly an experiment. Moreover, the study did not take objective measures of the staffs' behavior, nor were there direct outcome measures that the researchers could statistically analyze.

Q: *You be the judge:* Was Rosenhan's study, with its flaws, worthwhile? Did the ends justify the means?

disturbed sleep patterns. Or, a third variable that you have not measured could account for the correlation between the two variables that you have studied. Both depression and sleep disturbance could be due to an underlying process that alters the body's hormones and causes both physiological and psychological disturbances.

Investigators who use correlational methods in their research must always be on guard for the potential existence of unmeasured variables influencing the observed results.

However, increasingly sophisticated statistical modeling procedures are making it possible to go beyond simply linking two variables to see if they are correlated. A researcher can use such methods to assess the relative contributions of such variables as self-esteem, gender, sleep patterns, and social class to predict depression scores.

1.9 Types of Research Studies

Now that we've reviewed the basic analytical procedures, let's take a look at how investigators gather the data they use for analysis. Depending on the question under investigation, the resources available to the investigator, and the types of participants the investigator wants to study, the data gathering method may take one or more of several forms. Table 3 summarizes these methods.

Survey

survey
A research tool used to gather information from a sample of people considered representative of a particular population, in which participants are asked to answer questions about the topic of concern.

Investigators use a **survey** to gather information from a sample of people representative of a particular population. Very often, an investigator uses a survey to gather data that will be analyzed through correlational statistics. In a survey, investigators design sets of questions to tap into these variables, using questions to be answered with rating scales ("agree" to "disagree"), open-ended answers, or multiple choice. For example, a researcher may conduct a survey to determine whether age is correlated with subjective well-being, controlling for the influence of health. In this case, the researcher may hypothesize that subjective well-being is higher in older adults, but only after taking into account the role of health. The survey questions provide responses that can be translated into variables and subjected to statistical analysis.

Researchers also use surveys to gather statistics about the frequency of psychological symptoms. For example, the Substance Abuse and Mental Health Services Administration of the U.S. government (SAMHSA) conducts yearly surveys to establish the frequency of use of illegal substances within the population. The World Health Organization (WHO) conducts surveys comparing the frequency of psychological disorders by country. By asking approximately the same questions on each occasion, it is possible for these agencies, and users of the data set, to track changes in health and health-related behaviors over time.

TABLE 3 **Research Methods in Abnormal Psychology**

Type of Method	Purpose	Example
Survey	Obtain population data	Researchers working for a government agency attempt to determine disease prevalence through questionnaires administered over the telephone.
Laboratory study	Collect data under controlled conditions	An experiment is conducted to compare reaction times to neutral and fear-provoking stimuli.
Case study	An individual or a small group of individuals is studied intensively	A therapist describes the cases of members of a family who share the same unusual disorder.
Single case experimental design	The same person serves as subject in experimental and control conditions	Researchers report on the frequency of a client's behavior while the client is given attention (experimental treatment) and ignored (control condition) for aggressive outbursts in a psychiatric ward.
Behavioral genetics	Attempt to identify genetic patterns in inheritance of particular behaviors	Genetic researchers compare the DNA of people with and without symptoms of particular psychological disorders.

For our purposes in this book, some of the most important survey data we will rely on comes from large-scale epidemiological studies. This is how we know how many people are likely to develop a disorder, and who particularly is at risk. The type of data we use for these purposes falls into two categories: (1) number of new cases and (2) number of cases that have ever existed. Both are calculated for the population as a whole and for particular segments of the population by sex, age group, geographic region, or social class, for example.

The **incidence** of a disorder is the frequency of *new* cases of a disorder within a given time period. Respondents providing incidence data state whether they now have a disorder that they have never had before but are experiencing for the first time. Incidence information can cover any time interval; epidemiologists tend to report it in terms of 1 month, 6 months, and 1 year. Investigators use incidence data when they are interested in determining how quickly a disorder is spreading. For example, during an epidemic, health researchers need to know how to plan for controlling the disease, and so incidence data is most pertinent to this question.

incidence
The frequency of new cases within a given time period.

The **prevalence** of a disorder refers to the number of people who have *ever* had the disorder over a specified period of time. To collect prevalence data, investigators ask respondents to state whether, during this period of time, they experienced the symptoms of the disorder. The time period of reference can be the day of the survey, in which case we call it "point prevalence." There is also "1-month prevalence," which refers to the 30 days preceding the study, and "lifetime prevalence," which refers to the entire life of the respondent. For example, researchers may ask respondents whether they smoked cigarettes at any time during the past month (1-month prevalence) or whether they ever, in their lifetime, used cigarettes (lifetime prevalence). Typically, lifetime prevalence is higher than 1-month or point prevalence because the question captures all past experiences of a disorder or a symptom.

prevalence
The number of people who have ever had a disorder at a given time or over a specified period.

Laboratory Studies

Researchers carry out most experiments in psychological laboratories in which participants provide data under controlled conditions. For example, investigators may show participants stimuli on computer screens and ask them to respond based on what the stimuli call for, such as the presence of a certain word or letter, or an arrow facing left or right that would have to be identified as such. The collected data might include speed of reaction time or memory for different types of stimuli. Laboratory studies may also involve comparison of brain scan recordings taken while participants were responding under differing conditions or instructions (such as to press a button when they see an "A" but not a "C"). Another type of laboratory study may involve observing people in small-group settings in which the investigators study their interactions to a given instruction or prompt, such as to discuss a controversial issue or resolve a disagreement.

Although laboratories are ideal for conducting such experiments, they may also be appropriate settings for self-report data in which participants respond to questionnaires. This is ideal if the researcher is seeking to collect those responses in a fixed period of time or under conditions involving a minimum of distractions. The laboratory may also be a desirable setting for investigators to ask respondents to complete self-report instruments via computer, allowing for the investigator to collect data in a systematic and uniform fashion across respondents.

The Case Study

Many of the classic studies in early abnormal psychology involved the **case study** method, in which the investigator (researcher or clinician) intensively interviews, observes, and tests an individual or small group of individuals. For example, Freud based much of his theory on reports of his own patients, trying to trace the relationship between their recalled experiences, the development of their symptoms, and ultimately their progress in therapy.

case study
An intensive study of a single person described in detail.

REAL STORIES

Vincent van Gogh: Psychosis

Vincent van Gogh, a Dutch-born postimpressionist painter, lived most of his life in poverty and poor physical and mental health. After his death, his work grew immensely in recognition and popularity. His now instantly recognizable paintings sell for tens of millions of dollars, while during his lifetime his brother, Theo, mainly supported the painter, sending him art supplies and money for living expenses. Van Gogh struggled with mental illness for much of his life, spending one year in an asylum before the last year of his life, when he committed suicide in 1890 at the age of 37.

Though the specific nature of van Gogh's mental illness is unknown, his 600 or so letters to Theo offer some insight into his experiences. Published in 1937, *Dear Theo: The Autobiography of Vincent van Gogh* provides an unfiltered glimpse into all aspects of his life including art, love, and his psychological difficulties. Van Gogh never received a formal diagnosis in his lifetime, and to this day many psychologists argue over the disorder from which he may have been suffering. Psychologists have suggested as many as 30 possible diagnoses, ranging from schizophrenia and bipolar disorder to syphilis and alcoholism. Van Gogh's constant poor nutrition, excessive consumption of absinthe, and a tendency to work to the point of exhaustion undoubtedly contributed to and worsened any psychological issues he experienced.

Van Gogh's romantic life was highlighted by a series of failed relationships, and he never had children. When he proposed marriage to Kee Vos-Stricker in 1881, she and her parents turned him down because he was having difficulty supporting himself financially at the time. Kee was a widow with a child and van Gogh would not have been able to support the family fully. In response to this rejection, van Gogh held his hand over a lamp flame, demanding her father that he be allowed to see the woman he loved, an event he was later unable to recall entirely. Unfortunately for van Gogh, the affection was never reciprocated. His longest known romantic relationship lasted for one year, during which he lived with a prostitute and her two children.

Van Gogh first learned to draw in middle school. He failed his entrance exam for theology school in Amsterdam, and later failed missionary school. In 1880 he decided to devote his life to painting. After attending art school in Brussels, van Gogh moved around the Netherlands and fine-tuned his craft, often living in poverty and squalid conditions. He spent some time living with his parents, but never stayed with them long due to his tumultuous relationship with his father. By 1885, he began to gain recognition as an artist and had completed his first major work, *The Potato Eaters*. The following year, he moved to Paris, where he lived with his brother and began to immerse himself in the thriving art world of the city. Due to his poor living conditions, van Gogh's health began to deteriorate, and so he moved to the countryside in the south of France. There he spent two months living with and working alongside his good friend and fellow painter Paul Gauguin. Their artistic differences led to frequent disagreements that slowly eroded their amiable companionship. In *Dear Theo*, Johanna van Gogh, Vincent's sister-in-law, writes about the notorious incident that took place on December 23, 1888. Van Gogh, "in a state of terrible excitement and high fever, had cut off a piece of his own ear, and had brought it as a gift to a woman in a brothel. There had been a violent scene; Roulin, the postman, managed to get him home, but the police intervened, found Vincent bleeding and unconscious in bed, and sent him to the hospital."

After the incident, van Gogh was committed to an asylum in Saint-Remy de Provence, France, for about one year. While in the hospital, he often reflected on the state of his mental health in letters to his brother:

"These last three months do seem so strange to me. There have been moods of indescribable mental anguish, sometimes moments when the veil of time and of inevitable circumstance seemed for the twinkling of an eye to be parted. After all, you are certainly right, damn well right;

Vincent van Gogh's *Starry Night over the Rhone*, painted in 1888, one year before his death.

even making allowance for hope, the thing is to accept the probably disastrous reality. I am hoping to throw myself once again wholly into my work, which has got behindhand."

While hospitalized and working on recovering from his "attacks," van Gogh spent most of his time working feverishly on painting, often finding inspiration in the scenery surrounding the asylum. For van Gogh, painting was a welcome relief that he hoped would cure his illness. Of his experiences with mental illness, he wrote ". . . I am beginning to consider madness as a disease like any other, and accept the thing as such; whereas during the crises themselves I thought that everything I imagined was real." It is clear from many of his letters that he had been experiencing hallucinations and perhaps delusions—two hallmark symptoms of psychological disorders involving psychosis, such as schizophrenia.

After his release from the asylum, van Gogh participated in art shows in Brussels and Paris. Though he remained artistically productive, his depression deepened until on July 29, 1890, he walked into a field and shot himself in the chest with a revolver, dying two days later. Van Gogh's last words, according to his brother who had rushed to his deathbed, were "the sadness will last forever."

In his lifetime, Vincent van Gogh sold only one painting; in 1990 his *Portrait of Dr. Gachet* sold for $82.5 million, making it one of the most expensive paintings ever sold. His priceless work graces galleries around the globe and has an invaluable influence in the art world. Had his story taken place now, with many different options for psychological treatment of psychotic symptoms and depression, his life might not have been cut short so tragically.

In current research, investigators carry out a case study for a number of reasons. The case study method affords the researcher the opportunity to report on rare cases or to chronicle the way a disorder evolved over time in a closely studied individual. For example, a clinical psychologist may write a report in a published journal about how she provided treatment to a client with a rare type of fear.

The in-depth advantage of the case study is also a potential disadvantage in that it does not involve the types of experimental control or sample size that would deem it a useful addition to the literature. Investigators using case studies, therefore, must be extremely precise in their methods and, as much as possible, take an objective and unbiased approach. They are likely to seek publication in a journal that specializes in the case study approach rather than one that relies on large sample or experimental data.

Case studies may, however, be presented in a way that represents the best of both worlds. In **qualitative research,** researchers use rigorous methods to code the data and summarize information in a way that reflects an objectively applied set of standards. For example, a researcher may interview several families and then summarize their responses in categories that are clearly described and reflect agreement among independent raters.

qualitative research
A method of analyzing data that provides research with methods of analyzing complex relationships that do not easily lend themselves to conventional statistical methods.

Single Case Experimental Design

In a **single case experimental design (SCED),** the same person serves as the subject in both the experimental and control conditions. Particularly useful for studies of treatment effectiveness, a single-subject design typically involves alternating off-on phases of the baseline condition ("A") and the intervention ("B"). Another term for SCEDs is "ABAB" designs, reflecting the alternation between conditions A and B. Figure 1 shows an example of an SCED involving self-injurious behavior.

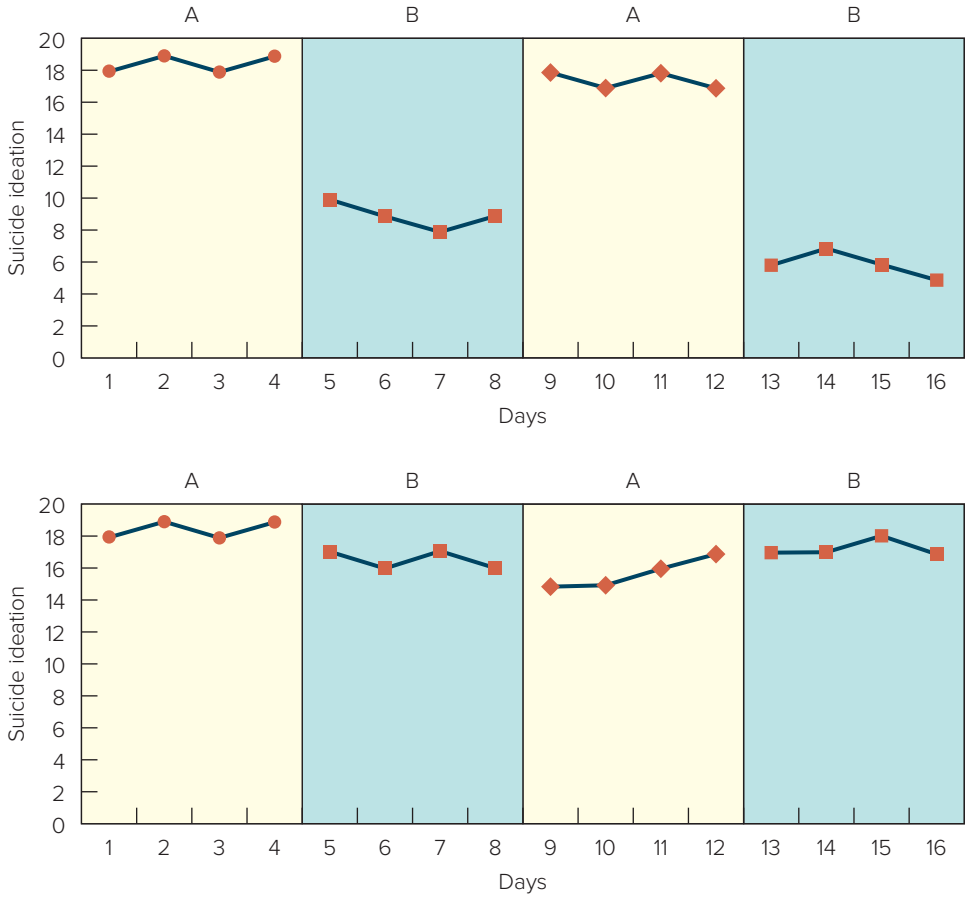
single case experimental design (SCED)
Design in which the same person serves as the subject in both the experimental and control conditions.

In cases where withholding the treatment in the "B" phase would present an ethical problem because the researcher would be eliminating an effective treatment, the variation known as multiple baseline method would be substituted. In a multiple baseline design, the researcher applies the treatment in an AB fashion so that it is never removed. The observation occurs across different subjects, for different behaviors, or in different settings. For example, in treating a suicidal client, an investigator may first target suicidal thoughts, and second, target suicidal behaviors. The power of the design is in showing that the behaviors change only when the researcher introduces specific treatments directed at altering those specific behaviors (Rizvi & Nock, 2008).

FIGURE 1 ABAB Design

In an ABAB design, researchers observe behaviors in the "A" phase, institute treatment in the "B" phase, and then repeat the process. In this hypothetical study, suicide ideation seems to improve with treatment in the top set of graphs but shows no effect of treatment in the bottom set of graphs.

Rizvi, S. L., & Nock, M. K. (2008). Single-case experimental designs for the evaluation of treatments for self-injurious and suicidal behaviors. *Suicide and Life-Threatening Behavior, 38,* 498–510.



Research in Behavioral Genetics

behavioral genetics
Research area focused on determining the role of hereditary factors in psychological disorders.

The goal of research in **behavioral genetics** is to determine the role of hereditary factors in psychological disorders. This area of research is becoming increasingly important in the field as investigators attempt to understand the biological component of the biopsychosocial contributions to psychopathology.

concordance rate
Agreement ratios between people diagnosed as having a particular disorder and their relatives.

Behavioral geneticists typically begin their investigation into a disorder's genetic inheritance after they find evidence that the disorder shows a distinct pattern of family inheritance. This part of the process requires that researchers obtain complete family histories from people whom they can identify as having symptoms of the disorder. The investigators then calculate the **concordance rate,** or agreement ratio, between people diagnosed as having the disorder and their relatives. For example, a researcher may observe that 6 out of a sample of 10 twin pairs have the same diagnosed psychological disorder. This would mean that, among this sample, there is a concordance rate of .60 (6 out of 10).

We would expect an inherited disorder to have the highest concordance between monozygotic, or identical, twins because their genes are exactly the same. Next higher should be siblings and dizygotic, or fraternal, twins, because they come from the same parents. The lowest family concordance rates should be among relatives who are further and further removed from each other.

An intriguing variation of twin studies involves research comparing the concordance rates of monozygotic twins reared in the same household to monozygotic twins who were reared by two different sets of parents. Theoretically, if twins reared apart are equally as likely to share a particular disorder as those reared together, this suggests that genetics played a stronger role in the development of the disorder than the environment.

Adoption studies, along similar lines, also contribute valuable information about a disorder's genetic basis. In one type of adoption study, researchers establish the rates of the disorder in children whose biological parents have diagnosed psychological disorders, but whose adoptive parents do not. If the children have the same disorder as their biological parents, this suggests that genetic factors play a stronger role than the environment. In the second type of adoption study, referred to as **cross-fostering,** researchers examine the frequency of the disorder in children whose biological parents had no disorder, but whose adoptive parents do. If the children and their adoptive parents share the disorder, this suggests that environmental factors contribute significantly to the disorder's development.

cross-fostering
A type of adoption study in which researchers examine the frequency of the disorder in children whose biological parents had no disorder, but whose adoptive parents do.

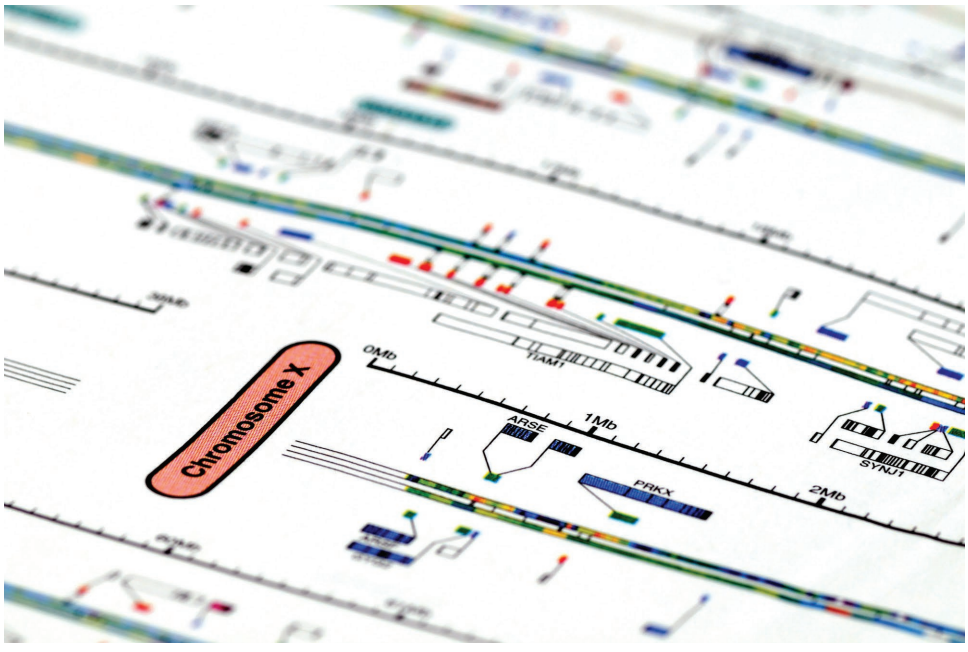
Twin and adoption studies enable researchers to draw inferences about the relative contributions of biology and family environment to the development of psychological disorders. However, they have important weaknesses and therefore cannot be conclusive. In an adoption study, there may be unmeasured characteristics of the adoptive parents that influence the development of the disorder in the children. The most significant threat to the usefulness of twin studies is the fact that the majority of monozygotic twins do not share the same amniotic sac during prenatal development (Mukherjee et al., 2009). They may not even share 100 percent of the same DNA (Ollikainen et al., 2010). Therefore they are not truly "identical." Similarly, in adoption studies, there may be reasons that children are adopted away from their biological parents that play an unmeasured role in influencing the development of a particular disorder.

More precise methods of behavioral genetics take advantage of new methods of genetic testing. In **gene mapping,** researchers examine and connect variations in chromosomes to performance on psychological tests or diagnosis of specific disorders. **Molecular genetics** studies how genes translate hereditary information into the instructions the genes give to the manufacturing of proteins in the cell.

gene mapping
The attempt by biological researchers to identify the structure of a gene and the characteristics it controls.

molecular genetics
The study of how genes translate hereditary information.

These newer methods in the study of abnormal psychology are providing a rapidly expanding literature to help us understand how hereditary information translates into behavior disorders. They have led to widespread advances in the understanding of such disorders as autism, schizophrenia, and various anxiety disorders (Hoffman & State, 2010). It is hoped that this field will give researchers insight into the biological causes, and ultimately treatment, of many of the most serious and troubling psychological disorders that until now have eluded our grasp.



Gene mapping is revolutionizing the way that scientists understand and treat psychological disorders.

Bringing It All Together: Clinical Perspectives

As you come to the close of this chapter, you now have an appreciation of the issues that are central to your understanding of abnormal psychology. We have tried to give you a sense of how complex it is to define abnormality, and you will find yourself returning to this issue as you read about many of the disorders in the chapters that follow. We will elaborate on the historical perspective in subsequent chapters as we look at theories of and treatments for specific disorders. Currently, developments are emerging in the field of abnormal psychology at an unbelievable pace due to the efforts of researchers applying the techniques described here. You will learn more about some of these research methods in the context of discussions regarding specific disorders. You will also develop an understanding of how clinicians, such as Dr. Sarah Tobin, study the range of psychological disorders that affect people throughout the life span. We will give particular attention to explaining how disorders develop and how clinicians can best treat them. Our discussion of the impact of psychological disorders on the individual forms a central theme for this book, as we return time and again to consider the human experience of psychological disorders.

Return to the Case: Rebecca Hasbrouck

An intern saw Rebecca at the counseling center once a week for 12 consecutive weeks. During the first few sessions she was often tearful, especially when talking about her boyfriend and how lonely she was feeling. In therapy, we worked on identifying her emotions and finding coping skills for dealing with stress. Eventually, Rebecca's feelings of sadness lifted as she became accustomed to her life on campus and was able to make a few close friends. Because she was feeling better, her sleeping also improved, which helped her to concentrate in class more easily, allowing her to perform better and thus feel more confident in herself as a student.

Dr. Tobin's reflections: It was clear to me in our initial session that Rebecca was a young woman who was having a particularly difficult time dealing with ordinary adjustment issues in adapting to college. She was overwhelmed by the many new experiences confronting her as well, and she seemed particularly unable to cope with being on her own and being separated from her support network including her family and boyfriend. Her high academic standards added to her stress and because she didn't have social support, she was unable to talk about the difficulties she was having, which surely perpetuated her problems. I am glad that she sought help early on before her difficulties became exacerbated and that she responded so well to treatment.

SUMMARY

- Questions about normality and abnormality are basic to our understanding of psychological disorders. They can affect us in very personal ways.
- Social impact can affect psychological disorders. Social attitudes toward people with psychological disorders range from discomfort to prejudice. Language, humor, and stereotypes all portray psychological disorders in a negative light. Stereotypes then result in social discrimination, which only serves to complicate the lives of the affected even more.
- The mental health community currently uses five diagnostic criteria to measure abnormality: (1) clinical significance, (2) dysfunction in psychological, biological, or developmental processes, (3) significant distress or disability, (4) behavior that cannot be defined as "deviant" in terms of sociopolitical conflicts, and (5) behavior that must reflect dysfunction in the individual. Although these five criteria can serve as the basis for defining abnormality, interaction often occurs.
- Causes of abnormality incorporate biological, psychological, and sociocultural factors. Scientists use the term *biopsychosocial* to refer to the interaction between these factors and their role in the development of an individual's symptoms.

- Three prominent themes in explaining psychological disorders that recur throughout history include spiritual, humanitarian, and scientific explanations. Spiritual explanations regard abnormal behavior as the product of possession by evil or demonic spirits. Humanitarian explanations view psychological disorders as the result of cruelty, stress, or poor living conditions. Scientific explanations look for causes that we can objectively measure, such as biological alterations, faulty learning processes, or emotional stressors.
- Researchers use various methods to study the causes and treatment of psychological disorders. These all rely on the scientific method, which involves a progression of steps from posing questions of interest to sharing the results with the scientific community. These steps include two designs: experimental design, which tests a hypothesis by constructing a manipulation of a key variable interest, and correlational design, which tests relationships between variables that researchers cannot experimentally manipulate.
- Types of research studies include surveys, laboratory studies, and case studies. Surveys enable researchers to estimate the incidence and prevalence of psychological disorders. In a laboratory, participants are exposed to conditions based on the nature of the experimental manipulation. Case studies enable the researcher to intensively study one individual. This can also involve single-case experimental design, where the researcher studies one person at a time in both the experimental and control conditions, as he or she applies and removes treatment in alternating phases.
- Investigations in the field of behavioral genetics attempt to determine the extent to which people inherit psychological disorders. Different studies enable researchers to attempt to draw inferences about the relative contributions of biology and family environment to the development of psychological disorders.

KEY TERMS

Behavioral genetics
Biopsychosocial perspective
Case study
Clinical significance
Concordance rate
Correlational design
Cross-fostering
Deinstitutionalization movement
Dependent variable
Double-blind
Evidence-based treatment
Exorcism
Gene mapping
Halfway house
Humanitarian explanations
Incidence
Independent variable
Mental hygiene
Molecular genetics
Moral treatment
Placebo condition
Placebo-controlled randomized clinical trial
Positive psychology
Prevalence
Qualitative research
Randomized controlled trial (RCT)
Scientific explanations
Scientific method
Single case experimental design (SCED)
Sociocultural perspective
Spiritual explanations
Stigma
Survey
Trephining

Diagnosis and Treatment

OUTLINE

Case Report: Pedro Padilla
Psychological Disorder: Experiences of Client and Clinician
- The Client
- The Clinician

The Diagnostic Process
- *Diagnostic and Statistical Manual (DSM-5)*
- What's in the *DSM-5:* Changes in the *DSM-5* Structure
- Additional Diagnostic Information
- Culture-Bound Syndromes

Steps in the Diagnostic Process
- Diagnostic Procedures
- Case Formulation
- Cultural Formulation

Planning the Treatment
- Goals of Treatment
- Treatment Site
  - Psychiatric Hospitals
  - Specialized Inpatient Treatment Centers
  - Outpatient Treatment
  - Halfway Houses and Day Treatment Programs
  - Other Treatment Sites
- Modality of Treatment
- You Be the Judge: Psychologists as Prescribers
- Determining the Best Approach to Treatment

The Course of Treatment
- The Clinician's Role in Treatment
- The Client's Role in Treatment

Real Stories: Daniel Johnston: Bipolar Disorder
The Outcome of Treatment
Return to the Case: Pedro Padilla
Summary
Key Terms

Learning Objectives

2.1 Describe the experiences of the client and the clinician.

2.2 Assess the strengths and weaknesses of the *DSM* approach to psychological disorders.

2.3 Identify the *International Classification of Diseases (ICD).*

2.4 Explain steps of the diagnostic process.

2.5 Describe treatment planning and goals.

2.6 Explain the course and outcome of treatment.

CHAPTER 2

Case Report: Pedro Padilla

Demographic information: 28-year-old Latino male.

Presenting problem: Pedro's girlfriend of 1 year, Natalia, referred him to an outpatient mental health clinic in the community. He is in his second year of working as a defense attorney at a small law firm. Natalia reported that about 6 months ago, Pedro's parents began divorce proceedings, at which point she noticed some changes in his behavior. Although his job had always been challenging, Pedro was a hard worker who devoted himself to his studies throughout his academic career and had been just as motivated at his current job. Since the divorce, however, Natalia reported that Pedro had only been sleeping a few hours a night and was having trouble keeping up with his caseload at work. It had gotten so bad that the firm considered firing him.

When he was seen at the outpatient clinic, Pedro reported that the past 6 months had been very difficult for him. Although he stated he had always been a "worrier," he couldn't get his parents' divorce off his mind, and it was interfering with his ability to focus and perform well at his job. He described most of the worried thoughts as fears that his parents' divorce would destroy their lives as well as his. He stated he worried that somehow their divorce was his fault, and that once the thought entered his mind, it would play on repeatedly like a broken record. He also explained that Natalia had threatened to break up with him if he didn't "get it together," about which he was also spending a great deal of time worrying. He stated that he constantly worried that he had ruined her life and that this thought was also very repetitive.

Pedro was noticeably anxious and irritable throughout the session, especially when talking about his parents or about Natalia. Early in the session, he expressed that he had been feeling very tense all day and that his stomach was "in knots." Throughout the session, his legs and hands were fidgety, and he stood up and sat down in his chair several times. He stated that since starting his new job, he had become very short tempered with people, and often felt "wired" and tense, and as a result had a difficult time concentrating on his work and sleeping soundly. He explained that he couldn't remember the last time he felt calm or didn't worry about anything for an entire day. He also stated that he could barely think about anything other than his parents' divorce and his relationship problems with Natalia, even if he tried to get his mind off it. He reported that prior to learning of his parents' divorce, he was mainly "obsessive" about his work, which he noted was similar to how he was as an undergraduate and in law school. He expressed that he was usually afraid he would make an error, and would spend more time worrying about failing than actually doing his work. As a result, he said, he often had little time for friends or romantic relationships because he would feel guilty if he were engaging in pleasurable activities rather than focusing on his work. A serious relationship of 4 years ended after his ex-girlfriend grew tired of what she had called his "obsession" with working and his neglect of their relationship. Currently, faced with losing his job and another important relationship, Pedro stated that he realizes for the first time that his anxiety might be interfering with his life.

Relevant history: Pedro reported that his mother had a history of panic attacks and his father had taken antianxiety medication, though he was unable to recall any further details of his family history. He stated that since he could remember he had "always" felt anxious and often worried about

Case Report *continued*

things more than other people. He remembered a particular instance in high school when he barely slept for 2 weeks because he was preparing for an argument for his school's debate team. Pedro stated he has never had any psychotherapy or taken any psychiatric medication. He reported that although his worrying often makes him feel "down," he has never felt severely depressed and has no history of suicidal ideation.

Symptoms: Over a period of approximately 6 months, increased difficulty sleeping through the night, restlessness, difficulty concentrating, irritability. Pedro stated that he found it difficult to control the worry and he spent most of his time worrying about either his parents' divorce, work, or his relationship with Natalia.

Case formulation: Pedro meets all of the required *DSM-5* criteria for generalized anxiety disorder (GAD). He had been displaying excessive worry for more days than not for at least the past 6 months, was unable to control his worry, and presented four of the six main symptoms associated with GAD. Additionally, Pedro's worry was not related to fears of having a panic attack (as in panic disorder), or about being in social or public situations (as in social anxiety disorder). His anxiety was causing him significant problems at work and in his relationship with Natalia. Finally, Pedro's anxiety was not the result of substance use.

Treatment plan: Pedro's treatment plan will involve a combination of two approaches. First, he will be referred to a psychiatrist for antianxiety medication to ease the physical symptoms of his anxiety. Cognitive behavioral psychotherapy will also be recommended, as this has been shown to be the most effective current therapeutic modality for treating GAD.

Sarah Tobin, PhD
Clinician

Pedro's life was thrown into havoc by the worsening of his anxiety symptoms, putting him at risk of losing his job and his relationship. Dr. Tobin's treatment plan suggests a set of steps to address Pedro's immediate symptoms and ultimately to bring him longer-term relief. In this chapter, you will learn about how clinicians proceed through the steps of diagnosis and treatment planning. In order to help you understand these steps, we will introduce you to the fundamental concepts that guide these key processes.

2.1 Psychological Disorder: Experiences of Client and Clinician

Professionals working in the field of mental health come from a wide range of backgrounds. Those working in the field of abnormal psychology examine not only the causes of abnormal behavior, but also the complex human issues involved in the therapeutic process. Throughout this text, you will read many cases of individuals who seek treatment to alleviate their symptoms so they can lead more fulfilling lives. In this chapter, we begin this exploration by introducing you to the relevant players of "client" and "clinician."

The Client

client
A person seeking psychological treatment.

patient
In the medical model, a person who receives treatment.

People working in the area of abnormal psychology refer to individuals seeking psychological intervention as **client** and **patient.** In this book, we prefer to use the term *client*, reflecting the view that the people in treatment collaborate with those who treat them. We feel that the term *patient* carries with it the connotation of a passive rather than active participant. However, there are times when it is appropriate to use the term *patient* such as in the context of "outpatient treatment" and "patients' rights."

It is important to be sensitive to the language you use to refer to people with psychological disorders, regardless of whether your preference (or that of the setting in which you work) refers to them as clients or patients. We highly recommend that you refer to people as "clients" (or "patients") who *have* a certain disorder, and not refer to them by the name of their disorder. In other words, if you call someone a "schizophrenic" you equate the person with the disorder. People are more than the sum of their disorders. By using your language carefully, you communicate greater respect for the total person.

A trusting, positive relationship between therapist and client is crucial to a good therapeutic outcome.

The Clinician

In this book, we refer to the person providing treatment as the **clinician.** There are many types of clinicians who approach clinical work in a variety of ways, based on their training and orientation. **Psychologists** are licensed health care professionals offering psychological services. **Psychiatrists** are physicians (MDs) who receive specialized advanced training in diagnosing and treating people with psychological disorders. **Clinical psychologists** have an advanced degree in the field of psychology and are trained in diagnosis and therapy. Clinical psychologists cannot administer medical treatments, but three U.S. states (Louisiana, Illinois, and New Mexico, as of 2015) grant those with specialized training prescription privileges. Other states are pushing to pass similar legislation, based in part on the position that psychologists offer medication in the context of a larger therapeutic relationship, rather than as the sole focus of treatment, as may be true with a psychiatrist.

There are two types of doctorates in psychology. The doctor of philosophy (PhD) is typically awarded for completing graduate training in a research-based program. In order to be able to practice, people who get their PhDs in clinical psychology must also complete an internship and at least 1 year of supervised postdoctoral training. The doctor of psychology (PsyD) is the degree that professional schools of psychology award and typically involves less training in research. These individuals also must complete an internship in order to practice. Counseling psychologists, with either a doctorate in education (EdD) or a PhD, also serve as clinicians. In order to qualify for a license to practice, doctoral-level clinicians must pass an examination.

Professionals with master's degrees also provide psychological services. These include social workers, master's-level counselors, marriage and family therapists, nurse clinicians, and school psychologists. The mental health field also includes a large group of individuals who do not have graduate-level training but serve a critical role in the functioning and administration of the mental health system. Included in this group are occupational therapists, recreational therapists, and counselors who work in institutions, agencies, schools, and homes. Clinicians within each specialty must train according to the standards of their discipline and maintain credentials, such as licenses, required by their state, province, or country in order to provide mental health services.

clinician
The person providing treatment.

psychologist
Health care professional offering psychological services.

psychiatrist
Person with a degree in medicine (MD) who receives specialized advanced training in diagnosing and treating people with psychological disorders.

clinical psychologist
A mental health professional with training in the behavioral sciences who provides direct service to clients.

2.2 The Diagnostic Process

In order to treat psychological disorders, clinicians must first be able to diagnose them. The diagnostic process requires, in turn, that clinicians adopt a systematic approach to classifying the disorders they see in their clients. A diagnostic manual serves to provide consistent diagnoses across people based on the presence or absence of a set of specific

symptoms. Without an accurate diagnostic manual, it is impossible for the clinician to decide on the best treatment path for a given client. Researchers use standard forms of diagnostic manuals to provide investigators with consistent terminologies to use when reporting their findings. These may be the same manuals as those used by clinicians, or they may be research-based criteria accepted within the profession as providing terminology that can be translated into clinical use.

reliability
When used with regard to diagnosis, the degree to which clinicians provide diagnoses consistently across individuals who have a particular set of symptoms.

validity
The extent to which a test, diagnosis, or rating accurately and distinctly characterizes a person's psychological status.

A diagnostic manual's ability to do its job hinges upon its meeting two sets of standards. The first is **reliability,** meaning that those who use the manual apply the diagnoses consistently across individuals who have a particular set of symptoms. A manual would not be very useful if the symptom of sad mood led one clinician to assign one diagnosis and another to adopt a completely different one. Secondly, a diagnostic manual must have **validity,** meaning that the diagnoses represent real and distinct clinical phenomena.

Current diagnostic manuals are based on the medical model in that they focus on accurately labeling groups of symptoms with the intention of providing targeted treatments. This would seem to be a worthwhile goal, but not everyone in the mental health community is comfortable with this model. As we will discuss frequently, a diagnosis requires that an individual's behavior can be classified as either normal or abnormal without allowing for gradations in between. Furthermore, because users of diagnostic manuals label a collection of behaviors as constituting a disease, they are more likely, knowingly or not, to stigmatize those with that particular disease. If instead behaviors were rated for what they were, rather than as a collection of symptoms within the category of disease, people would not become stigmatized by receiving a diagnosis.

Despite these criticisms, mental health professionals must rely on diagnostic systems if for no other reason than to allow their clients to receive treatment in hospitals and reimbursement from health care providers. Insurance companies utilize the diagnostic codes they provide to determine payment schedules for both in-hospital and outpatient care. For our purposes, it is worthwhile to be alert to the criticisms of these diagnostic systems, particularly because they serve as a reminder that it is the person, not the disease, that clinicians aim to help.

Diagnostic and Statistical Manual (DSM-5)

Diagnostic and Statistical Manual of Mental Disorders (DSM)
A book published by the American Psychiatric Association that contains standard terms and definitions of psychological disorders.

axis
A class of information in previous *DSMs* regarding an aspect of the individual's functioning.

multiaxial system
A multidimensional classification and diagnostic system in previous *DSMs* summarizing relevant information about an individual's physical and psychological functioning.

Clinicians use the standard terms and definitions contained in the ***Diagnostic and Statistical Manual of Mental Disorders (DSM)*** published by the American Psychiatric Association. We have organized this text according to the most recent version, which is the *DSM-5,* or fifth edition (American Psychiatric Association, 2013). The prior edition, the *DSM-IV-TR,* organized diagnoses using five separate axes. It defined an **axis** as a category of information regarding one dimension of an individual's functioning. The **multiaxial system** intended to allow professionals to characterize clients in a multidimensional way. Now, *DSM-5* contains a "Section III," which includes assessment measures and diagnoses not considered well established enough to be part of the main system. These diagnoses may become incorporated into the next edition of *DSM-5* or a *"DSM-5.1," s*hould clinical and research data support their inclusion.

Reflecting the increasing reliance of mental health professionals on online tools and mobile applications, the *DSM-5* is available for use on Apple and Android devices. In this form, the text behind the diagnoses is more difficult to read, but it is far easier to scroll through categories of disorders and symptoms than is true for the bound version of the manual.

In whatever form clinicians use it, *DSM-5* is divided into 22 chapters that each include sets of related disorders. The chapters are organized so that the closer disorders appear sequentially in the text, the more closely related they are believed to be. Furthermore, because psychological and biological diseases often relate to each other,

a number of diagnoses in *DSM-5* have embedded within them a medical diagnosis such as a neurological disease that produces cognitive symptoms. You can read examples of disorders in each category in Table 1.

Most mental health professionals outside the United States and Canada use instead of the *DSM-5,* the World Health Organization's (WHO's) diagnostic system, the ***International Classification of Diseases (ICD).*** WHO developed the *ICD* as an epidemiological tool and it includes all forms of disease, not just psychological disorders. The advantage of using the ICD is that it provides a common diagnostic system that the 110 member nations of WHO can use for epidemiological purposes, providing assurance that countries employ the same terminology for the sake of consistency. The tenth edition *(ICD-10)* is currently in use; it is undergoing a major revision, which will be the *"ICD-11."* The *ICD* is available in WHO's six official languages (Arabic, Chinese, English, French, Russian, and Spanish), as well as in 36 other languages. In the area of psychological disorders, although there are differences in specific areas, the two systems share more than 90% of diagnostic categories (Demazeux, 2013).

What's in the *DSM-5*

Changes in the DSM-5 Structure

All editions of the *DSM* have generated considerable controversy, and the fifth edition seems to be no exception. The importance of a diagnostic manual meeting criteria of reliability and validity forms the heart of controversy regarding the *DSM-5.* In its current form, it reflects the collective wisdom of clinicians and researchers who believed they were providing criteria that would result in the consistent application of diagnoses (reliability) of disorders that individuals actually experience (validity). Although criticized on both counts, the *DSM-5* was written in such a way as to maximize its scientific and clinical merits. Much of what you will read about in this book regarding *DSM-5* controversies revolves around validity but there are also challenges to its reliability. The challenge for the authors of any diagnostic system are to settle on agreed-upon categories of symptoms and translate them into terms that anyone who is trained in the system can apply.

The most significant changes concern the multiaxial system—the categorization of disorders along five separate axes. The *DSM-5* task force decided to eliminate the *DSM-IV-TR* multiaxial system and instead follow the system in use by the World Health Organization's *International Classification of Diseases (ICD).* Axis I of the *DSM-IV-TR* contained major "syndromes," or illness clusters. Axis II contained diagnoses of personality disorders and what was then called mental retardation. Axis III was used to note the client's medical conditions. Axis IV rated the client's psychosocial stresses, and Axis V rated the client's overall level of functioning. The task forces also considered using a dimensional model in which disorders are viewed along a continuum instead of the categorical model represented by *DSM-IV-TR.* However, in the end, they chose not to do so. The current organization begins with neurodevelopmental disorders and then proceeds through "internalizing" disorders (characterized by anxiety, depressive, and somatic symptoms) to "externalizing" disorders (characterized by impulsive, disruptive conduct and substance-use symptoms). The hope is that eventually there will be new research allowing future diagnostic manuals to be based on underlying causes rather than symptoms alone.

International Classification of Diseases (ICD)
The diagnostic system of the World Health Organization (WHO).

Additional Diagnostic Information

As part of the diagnostic process, clinicians may wish to add information about the medical or psychosocial status of their clients. If illnesses that are primarily medical are not specified in *DSM-5,* clinicians may use the standard *ICD* diagnoses for the conditions. These diagnoses would include all medical conditions, not just those with psychological relevance. By specifying these illnesses, clinicians transmit information that has important therapeutic implications. For example, a person with chronic heart disease should not receive certain psychiatric medications. In addition, knowing about a client's medical condition can provide important information about the mental disorder's etiology, which is its presumed cause. It would be useful to know that a middle-aged man appearing in treatment for a depressive disorder for the first time had a heart attack 6 months ago. The heart attack may have constituted a risk factor for the development of depression, particularly in a person with no previous psychiatric history.

In providing a total diagnostic picture of the client's psychological disorder, clinicians may also decide it is important to specify particular stressors that are affecting the individual's psychological status. In these cases, clinicians can use a set of codes in the *ICD* that indicate the presence of psychosocial and environmental problems

TABLE 1 Disorders in *DSM-5*

Category	Description	Examples of diagnoses
Neurodevelopmental disorders	Disorders that usually develop during the earlier years of life, primarily involving abnormal development and maturation	Autism spectrum disorder Specific learning disorder Attention-deficit hyperactivity disorder
Schizophrenia spectrum and other psychotic disorders	Disorders involving symptoms of distortion in perception of reality and impairment in thinking, behavior, affect, and motivation	Schizophrenia Brief psychotic disorder
Bipolar and related disorders	Disorders involving elevated mood	Bipolar disorder Cyclothymic disorder
Depressive disorders	Disorders involving sad mood	Major depressive disorder Persistent depressive disorder
Anxiety disorders	Disorders involving the experience of intense anxiety, worry, fear, or apprehension	Panic disorder Agoraphobia Specific phobia Social anxiety disorder
Obsessive-compulsive and related disorders	Disorders involving obsessions and compulsions	Obsessive-compulsive disorder Body dysmorphic disorder Hoarding disorder
Trauma and stressor-related disorders	Responses to traumatic events	Post-traumatic stress disorder Acute stress disorder Adjustment disorder
Dissociative disorders	Disorders in which the normal integration of consciousness, memory, sense of self, or perception is disrupted	Dissociative identity disorder Dissociative amnesia
Somatic symptom disorders	Disorders involving recurring complaints of physical symptoms that may or may not be associated with a medical condition	Illness anxiety disorder Functional neurological symptom disorder
Feeding and eating disorders	Disorders characterized by severe disturbances in eating behavior	Anorexia nervosa Bulimia nervosa Binge eating disorder
Elimination disorders	Disorders involving bladder and bowel disturbances	Enuresis (bladder) Encopresis (bowel)
Sleep-wake disorders	Disorders involving disturbed sleep patterns	Insomnia disorder Narcolepsy
Sexual dysfunctions	Disorders involving disturbance in the expression or experience of sexuality	Erectile disorder Female orgasmic disorder Premature ejaculation
Gender dysphoria	Mismatch between biological sex and gender identity	Gender dysphoria
Disruptive, impulse-control, and conduct disorders	Disorders characterized by repeated expression of impulsive or disruptive behaviors	Kleptomania Intermittent explosive disorder Conduct disorder
Substance-related and addictive disorders	Disorders related to the use of substances	Substance use disorders Substance-induced disorders
Neurocognitive disorders	Disorders involving impairments in thought processes caused by substances or medical conditions	Mild neurocognitive disorder Major neurocognitive disorder
Personality disorders	Disorders in an individual's personality	Borderline personality disorder Antisocial personality disorder Narcissistic personality disorder
Paraphilic disorders	Disorder in which a paraphilia causes distress and impairment	Pedophilic disorder Fetishistic disorder Transvestic disorder
Other mental disorders	Conditions or problems for which a person may seek professional help	Other specified mental disorder due to another medical condition
Medication-induced movement disorders and other adverse effects of medication	Disturbances that can be traced to use of medication	Tardive dyskinesia Medication-induced postural tremor
Other conditions that may be a focus of clinical attention	Conditions or problems for which a person may seek medical help	Problems related to abuse or neglect Occupational problem

TABLE 2 Examples from Z Codes in *ICD-10*

Problem	Examples
Problems related to education and literacy	Underachievement in school
Problems related to employment and unemployment	Change of job Sexual harassment on the job Military deployment status
Problems related to housing and economic circumstances	Homelessness Extreme poverty Low income
Problems related to social environment	Acculturation difficulty
Other problems related to primary support group, including family circumstances	Problems in relationship with spouse Disappearance and death of family member Alcoholism and drug addiction in family
Problems related to certain psychosocial circumstances	Unwanted pregnancy

http://www.icd10data.com/ICD10CM/Codes/Z00-Z99/Z55-Z65

known as **Z codes.** We have selected several examples of *ICD-10 Z* codes in Table 2. These may be important because they can affect the diagnosis, treatment, or outcome of a client's psychological disorder. A person first showing signs of an anxiety disorder shortly after becoming unemployed presents a very different diagnostic picture than someone whose current life circumstances have not changed at all in several years.

Z codes
Codes in the *ICD* that indicate the presence of psychosocial and environmental problems.

For the most part, environmental stressors are negative. However, we might consider positive life events, such as a job promotion, as stressors. A person who receives a major job promotion may encounter psychological difficulties due to his or her increased responsibilities and demands with the new position. Even going on vacation may present stress, although for most individuals, the rewards of the vacation offset the cost of the planning, travel headaches, and change in daily schedules.

Clinicians also may want to include their overall judgment of a client's psychological, social, and occupational functioning. An instrument known as the WHO Disability Assessment Schedule (WHODAS) is included as a section of the *DSM-5* so clinicians can provide such a rating. An example of a question from the WHODAS the clinician might ask is "In the past 30 days, how much difficulty have you had in concentrating on doing something for ten minutes?" The client indicates whether the difficult is None, Mild, Moderate, or Severe. Other questions ask about the client's difficulty in taking care of household duties, engaging in community activities, and activities such as washing and getting dressed.

Culture-Bound Syndromes

Within particular cultures are idiosyncratic patterns of symptoms, many of which have no direct counterpart to a specific *DSM-5* diagnosis. **Culture-bound syndromes** are behavior patterns that exist only within particular cultures. To qualify as a culture-bound syndrome, the symptoms must not have any clear biochemical or physiological sources. Furthermore, only people in that particular culture exhibit its symptoms for the disorder to be considered a culture-bound syndrome. Table 3 describes examples of the most well-documented culture-bound syndromes.

culture-bound syndromes
Recurrent patterns of abnormal behavior or experience that are limited to specific societies or cultural areas.

TABLE 3 Examples of Culture-Bound Syndromes

Certain psychological disorders, such as depression and anxiety, are universally encountered. Within particular cultures, however, idiosyncratic patterns of symptoms are found, many of which have no direct counterpart to a specific diagnosis. These conditions, called culture-bound syndromes, are recurrent patterns of abnormal behavior or experience that are limited to specific societies or cultural areas.

This table describes some of the best-studied culture-bound syndromes and forms of distress that may be encountered in clinical practice in North America, as well as the *DSM-5* categories they most closely resemble.

Term	Location	Description
Amok	Malaysia	Dissociative episode consisting of brooding followed by violent, aggressive, and possibly homicidal outburst. Precipitated by insult; usually seen more in males. Return to premorbid state following the outburst.
Ataque de nervios	Latin America	Distress associated with uncontrollable shouting, crying, trembling, and verbal or physical aggression. Dissociation, seizure, and suicidal gestures possible. Often occurs as a result of a stressful family event. Rapid return to premorbid state.
Bilis and colera	Latin America	Condition caused by strong anger or rage. Marked by disturbed core body imbalances, including tension, trembling, screaming, and headache, stomach disturbance. Chronic fatigue and loss of consciousness possible.
Bouffée délirante	West Africa and Haiti	Sudden outburst of agitated and aggressive behavior, confusion, and psychomotor excitement. Paranoia and visual and auditory hallucinations possible.
Brain fag	West Africa	Difficulties in concentration, memory, and thought, usually experienced by students in response to stress. Other symptoms include neck and head pain, pressure, and blurred vision.
Dhat	India	Severe anxiety and hypochondriacal concern regarding semen discharge, whitish discoloration of urine, weakness, and extreme fatigue.
Falling out or *blacking out*	Southern United States and the Caribbean	A sudden collapse, usually preceded by dizziness. Temporary loss of vision and the ability to move.
Ghost sickness	American Indian tribes	A preoccupation with death and the deceased. Thought to be symbolized by bad dreams, weakness, fear, appetite loss, anxiety, hallucinations, loss of consciousness, and a feeling of suffocation.
Hwa-byung (wool-hwa-byung)	Korea	Acute feelings of anger resulting in symptoms including insomnia, fatigue, panic, fear of death, dysphoria, indigestion, loss of appetite, dyspnea, palpitations, aching, and the feeling of a mass in the abdomen.
Koro	Malaysia	An episode of sudden and intense anxiety that one's penis or vulva and nipples will recede into the body and cause death.
Latah	Malaysia	Hypersensitivity to sudden fright, usually accompanied by symptoms including echopraxia (imitating the movements and gestures of another person), echolalia (irreverent parroting of what another person has said), command obedience, and dissociation, all of which are characteristic of schizophrenia.
Mal de ojo	Mediterranean cultures	Means "the evil eye" when translated from Spanish. Children are at much greater risk; adult females are at a higher risk than adult males. Manifested by fitful sleep, crying with no apparent cause, diarrhea, vomiting, and fever.
Pibloktog	Arctic and sub-Arctic Eskimo communities	Abrupt dissociative episode associated with extreme excitement, often followed by seizures and coma. During the attack, the person may break things, shout obscenities, eat feces, and behave dangerously. The victim may be temporarily withdrawn from the community and report amnesia regarding the attack.

Term	Location	Description
Qi-gong psychotic reaction	China	Acute episode marked by dissociation and paranoia that may occur following participation in qi-gong, a Chinese folk health-enhancing practice.
Rootwork	Southern United States, African American and European populations, and Caribbean societies	Cultural interpretation that ascribes illness to hexing, witchcraft, or sorcery. Associated with anxiety, gastrointestinal problems, weakness, dizziness, and the fear of being poisoned or killed.
Shen-k'uei or *Shenkui*	Taiwan and China	Symptoms attributed to excessive semen loss due to frequent intercourse, masturbation, and nocturnal emission. Dizziness, backache, fatigue, weakness, insomnia, frequent dreams, and sexual dysfunction. Excessive loss of semen is feared, because it represents the loss of vital essence and therefore threatens one's life.
Shin-byung	Korea	Anxiety and somatic problems followed by dissociation and possession by ancestral spirits.
Spell	African American and European American communities in the southern United States	Trance state in which communication with deceased relatives or spirits takes place. Sometimes connected with a temporary personality change.
Susto	Latinos in the United States and Mexico, Central America, and South America	Illness caused by a frightening event that causes the soul to leave the body. Causes unhappiness, sickness (muscle aches, stress headache, and diarrhea), strain in social roles, appetite and sleep disturbances, lack of motivation, low self-esteem, and death. Healing methods include calling the soul back into the body and cleansing to restore bodily and spiritual balance.
Taijin kyofusho	Japan	Intense fear that one's body parts or functions displease, embarrass, or are offensive to others regarding appearance, odor, facial expressions, or movements.
Zar	Ethiopia, Somalia, Egypt, Sudan, Iran, and other North African and Middle Eastern societies	Possession by a spirit. May cause dissociative experiences characterized by shouting, laughing, hitting of one's head against a hard surface, singing, crying, apathy, withdrawal, and change in daily habits.

2.3 Steps in the Diagnostic Process

The diagnostic process involves the clinician's using all relevant information and arriving at a label that best seems to capture the client's disorder. This information includes the results of any tests given to the client, material gathered from interviews, and knowledge about the client's personal history.

Diagnostic Procedures

Key to diagnosis is gaining as clear a description as possible of a client's symptoms, both those that the client reports and those that the clinician observes. Dr. Tobin, when hearing Pedro describe himself as "anxious," assumes that he *may* have an anxiety disorder. However, clients do not always label their internal states accurately. Therefore, the clinician also must attend carefully to the client's behavior, emotional expression, and

apparent state of mind. The client may express anxiety, but his behavior may suggest that instead he is experiencing a mood disorder. Dr. Tobin would therefore keep open the possibility that mood disturbances, rather than or in addition to anxiety, are involved in Pedro's diagnosis.

Clinicians first listen to clients as they describe the experience of their symptoms, but then they follow this up with a more systematic approach to diagnosis. As you will learn in the chapter "Assessment", a variety of assessment tools give the clinician a framework for determining the extent to which these symptoms coincide with the diagnostic criteria of a given disorder. The clinician must determine the exact nature of a client's symptoms, the length of time the client has experienced these symptoms, and any other abnormalities that may represent important symptoms that the client may not report. In the process, the clinician also obtains information about the client's personal and family history. By asking questions in this manner, the clinician begins to formulate the **principal diagnosis**—namely, the disorder most closely aligned with the primary reason the individual is seeking professional help.

principal diagnosis
The disorder that is considered to be the primary reason the individual seeks professional help.

For many clients, the symptoms they experience reflect the presence of more than one principal diagnosis. In these cases, we use the term **comorbid,** meaning literally two (or more) disorders that co-occur. Diagnoses involving comorbidity are remarkably common. As shown in the National Comorbidity Survey (NCS), a major investigation intended to document the prevalence of comorbidity in the population, over half of respondents with one psychiatric disorder also have a second diagnosis at some point in their lives. The most common comorbidities involve the combined occurrence of substance use with other psychiatric disorders. Thus, an individual may have a history of a depressive disorder as well as alcohol use disorder, both occurring at the same time in the person's life.

comorbid
The situation that occurs when multiple diagnostic conditions occur simultaneously within the same individual.

Differential diagnosis, the ruling out of alternative diagnoses, is a crucial step in the diagnostic process. The clinician conducts a differential diagnosis by comparing the client's symptoms with those associated with similar disorders until other possibilities can be ruled out. This is important primarily so that the clinician can be sure to embark on the appropriate treatment. The clinician must also rule out medical diagnoses as well as those considered psychological in nature.

differential diagnosis
The process of systematically ruling out alternative diagnoses.

In Pedro's case, the predominant symptom is anxiety, which would suggest that he has an anxiety disorder. Dr. Tobin must then determine which anxiety disorder most closely fits Pedro's symptoms. At the same time, she would need to consider whether Pedro suffers from a medical disorder that could produce similar symptoms. It is also possible that Pedro's symptoms represent adjustment difficulties related to the divorce of his parents or the stress he encounters at work. Add to these the possibilities that he has a disorder related to substance use. Dr. Tobin's initial diagnosis must be tested against these possibilities before she can proceed to provide Pedro with the type of care most likely to help alleviate his symptoms.

The diagnostic process can take anywhere from a few hours to weeks depending on the complexity of the client's presenting symptoms. The client and clinician may accomplish therapeutic work during this time, though, particularly if the client is in crisis. The course of therapy would then be adjusted as needed to match the client's emerging diagnosis.

Case Formulation

Once the clinician makes a formal diagnosis, he or she is still left with a formidable challenge—to piece together a picture of how the disorder evolved. With the diagnosis, the clinician can assign a label to the client's symptoms. Although informative and necessary for treatment, this label does not tell the client's full story.

To gain a full appreciation of the client's disorder, the clinician develops a **case formulation,** an analysis of the client's development and the factors that might have influenced his or her current psychological status. The case formulation transforms the diagnosis from a label and set of diagnostic code numbers to a rich piece of descriptive

case formulation
A clinician's analysis of the factors that might have influenced the client's current psychological status.

information about the client's personal history. With this descriptive information, the clinician can more confidently design a treatment plan that is attentive to the client's symptoms, unique past experiences, and future potential for growth.

The cornerstone of a thorough case formulation is an understanding of the client from a biopsychosocial perspective that also takes into account the client's developmental history. In some cases, family history information would also inform this part of the diagnostic process.

In Dr. Tobin's work with Pedro, she starts to flesh out the details of her case formulation as she gets to know him better in the initial therapy phases. Her case formulation will expand to include Pedro's family history, focusing on the divorce of his parents, as well as the possible causes of his perfectionism and concern over his academic performance. She will try to understand why he feels so overwhelmed at work and gain a perspective on why his relationship with Natalia has been so problematic. Finally, she will need to investigate the possible role of his mother's panic attacks and how they relate to Pedro's experience of anxiety symptoms. To aid in differential diagnosis, Dr. Tobin will also evaluate Pedro's pattern of substance use as well as any possible medical conditions that she did not detect during the initial assessment phase.

Cultural Formulation

Making a diagnosis involves taking multiple factors from the client's life into account that include the client's sociocultural context. A **cultural formulation** includes the clinician's assessment of the client's degree of identification with his or her culture of origin, the culture's beliefs about psychological disorders, the ways in which people in the culture interpret particular events, and the cultural supports available to the client.

cultural formulation
Includes the clinician's assessment of the client's degree of identification with the culture of origin, the culture's beliefs about psychological disorders, the ways in which the culture interprets particular events, and the cultural supports available to the client.

We might expect cultural norms and beliefs to have a stronger impact on clients who strongly identify with their culture of origin. The client's familiarity with and preference for using a certain language is one obvious indicator of cultural identification. A culture's approach to understanding the causes of behavior may influence clients who strongly identify with their culture. Exposure to these belief systems may, in turn, influence the expression of a client's symptoms.

Even if a client's symptoms do not specifically represent that of a culture-bound syndrome, clinicians must consider the individual's cultural background as a framework for interpreting these symptoms. For example, members of a given culture attach significant meanings to particular events. Within certain Asian cultures, an insult may provoke the condition known as *amok*, where a person (usually male) enters an altered state of consciousness in which he becomes violent, aggressive, and even homicidal. Without taking this background into account, the clinician may very well draw the wrong conclusions, assuming that the symptoms reflect a disturbance within the individual when they in fact reflect the playing out of a culturally influenced scenario.

In Pedro's case, although he is a product of middle-class white background, it is possible that cultural factors are influencing his extreme preoccupation with his academic performance. Perhaps his family placed pressure on him to succeed due to their own incorporation of belief in the importance of upward mobility. They may have pressured him heavily to do well in school, and as a result, he felt that his self-worth as an individual depended on his grades. As an adult, he is unable to shake himself from this overly harsh and perfectionistic set of values.

Clinicians should look within the client's cultural background not only for diagnostic purposes but also as a way of determining what cultural supports may be available to them. Clients from cultures that incorporate extended family networks and religious connections can provide emotional resources to help individuals cope with stressful life events.

As you can appreciate, then, cultural formulations are important to understanding psychological disorders from a biopsychosocial perspective. The fact that psychological disorders vary from one society to another supports the claim of the sociocultural perspective that cultural factors play a role in influencing the expression of abnormal behavior.

Symptoms of psychological disorders often vary based on the person's cultural background.

Psychologists are increasingly learning that when working within the multicultural framework it is important to take into account not only a client's race and ethnicity, but also age, gender, sexual orientation, and disability status, among other factors (American Psychological Association, 2002). Through such education, clinicians learn not only how to adapt their diagnostic methods more generally, but also to adopt a multicultural approach throughout treatment.

2.4 Planning the Treatment

treatment plan
The outline for how therapy should take place.

Clinicians typically follow up the diagnostic phase by setting up a **treatment plan,** the outline for how therapy should take place. In the treatment plan, the clinician describes the treatment goals, treatment site, modality of treatment, and theoretical approach. The decisions the clinician makes while putting the treatment plan together reflect what he or she knows at the time about the client's needs and the available resources; however, clinicians often revise the treatment plan once they see how the proposed intervention methods are actually working.

Goals of Treatment

The first step in treatment planning is for the clinician to establish treatment goals, ranging from immediate to long term. Ideally, treatment goals reflect what we know about both the disorder and the recommended therapy, and the particular needs and concerns of the individual client.

The immediate goal of treating clients in crisis is to ensure that their symptoms are managed, particularly if they are at risk to themselves or others. Pedro, for example, needs psychiatric treatment in order to bring his anxiety symptoms under control. The clinician may need to hospitalize a client who is severely depressed and suicidal. The treatment plan may only include this immediate goal until the clinician gains a broader understanding of the client's situation.

Short-term goals are aimed at alleviating the client's symptoms by addressing problematic behavior, thinking, or emotions. The plan at this point might include establishing a working relationship between the clinician and client, as well as setting up specific objectives for therapeutic change. Another short-term goal might be to stabilize a client taking medications, a process that might take several weeks or longer if the first round

of treatment is unsuccessful. In Pedro's case, Dr. Tobin will need to ensure that the medications he is receiving are in fact helping to alleviate his anxiety. She will also need to work with the psychiatrist to monitor any adverse side effects. Her short-term goals with Pedro will also include beginning to examine the nature of his anxiety and how he can start to manage his symptoms using psychological interventions.

Long-term goals include more fundamental and deeply rooted alterations in the client's personality and relationships. These are the ultimate aims of therapeutic change. Ideally, the long-term goals for any client are to cope with the symptoms of the disorder and to develop a strategy to manage them, if not achieve complete recovery. Depending on the nature of the client's disorder, available supports, and life stressors, these long-term goals may take years to accomplish. Dr. Tobin's long-term goals with Pedro are to take him off the medication. At the same time, she would plan to help him gain an understanding of the causes of his symptoms and, in the process, reduce their severity if not eliminate them altogether.

In many cases, clinicians carry out treatment goals in a sequential manner. First the clinician deals with the crisis, then handles problems in the near future, and finally addresses issues that require extensive work well into the future. Many clients, however, experience a cyclical unfolding of stages. New sets of immediate crises or short-term goals may arise in the course of treatment; or, there may be a redefinition of long-term goals as the course of treatment progresses. It is perhaps more helpful to think of the three stages not as consecutive stages per se, but as implying different levels of treatment focus.

At this crisis center, telephone counselors are available 24 hours a day.
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Treatment Site

Clinicians juggle a number of issues when recommending which treatment site will best serve the client. Treatment sites vary in the degree to which they provide a controlled environment and in the nature of the services that clients will receive. Clients who are in crisis or are at risk of harming themselves or others need to be in controlled environments. However, there are many other considerations including cost and insurance coverage, the need for additional medical care, availability of community support, and the projected length of treatment. In some cases, clinicians recommend client treatment in outpatient settings, schools, or the workplace.

Psychiatric Hospitals

In a psychiatric hospital, a client receives medical interventions and intensive forms of psychotherapy. These settings are most appropriate for clients at risk of harming themselves or others and who seem incapable of self-care. In some cases, clinicians may involuntarily hospitalize clients through a court order until they can bring the symptoms under control (we will discuss this in more detail in the chapter "Ethical and Legal Issues").

Specialized Inpatient Treatment Centers

Clients may need intensive supervision, but not actual hospital care. For these individuals, specialized inpatient treatment centers provide both supportive services and round-the-clock monitoring. These sites include recovery treatment centers for adults seeking to overcome substance addiction. Clinicians may also recommend this treatment site to children who need constant monitoring due to severe behavioral disturbances.

Community treatment centers provide much-needed care to individuals with a wide range of psychological disorders.

community mental health center (CMHC)
Outpatient clinic that provides psychological services on a sliding fee scale to serve individuals who live within a certain geographic area.

Outpatient Treatment

By far, the most common treatment site is a private therapist's outpatient clinic or office. **Community mental health centers (CMHCs)** are outpatient clinics that provide psychological services on a sliding fee scale for individuals who live within a certain geographic area. Professionals in private practice offer individual or group sessions. Some prepaid health insurance plans cover the cost of such visits, either to a private practitioner or to a clinician working in a health maintenance organization (HMO). Agencies supported partially or completely by public funds may also offer outpatient treatment. Dr. Tobin will see Pedro in outpatient treatment because his symptoms are not sufficiently severe to justify hospitalization.

Clients receiving outpatient services will, by necessity, receive more limited care than what they would encounter in a hospital, in terms of both the time involved and the nature of the contact between client and clinician. Consequently, clinicians may advise that their clients receive additional services, including vocational counseling, in-home services, or the support of a self-help organization, such as Alcoholics Anonymous.

Halfway Houses and Day Treatment Programs

Clients with serious psychological disorders who are able to live in the community may require the additional support of facilities that are intended to serve the needs of this specific population. These facilities may be connected with a hospital, a public agency, or a private corporation. **Halfway houses** are designed for clients who have been discharged from psychiatric facilities, but who are not yet ready for independent living. A halfway house provides a living context with other deinstitutionalized people, and it is staffed by professionals who work with clients in developing the skills they need to become employed and to set up independent living situations. **Day treatment programs** are designed for formerly hospitalized clients as well as for clients who do not need hospitalization, but do need a structured program during the day, similar to what a hospital provides.

halfway house
A community treatment facility designed for deinstitutionalized clients leaving a hospital who are not yet ready for independent living.

day treatment program
A structured program in a community treatment facility that provides activities similar to those provided in a psychiatric hospital.

Other Treatment Sites

Clinicians may recommend that their clients receive treatment in the places where they work or go to school. School psychologists are trained to work with children and teenagers who require further assessment or

behavioral interventions. In the workplace, employee assistance programs (EAPs) provide employees with a confidential setting in which they can seek individual help in the form of counseling, assistance with substance abuse, and family treatment. These resources may prove important for clinicians who wish to provide their clients with as many resources over the long term as possible.

Guidance counselors are often the first professionals to whom troubled students turn for professional assistance.

Modality of Treatment

The **modality,** or form in which the clinician offers psychotherapy, is another crucial component of the treatment plan. Clinicians recommend one or more modalities depending on the nature of the client's symptoms and whether or not other people in the client's life should be involved.

Clients receive treatment on a one-to-one basis in **individual psychotherapy.** In couples therapy, both partners in a relationship, and in **family therapy,** several or all family members are involved in treatment. In family therapy, family members may identify one person as the "patient." The therapist, however, views the whole family system as the target of the treatment. **Group therapy** provides a modality in which clients who face similar issues can openly share their difficulties with others, receive feedback, develop trust, and improve their interpersonal skills.

A clinician may recommend any or all of these modalities in any setting. Specific to psychiatric hospitals is **milieu therapy,** which is based on the premise that the milieu, or environment, is a major component of the treatment. Ideally, the milieu is organized in a way that allows clients to receive consistent, therapeutic and constructive reactions from all who live and work there. In addition to traditional psychotherapy, clients participate in other therapeutic endeavors through group or peer counseling, occupational therapy, and recreational therapy.

modality
Form in which the clinician offers psychotherapy.

individual psychotherapy
Psychological treatment in which the therapist works on a one-to-one basis with the client.

family therapy
Psychological treatment in which the therapist works with several or all members of the family.

group therapy
Psychological treatment in which the therapist facilitates discussion among several clients who talk together about their problems.

milieu therapy
A treatment approach, used in an inpatient psychiatric facility, in which all facets of the milieu, or environment, are components of the treatment.

Milieu therapy involves many clients participating within a community setting.

You Be the Judge

Psychologists as Prescribers

In 2002, New Mexico became the first state to approve prescription privileges for psychologists. Louisiana followed shortly thereafter, passing similar legislation in 2004. These landmark pieces of legislation are paving the way for other states to take similar action. However, the question remains controversial. In 2010, the Oregon legislature passed a bill (SB 1046) granting prescriptive authority to psychologists, but Governor Ted Kulongoski vetoed the bill, in response to pressure from various lobbying groups, including psychiatrists.

There are several arguments against the granting of prescription privileges to psychologists. Unlike psychiatrists, psychologists do not receive medical training and therefore do not have the undergraduate premedical training or the years of medical school, internship, and residency that physicians receive. Philosophically, research-oriented psychologists argue that the granting of prescription privileges takes away from the notion that psychologists are scientists as well as practitioners. Psychologists should not be in the business, they argue, of handing out medication. A second argument against prescription privileges concerns the role of medication in psychological treatment. From this perspective, psychologists should be focused on psychotherapy. The long-term benefits of psychotherapy, these critics argue, are equal to if not greater than the long-term benefits of medication for the majority of disorders including major depression, anxiety disorders, and other nonpsychotic disorders. In the exceptional cases of serious mental illness, such as schizophrenia and bipolar disorder, psychologists can work as a team with psychiatrists to maintain their clients on long-term medication regimens.

The arguments in favor of prescription privileges are also compelling. If psychologists have the power to prescribe medications, they can do a better job than psychiatrists do integrating medication into psychotherapy. From the client's point of view, there is greater continuity of care, in that the individual does not need to see more than one mental health practitioner. Psychologists in favor of prescription privileges also point to the fact that specialized training is required for a clinical psychologist to be able to prescribe medications aimed at psychological disorders. Therefore, the psychologists who do prescribe have an equal knowledge base as do physicians. A second argument in favor of prescription privileges is that there are other nondoctoral-level health professionals with this legal power including psychiatric nurse practitioners and psychiatric nurse specialists, among others, although the exact nature of their privileges varies across states.

The American Psychological Association's Practice Directorate continues to lobby in favor of more widespread acceptance of prescription privileges across the United States. As the Oregon case demonstrates, however, this legislation is likely to face a rocky road in other states.

Q: *You be the judge:* Does having prescription privileges reduce the scientific status of psychology as a profession? Would you prefer that the psychologist you might see for treatment can also incorporate medications into your treatment?

Determining the Best Approach to Treatment

evidence-based practice in psychology
Clinical decision making that integrates the best available research evidence and clinical expertise in the context of the cultural background, preferences, and characteristics of clients.

Whatever treatment modality a clinician recommends, it must be based on the choice of the most appropriate theoretical perspective or combination of perspectives. Many clinicians are trained according to a particular set of assumptions about the origins of psychological disorders and the best methods of treating these disorders. Often, this theoretical orientation forms the basis for the clinician's treatment decisions. However, just as frequently, clinicians adapt their theoretical orientation to fit the client's needs.

After decades of debate regarding which treatments are most effective, and for whom, psychologists adopted the principles of **evidence-based practice in psychology**—clinical

decision making that integrates the best available research evidence and clinical expertise in the context of the cultural background, preferences, and characteristics of clients (American Psychological Association Presidential Task Force on Evidence-Based Practice, 2006). In other words, clinicians should base their treatments on state-of-the-art research findings that they adapt to the particular features of the client, taking into account the client's background, needs, and prior experiences. Clinicians currently use these criteria as the basis for curricula in graduate programs and postdoctoral continuing education (Collins, Leffingwell, & Belar, 2007).

As you read in this book about various disorders and the most effective treatments, it will be important to keep in mind the empirical basis for the treatment conclusions. Findings from efficacy studies shed light on appropriate interventions, but they are insufficient for conclusively determining what is most effective with real people with complex problems.

2.5 The Course of Treatment

The way treatment proceeds is a function of the contributions that reflect the individual efforts of the clinician and client. Each has a part to play in determining the outcome of the case, as does the unique interaction of their personalities, abilities, and expectations.

The Clinician's Role in Treatment

Above and beyond whatever treatment techniques a clinician uses, the quality of the relationship between the client and clinician is a crucial determinant of a therapy's success. A good clinician does more than objectively administer treatment to a client. The best clinicians infuse a deep personal interest, concern, and respect for the client into the therapeutic relationship.

Dr. Tobin will work with Pedro in the initial weeks of therapy to establish this solid basis for their further work together. As treatment proceeds, she will continue to evaluate the effectiveness of her intervention and make adjustments accordingly.

The Client's Role in Treatment

In optimal situations, psychotherapy is a joint enterprise in which the client plays an active role. It is largely up to the client to describe and identify the nature of his or her disorder, to describe personal reactions as treatment progresses, and to initiate and follow through on changes.

Throughout treatment, the client's attitudes toward therapy and the therapist are an important part of the contribution the client makes to the therapeutic relationship. There is a special quality to the help that the client is requesting; it involves potentially painful, embarrassing, and personally revealing material that the client is not accustomed to disclosing to someone else. Most people are much more comfortable discussing their medical, legal, financial, and other problems outside the realm of emotions.

Social attitudes toward psychological disorders also affect how clients engage in treatment. These attitudes can create problems if, for example, they feel that they should not have to rely on a therapist to get better. They may think that there's something wrong with them because they are in need of help. Although attitudes toward therapy are becoming more accepting in current Western culture, there is still a degree of potential shame or embarrassment that clients must confront. To someone who is already troubled by severe problems in living, the added anxiety caused by worrying about what it means to seek psychotherapy can be further inhibiting.

With so many potential forces driving the individual away from seeking therapy, the initial step is sometimes the hardest to take. Thus, the therapeutic relationship requires the client to be willing to work with the clinician in a partnership and to be prepared to endure the pain and embarrassment involved in making personal revelations. Moreover, it also requires a willingness to break old patterns and to try new ways of viewing the self and relating to others.

REAL STORIES

Daniel Johnston: Bipolar Disorder

Daniel Johnston, born January 22, 1961, is an American singer-songwriter well known for his unique musical talent as well as his lifelong struggle with bipolar disorder. The 2005 documentary, *The Devil and Daniel Johnston*, depicts his incredible story from childhood in West Virginia to the present day. Though Daniel has had an extraordinary musical career, his tumultuous journey with mental illness is not unlike that of many other individuals who suffer from severely debilitating psychological disorders. Through his music, Daniel expresses both the soaring, sometimes delusional manias and the dark, unbearable depths of depression he has faced throughout his life.

The youngest of five children, Daniel's mother, Mabel, recalls that " . . . he was different . . . I noticed that from the start." As a teenager, inspired mostly by comic books, he took on countless artistic endeavors including drawing and making playful movies about his life at home. His creativity helped him gain attention from friends and classmates, but also endlessly frustrated his highly religious and traditional parents, who would rather he spend his time attending church, working, and helping out around the house. Daniel's passion for creating has remained with him his entire life. In the words of Daniel's best friend, David Thornberry, "He exudes art . . . he can't stop making art."

As with many individuals with severe mood disorders, Daniel's behavior began to change for the worse after leaving home for college. His family was used to him acting differently than his peers, but in college Daniel started to become confused and disoriented. A visit to the family physician resulted in a diagnosis of manic-depression (bipolar disorder). Unable to continue with the challenges he faced at school, he returned home and enrolled in a small arts college in nearby Ohio. In art school, Daniel met and subsequently fell in love with his classmate Laurie. Though they never had a romantic relationship and she went on to marry another man, Daniel's unrequited love for her has been one of his most powerful creative muses and also caused his first major depressive episode. It was at this point, his mother recalls, that he began to play the piano and write songs.

Daniel was having trouble in his courses at art school, and so his family once again took him out of school. This time they sent him to live with his older brother in Houston, in hopes that he could start building a productive life. Daniel worked part time at a local amusement park and began recording music in his brother's garage. After his brother grew frustrated that Daniel was not finding stable work, he sent him to live with his sister, Margie. One morning, Margie noticed that Daniel had not come home the night before. His family did not hear from Daniel for months; when they did, they learned that he had spontaneously purchased a moped and joined a traveling carnival. When the carnival stopped in Austin, Texas, Daniel was assaulted on the fair grounds and fled to a local church for help. He was able to find housing in Austin and began taking his homemade tape-recorded albums to local musicians and newspapers. One of the local musicians he met was Kathy McCarthy. The two briefly dated, and after meeting him, Kathy remembers, "It was undeniable after one or two weeks that something was dreadfully wrong with him."

In one scene of *The Devil and Daniel Johnston*, he reads a detailed account of the characteristics of an individual with his condition, stating, "There you have it. I'm a manic depressive with grand delusions." The majority of his delusions were paranoid and religious in nature, perhaps the result of his highly religious upbringing. Although Daniel was well aware of his illness, at the time he was doing little to assuage it. In Austin, Daniel began to smoke marijuana and regularly experimented with LSD, causing several bizarre and sometimes violent episodes. Simultaneously, Daniel's music career began to blossom as he gained recognition as well as notoriety for his music and his often bizarre live performances.

In 1986, a Christmas gathering with his siblings soon turned into a horrifying event. Daniel began preaching about Satan to his family, and began attacking his brother, breaking his rib. Frightened by his behavior, and unsure of what to do, his siblings drove him to a nearby bus station. Soon after, the police discovered Daniel at the University of Austin, splashing in the middle of a pond and again preaching about Satan. It was at this point that his friends and family began to realize that, as one friend put it, "he was a really sick person." While his music had been a way for him to filter the demons in his mind, Daniel's illness was beginning to wreak havoc on his life, and drastic measures were necessary to ensure he did no further harm to others or to himself. Doctors prescribed Daniel the antipsychotic medication Haldol, and he spent the entire year of 1987 in bed (what he called his "lost year"). Although he was stabilized, Daniel found himself unable to write any music during this

Daniel Johnston's songs provide a glimpse into his struggles with mental illness.

period. Indeed, throughout his life and like many individuals with bipolar disorder, Daniel often struggled with medication compliance. He felt that he was better at creating and performing when his mind was allowed to run free rather than be confined to the numbness he felt while on medication.

Because he often went off his medication, Daniel experienced a 5-year whirlwind of breakdowns that cycled between delusional mania and clinical depression, resulting in numerous hospitalizations that lasted months at a time. When first going off his medication, Daniel's behavior and mood were normal for up to a few days until he would quickly and unexpectedly take a turn for the bizarre. In one particular instance, Daniel had stopped taking his medication before playing to a large auditorium for a music festival in Austin, Texas. The appearance was one of the most acclaimed performances of his career. Shortly afterwards, however, when he and his father boarded the two-person plane to take them home to West Virginia, Daniel seized the controls from his father, sending their plane crashing toward the ground. Luckily, Daniel's father was able to regain control of the plane in time, and they survived after landing on a treetop. Daniel's father now recalls that at the time, Daniel believed he was Casper (from the children's cartoon about Casper, the friendly ghost), and that taking over the plane was a heroic act.

Since that dark period of his life, Daniel has been stable in large part because of his supportive network of family and friends. He lives with his parents in Waller, Texas, and continues to write music and tour around the world. Many regard Daniel Johnston as one of the most brilliant singer-songwriters in American history. His heartbreaking battle with mental illness has been a destructive yet inspiring force in his work that blurs the line between artistic creativity and mental illness.

2.6 The Outcome of Treatment

In the best of all possible worlds, the treatment works. The client remains in treatment until the treatment runs its course, shows improvement, and maintains this improved level of functioning. **Remission** is said to occur when the individual's symptoms no longer interfere with his or her behavior and are below those required for a *DSM* diagnosis (Lambert, Karow, Leucht, Schimmelmann, & Naber, 2010). Although this is obviously the most desirable outcome, the road to remission is not so smooth, and either the client does not attain the treatment plan goals or unanticipated problems arise.

remission
Term used to refer to the situation when the individual's symptoms no longer interfere with his or her behavior and are below those required for a DSM diagnosis.

Change is very difficult, and many clients have become so accustomed to living with their symptoms that the necessary effort to solve the problem seems overwhelming. Clinicians find it particularly frustrating when they encounter these negative attitudes or when clients do not seem willing to follow through on their desire to change. At times, clinicians also face frustration over practical constraints. They may recommend a treatment that they are confident can succeed, but that would exceed available insurance reimbursement or would otherwise not be feasible given the client's current living situation. In other cases, people in the client's life refuse to participate in the treatment, even though they play central roles.

Over time, those in the mental health field learn that they are limited in how effective they can be in changing the lives of people who go to them for help. However, as you will learn in this book, therapy is effective and the majority of treatments do result in significant improvement.

Return to the Case: Pedro Padilla

Pedro was prescribed antianxiety medication through the psychiatrist at the mental health clinic. Within 4 weeks, he reported that he was able to sleep through the night and was feeling less restless. His psychotherapy focused on relaxation techniques such as deep breathing as well as cognitive techniques such as labeling and challenging his worrying, and coming up with various ways to cope with stress rather than worrying excessively. Therapy was also helpful for Pedro to discuss and sort through his feelings about his parents' divorce, and to understand how his anxiety affected his romantic relationships.

Dr. Tobin's reflections: Typical of many individuals with GAD, Pedro has always felt like a constant "worrier," but this anxiety was recently aggravated by a stressful event: his parents' divorce. Additionally, his lack of sleep was likely contributing to his

difficulty with the concentration that is necessary for keeping up with the standards of work required by his career. Since he had been doing well at work up until this point, he may not have felt that his anxiety was a problem. His anxiety may have also gone unnoticed due to the intense pressure and sacrifice that all individuals face who work in Pedro's career area. It was clear, however, that Pedro worried about many issues to a greater degree than others in his situation. At the time he presented for treatment, however, it was clear that his inability to control his worry over his parents and his girlfriend were causing major problems in his work and social life. Not only that, but his past anxiety had caused problems that he did not recognize at that time. For many people who suffer from GAD, the longer it goes untreated the worse it may get. Fortunately for Pedro, his girlfriend recognized that he was struggling and was able to obtain help for his overwhelming anxiety. I am pleased with the progress of therapy so far, and am hopeful that given his many strengths, Pedro will be able to manage his symptoms through the psychological methods over which he is gaining mastery. Pedro has the potential to be a successful lawyer, and given the strength of his relationship with Natalia, I am hopeful that he will be able to turn his life around with only a slight chance of reexperiencing these symptoms.

SUMMARY

- The field of abnormal psychology goes beyond the academic concern of studying behavior. It encompasses the large range of human issues involved when a client and a clinician work together to help the client resolve psychological difficulties.
- People working in the area of abnormal psychology use both *client* and *patient* to refer to those who use psychological services. Our preference is to use the term *client,* reflecting the view that clinical interventions are a collaborative endeavor.
- The person providing the treatment is the clinician. There are many types of clinicians who approach clinical work in a variety of ways based on training and orientation. These include psychiatrists, clinical psychologists, social workers, counselors, therapists, and nurses. The field also includes those who do not have graduate-level training. These include occupational therapists, recreational therapists, and counselors who work in institutions, agencies, schools, and homes.
- Clinicians and researchers use the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5),* which contains descriptions of all psychological disorders. In recent editions, authors of the *DSM* have strived to meet the criterion of reliability so that a clinician can consistently apply a diagnosis to anyone showing a particular set of symptoms. At the same time, researchers have worked to ensure the validity of the classification system so that the various diagnoses represent real and distinct clinical phenomena.
- The *DSM-5* presents diagnoses organized into 22 chapters. The classification system is descriptive rather than explanatory, and it is categorical rather than dimensional.
- The diagnostic process involves using all relevant information to arrive at a label that characterizes a client's disorder. Key to diagnosis is gaining as clear a description as possible of a client's symptoms, both those that the client reports and those that the clinician observes. Differential diagnosis, the ruling out of alternative diagnoses, is a crucial step in the diagnostic process.
- To gain full appreciation of the client's disorder, the clinician develops a case formulation: analysis of the client's development and the factors that might have influenced his or her current psychological status.
- A cultural formulation accounts for the client's cultural background in making diagnoses.
- Culture-bound syndromes are behavior patterns that we find only within particular cultures.
- Clinicians typically follow up the diagnostic phase by setting up a treatment plan, the outline for how therapy should take place. The first step in a treatment plan is for the clinician to establish treatment goals, ranging from immediate to long term.
- Treatment sites vary in the degree to which they provide a controlled environment and in the nature of the services that clients receive. These include psychiatric hospitals, specialized inpatient treatment centers, outpatient treatment ranging from a private therapist's outpatient clinic or office to a community-based mental health center. Other treatment sites include halfway houses, day treatment programs, places of work, and schools.
- Modality, or the form in which one offers psychotherapy, is also a crucial component of the treatment plan. It can be individual, family, group, or milieu therapy. Whatever treatment of modality a clinician recommends, it must be based on the choice of the most appropriate theoretical or combination of perspectives.
- In optimal situations, psychotherapy is a joint enterprise in which clients play an active role. In the best of all possible worlds, the client remains in treatment until the treatment runs its course, and the client shows improvement and maintains the improved level of functioning. Although not always successful, therapy is usually effective, and the majority of treatments do result in significant improvement.

KEY TERMS

Axis
Case formulation
Client
Clinician
Clinical psychologist
Community mental health center (CMHC)
Comorbid
Culture-bound syndromes
Cultural formulation
Day treatment program
Diagnostic and Statistical Manual of Mental Disorders (DSM)
Differential diagnosis
Evidence-based practice in psychology
Family therapy
Group therapy
Halfway house
Individual psychotherapy
International Classification of Diseases (ICD)
Milieu therapy
Modality
Multiaxial system
Patient
Principal diagnosis
Psychiatrist
Psychologist
Reliability
Remission
Treatment plan
Validity
Z codes

Assessment

OUTLINE

Case Report: Ben Robsham
Characteristics of Psychological Assessments
Clinical Interview
Mental Status Examination
Intelligence Testing
- Stanford-Binet Intelligence Test
- Wechsler Intelligence Scales

Personality Testing
- Self-Report Tests
- Projective Testing

Real Stories: Ludwig van Beethoven: Bipolar Disorder
Behavioral Assessment
Multicultural Assessment
Neuropsychological Assessment
What's in the *DSM-5*: Section 3 Assessment Measures
You Be the Judge: Psychologists in the Legal System
Neuroimaging
Putting It All Together
Return to the Case: Ben Robsham
Summary
Key Terms

Learning Objectives

3.1 Define key concepts of assessment.
3.2 Describe clinical interviews.
3.3 Identify mental status examination.
3.4 Explain intelligence testing.
3.5 Describe personality testing.
3.6 Recognize behavioral assessment.
3.7 Identify multicultural assessment.
3.8 Explain neuropsychological assessment.
3.9 Describe neuroimaging.

CHAPTER 3

Case Report: Ben Robsham

Demographic information: 22-year-old Caucasian male.

Reason for referral: Ben was referred for an assessment at his employer's EAP by his supervisor following an incident in which he hit his head while operating a subway train. When driving above ground, Ben reported that the brakes had jammed while he was coming to an intersection where pedestrians were crossing. Using the emergency brake, Ben was able to stop the train, but the abrupt halt caused him to hit his head on the glass window and temporarily lose consciousness. He is unable to recall what happened directly after hitting his head. Ben took a 2-week leave of absence after the incident, and avoided going to work for an additional 2 weeks. When his supervisor called him, Ben stated, "I can't leave my house. They'll come and get me."

Relevant history: Ben has no history of psychiatric treatment. He stated that he has never experienced depression or anxiety, and that he typically feels "just fine," which has made the recent changes in his psychological state all the more disturbing to him. Ben reported that he has never used drugs and only occasionally drinks when he is in a social environment. Additionally, Ben reported that his maternal grandfather and uncle had both been diagnosed with schizophrenia. Finally, Ben reported having no remarkable past or current medical history.

Case formulation: Because Ben's symptoms emerged following the incident, Ben will be referred for neuropsychological testing to rule out possible traumatic brain injury.

Diagnosis: Rule out mild neurocognitive disorder due to traumatic brain injury with behavioral disturbance.

Treatment plan: After an initial intake interview at the employee assistance program, Ben was referred for further psychological evaluation and psychiatric consultation to Dr. Antwan Washington, a neuropsychologist. The tests administered by Dr. Washington are in Table 1.

Sarah Tobin, PhD
Referring Clinician

TABLE 1 **Tests Administered to Ben**

Clinical Interview
Wechsler Adult Intelligence Scale, Fourth Edition (WAIS-IV)
Trail-Making Test, Parts A and B
Clock Drawing Test
Paced Auditory Serial Addition Test (PASAT)
Boston Naming Test, Second Edition (BNT)
Wechsler Memory Scale (WMS)
Minnesota Multiphasic Personality Inventory-2 (MMPI-2)

3.1 Characteristics of Psychological Assessments

psychological assessment
A broad range of measurement techniques, all of which involve having people provide scorable information about their psychological functioning.

A **psychological assessment** is a procedure in which a clinician provides a formal evaluation of an individual's cognitive, personality, and psychosocial functioning. You will see as we discuss Ben's case that a comprehensive assessment proved valuable in helping to understand the nature of his symptoms and potential directions for treatment.

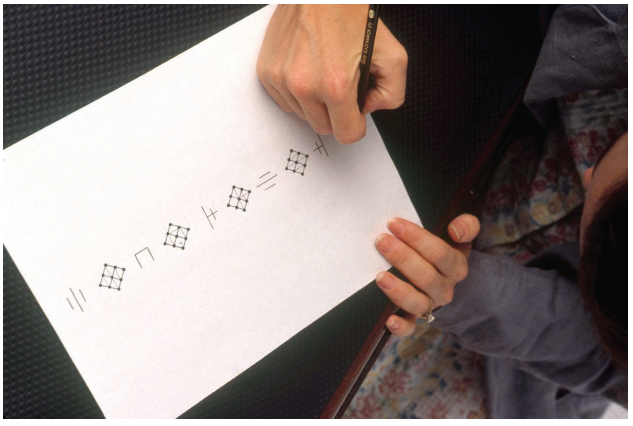
Clinicians conduct assessments for a variety of reasons and under a variety of conditions. A common use of the assessment process is to provide a diagnosis, or at least a tentative diagnosis, of an individual's psychological disorder. However, clinicians may also use assessments for other purposes. For example, in forensic assessments, clinicians may seek to determine whether their clients can participate in their own defense or were capable of judging that their actions were criminal. Clinicians might also provide information that employers can use to evaluate an individual's appropriateness for a particular job. Assessments are also useful when clinicians need to evaluate an individual's level of functioning in a specific area. For example, an older woman experiencing memory problems may seek a neuropsychological assessment to determine whether she has a cognitive impairment that will require further intervention.

For Ben, the assessment process is critical to understanding the nature of his current symptoms. The clinician must evaluate the potential roles of both brain injury and what may have been the appearance of symptoms unrelated to the train incident. His immediate treatment plan and his long-term psychological development will depend on the outcome of the evaluation. Dr. Tobin provided an initial evaluation, and as a result of this assessment, she decided to refer Ben to a neuropsychologist.

To be useful, clinicians must hold assessments to standards that ensure they provide the most reproducible and accurate results. A test may be evaluated for its reliability to determine the consistency of the scores it produces. To be reliable, the test should produce the same results regardless of when it is given, and the individual should answer items within the same subscale of a test in reasonably similar fashion. The validity of a test reflects the extent to which a test measures what it is designed to measure. An intelligence test should measure intelligence, not personality. Before using a given test, clinicians should be aware of its reliability and validity, information that is readily available in the published literature about the instrument.

standardization
A psychometric criterion that clearly specifies a test's instructions for administration and scoring.

A test will be reliable and valid only to the extent that it is administered and scored similarly from person to person. In other words, it should meet the criterion of **standardization,** which clearly specifies a test's instructions for administration and scoring. Each individual receiving the test should have the same amount of time, and each person scoring the test should do so in the same manner according to the same predefined criteria. Furthermore, a given score on the test that one person obtains should have a clear meaning that differentiates it from another person's score. Ideally, the test's designers have a substantial enough database against which to compare each test-taker's scores to make it possible to standardize the scoring.



A patient completes a visual-spatial task as part of a neuropsychological assessment.

In addition to determining a test's reliability and validity, it is important to take into account its applicability to test-takers from a diversity of backgrounds. Increasingly, test publishers are designing their measures for use with individuals from a range of ability levels, first languages, cultural backgrounds, and age. For example, clinicians may need to adapt assessment instruments for use with older adults who may require larger print, slower timing, or special writing instruments for those who have arthritis (Edelstein, Martin, & McKee, 2000). Even so, clinicians need to ensure that they are using the most appropriate instrument for a given client.

When interpreting test results, there is a common trap that clinicians can fall into known as the **Barnum effect.** Named after legendary circus owner P. T. Barnum (who supposedly said, "There's a sucker born every minute"), this is the tendency for clinicians unintentionally to make generic and vague statements about their clients that do not specifically characterize the client. The client will believe this statement because it's so general that it cannot be falsified.

Barnum effect
The tendency for clinicians unintentionally to make generic and vague statements about their clients that do not specifically characterize the client.

Here's an example of a Barnum effect statement: "Julia is often shy around other people, but at times she can be very outgoing. When presented with a challenge, she can often perform very well, but she occasionally becomes nervous and intimidated." These two sentences *could* apply to Julia, but they could also apply to most other people. Therefore, they don't say anything special about Julia. Furthermore, most people would find it difficult to disagree with this feedback. Julia "can" be this way, or she "occasionally" becomes nervous. Anyone "can" be one way at some point in time, and almost everyone becomes nervous from time to time.

You are most likely to encounter the Barnum effect in situations such as reading your horoscope or a fortune cookie, which is written so generally that the message could apply to anyone. Such situations are relatively harmless, unless you decide to invest a great deal of money on the basis of an unreliable prognosticator. In a clinical situation, the problem is such statements are not particularly insightful or revealing and do not help inform the assessment process. Clients who receive this type of feedback may be misled, and even clinicians may have a tendency to believe a statement that "can" apply to their clients.

To ensure that they are using the best assessment methods possible, clinicians should keep up with the literature. In other words, they should adhere to the principles of **evidence-based assessment,** which include (1) relying on research findings and scientifically viable theories, (2) using psychometrically strong measures, and (3) empirically evaluating the assessment process (Hunsley & Mash, 2007). By following these guidelines, clinicians ensure that they will evaluate their clients using the most current and appropriate materials available. For example, a seasoned clinician may have a preference for using the assessment methods she learned about in graduate school 20 or 30 years ago, and those might still be fine, but she should be on the lookout for newer procedures that rely on newer technology or research. According to the third criterion, she should also develop evaluation methods to assess whether her assessments are continuing to provide useful information about her clients or whether an alternate, perhaps newer, method would work better.

evidence-based assessment
Assessment characterized by the clinician's (1) relying on research findings and scientifically viable theories, (2) using psychometrically strong measures, and (3) empirically evaluating the assessment process.

Consider the case of an assessment suggesting that a client is experiencing significant depressive symptoms even though she seeks help for what she describes as anxiety attacks. Following the criteria for evidence-based assessment, the clinician would need to ensure that she is using tools that will allow her to distinguish between depression and anxiety disorders, particularly as the woman's symptoms evolve over the course of treatment. Similarly, in Ben's case, the clinician must validate the findings from neuropsychological assessment carefully by obtaining multiple measures shown to be capable of assessing possible brain injury.

3.2 Clinical Interview

Clinicians typically begin their assessment with the **clinical interview,** a series of questions that they administer in face-to-face interaction with the client. The answers the client gives to these questions provide important background information, allow them to describe their symptoms in their own words, and enable clinicians to make observations of their clients to help guide decisions about the next steps, which may include further testing.

clinical interview
A series of questions that clinicians administer in face-to-face interaction with the client.

The least formal version of the clinical interview is the **unstructured interview,** which consists of a series of open-ended questions regarding the client's symptoms, health status, family background, life history, and reasons for seeking help. In addition to noting the answers to these questions, the clinician also observes the client's level of

unstructured interview
A series of open-ended questions aimed at determining the client's reasons for being in treatment, symptoms, health status, family background, and life history.

TABLE 2 **Areas Covered in a Clinical Interview**

Topic	Purpose
Age and sex	Obtain basic demographic information.
Reason for referral	Hear client's reason for seeking treatment, in his or her own words.
Education and work history	Obtain socioeconomic status and determine whether client is still working.
Current social situation	Find out whether client is currently in a relationship and how much social support is potentially available.
Physical and mental health history	Determine whether client has any medical illnesses and whether there has been a recent change in health. Find out about history of present problem including past diagnoses and treatments and whether treatment was helpful or not.
Drug/alcohol use and current medication	Ascertain whether client is using psychoactive drugs (including alcohol and caffeine). Obtain list of medications to avoid potential interactions with any psychopharmacological interventions.
Family history	Find out whether client's family has medical and psychological disorders, particularly any relevant to client's current symptoms.
Behavioral observations	Note behaviors, including nonverbal behaviors, which indicate whether client is experiencing anxiety or altered mood. Also note whether client seems to be experiencing difficulties in attention or compliance. Attempt to determine client's mental status. Compare client's appearance with stated age. Determine whether client is oriented to time, place, and person. Observe any unusual motor behaviors.

comfort or discomfort, apparent mood, extraneous comments, and any other behaviors that might inform the clinician in understanding the client's psychological state. By noting the client's bodily movements, eye gaze, and facial expression, the clinician can gain an understanding of whether the client is experiencing, for example, anxiety, attentional difficulties, unwillingness to cooperate, or unusual concern about testing. The clinician may also use cues from the client's appearance that give further indication of the client's symptoms. A person with a disheveled appearance may be experiencing confusion or lack of motivation to care for personal hygiene.

The typical clinical interview covers the areas outlined in Table 2. Because the clinical interview allows for more freedom of administration than a test with preset questions and response categories, the clinician can vary the order of questions and the exact wording he or she uses to obtain this information. The main point is the clinician must obtain the information, even if the methods used to gather it differ slightly from client to client.

Over the course of a 30- to 45-minute interview, to get the best information, the clinician should help the client feel as relaxed as possible. Because the client is providing highly personal information, the clinician attempts to draw the client out with questioning that is respectful, but also matter of fact. The clinical interview is not like an ordinary conversation in that respect.

In Ben's case, the clinical interview provided Dr. Tobin with key information about his history including his education, vocational background, and relationship history. She determined that, prior to the incident, he enjoyed engaging with others, so his current isolation is a change from his previous pattern of social functioning. However, his general appearance was slightly disheveled (i.e., his clothes were wrinkled and he was unshaven).

Dr. Washington in turn obtained more detailed information from his clinical interview with Ben. Upon further questioning about his symptoms, Ben stated that he has difficulty concentrating, and that his main symptom is the occurrence of "very strange thoughts" that have been quite troubling to him. Specifically, he stated that he feels too afraid to leave his apartment because he believes that the police will apprehend and arrest him as punishment for "what [he] did." He worries that others blame him for killing people in the incident and that if he returned to work the passengers would turn on him, thus resulting in his apprehension. He states that he spends several hours a day worrying about the consequences of the incident and sometimes hears accusatory voices blaming him for hurting people and telling him that he is a "monster." He reported that he has only heard these voices a few times in the past 4 weeks. As it turned out, no one was injured in the incident.

Though Ben reports that he feels distressed about his recent psychological problems, he stated that he had no thoughts of hurting or killing himself. Ben also reported that he has been unable to get a full night's sleep since the incident. At times he is unable to fall asleep, and when he does, frequent nightmares awaken him about the incident, and he feels that those he believes he killed in the incident are "haunting" him.

Ben stated that although he was worried about what he had been experiencing recently, he had been too embarrassed to tell anyone, worrying that he was "going crazy." As he had not spent time with friends or family, and had not been to work, the people in his life had been unaware of the extent of his psychological problems following the incident. Ben took a leave of absence for the first 2 weeks following the incident and has since been calling in sick daily. When the suggestion of psychological testing came up, Ben reports that he was hoping that it might help reveal the nature of his troubling symptoms.

As you can see from Ben's case, the clinical interview becomes a key step in the diagnostic process because of the information it provides regarding the client's current symptoms, history, and availability of social support. In addition, it had the added benefit for Dr. Washington because he was able to use the interview as an opportunity to establish rapport with Ben.

Unlike the clinical interview, the **structured interview** provides standardized questions that are worded the same way for all clients. A structured interview can either provide a diagnosis on which to further base treatment or classify the client's symptoms into a *DSM* disorder.

structured interview
A standardized series of assessment questions, with a predetermined wording and order.

One of the most widely used clinical interviews is the **Structured Clinical Interview for *DSM-5* Disorders (SCID-5),** presented in Table 3. Though the title uses the word "Structured," clinicians who administer the SCID-5 modify the wording and order of questions to accommodate the particular individual whom they are examining. The questions are worded in standard form, but the interviewer chooses which questions to ask based on the client's answers to previous questions. For example, if a client states that she experiences symptoms of anxiety, the interviewer would follow up with specific questions about these symptoms. The interviewer would only ask follow-up questions if the client stated that she was experiencing anxiety symptoms. If she stated that she had different symptoms, such as depressed mood, then the follow-up questions would inquire further about her mood (First & Gibbon, 2004). The SCID-5 takes 45 to 90 minutes to administer, depending on the complexity of the client's symptoms.

Structured Clinical Interview for *DSM-5* Disorders (SCID-5)
A widely used clinical interview for assessing *DSM-5* symptoms.

An advantage of a structured interview is this type of interview is a systematic approach that is less subject to variations among clinicians than an unstructured interview. Furthermore, anyone with the proper training in the instrument can administer the SCID, not necessarily only licensed mental health professionals as is true for interviews that require more clinical judgment. This has practical value in that clients can receive initial screening prior to their beginning a course of therapy. Furthermore, there is a research version of the SCID that professionals can use to provide systematic diagnostic information across different investigations. Researchers can feel confident that an SCID-based diagnosis of a mood disorder means the same thing regardless of who conducted the study because the results transfer across studies.

TABLE 3 Example of SCID Questions for Current Major Depressive Episode

Current Major Depressive Episode	MDE Criteria
Now I am going to ask you some more questions about your mood	A. Five (or more) of the following symptoms have been present during the same two-week period and represent a change from previous functioning; at least one of the symptoms is either (1) depressed mood, or (2) loss of interest or pleasure.
In the last month . . . . . . has there been a period of time when you were feeling depressed or down most of the day nearly every day? (What was that like?) If yes: How long did it last? (As long as two weeks?)	(1) depressed mood most of the day, nearly every day, as indicated either by subjective report (e.g., feels sad or empty) or observation made by others (e.g., appears tearful).
. . . what about losing interest or pleasure in things you usually enjoyed? If Yes: Was it nearly every day? How long did it last? (As long as two weeks?)	(2) markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day (as indicated either by subjective account or observation made by others). *Note*: When rating the following items, code "1" if clearly due to a general medical condition, or to mood-incongruent delusions or hallucinations

First, M. B., & Gibbon, M. (2004). The structured clinical interview for *DSM-IV* axis I disorders (SCID-I) and the structured clinical interview for *DSM-IV* axis II disorders (SCID-II). In M. J. Hilsenroth & D. L. Segal (Eds.), *Comprehensive handbook of psychological assessment: Vol. 2. Personality assessment* (pp. 134–143). Hoboken, NJ: John Wiley & Sons, Inc.

3.3 Mental Status Examination

mental status examination
A method of objectively assessing a client's behavior and functioning in a number of spheres, with particular attention to the symptoms associated with psychological disturbance.

Mini-Mental State Examination (MMSE)
A structured tool that clinicians use as a brief screening device to assess neurocognitive disorders.

A clinician uses a **mental status examination** to assess a client's current state of mind. In conducting a mental status examination, the clinician assesses a number of features of the client including appearance, attitudes, behavior, mood and affect, speech, thought processes, content of thought, perception, cognition, insight, and judgment. The outcome of the mental status examination is a comprehensive description of how the client looks, thinks, feels, and behaves.

The **Mini-Mental State Examination (MMSE)** is a structured tool that clinicians use as a brief screening device to assess neurocognitive disorders. The clinician administers a set of short memory tasks and compares the client's scores to established norms. If the client scores below a certain cutoff, the clinician then continues to more thorough testing to determine the nature and extent of potential cognitive impairments.

In Ben's case, Dr. Washington noted that Ben was not experiencing an altered mental state at the time of the interview. He arrived on time and was alert and fully oriented. His conversational speech was normal in tone, rhythm, volume, rate, and prosody. The clinician noted that his receptive language appeared intact, and he was able to understand novel test instructions. His affect was appropriate, meaning that his apparent emotional state matched that expected in the situation, though he made a few self-deprecating jokes when he became frustrated during the administration of a test he found difficult. In general, though, throughout testing he cooperated with the examiner and appeared

motivated and interested in the tests themselves. Dr. Washington decided not to administer a formal mental status examination. Instead he proceeded directly to further neuropsychological and personality testing.

3.4 Intelligence Testing

We tend to think of intelligence testing as specific to the schools, but intelligence tests can serve a variety of functions, including overall cognitive evaluation, diagnosis of learning disabilities, determination of giftedness or intellectual disability, and prediction of future academic achievement. Clinicians may use intelligence tests in the diagnosis of neurological and psychiatric disorders as a component of a more comprehensive assessment procedure. Human resource departments often use intelligence tests in personnel selection to evaluate the potential for employees to perform in specific conditions.

For clinicians, intelligence testing makes it possible to obtain standardized scores that permit them to evaluate the cognitive strengths and weaknesses of their clients rather than simply to assign a score. The most commonly used intelligence tests in clinical settings are administered on a one-to-one basis, providing a comprehensive view of the client's abilities to perform a range of perceptual, memory, reasoning, and timed tasks.

Stanford-Binet Intelligence Test

First developed in the early 1900s by Alfred Binet, the Stanford-Binet is now in its fifth edition, known as the Stanford-Binet 5 (SB5). Children taking this test receive a **deviation intelligence (IQ)** score, calculated by converting their raw scores to standardized scores that reflect where a child stands in relation to others of similar age and gender. The average deviation IQ score is set at 100 with a standard deviation of 15. If a child receives an SB5 IQ score of 115, this means that the child stands at or above the IQ of 84 percent of the population.

deviation intelligence (IQ)
An index of intelligence derived from comparing the individual's score on an intelligence test with the mean score for that individual's reference group.

In addition to yielding an overall IQ score, the SB5 yields scores on measures of scales labeled Fluid Reasoning, Knowledge, Quantitative Reasoning, Visual-Spatial Reasoning, and Working Memory (Table 4). These scales are intended to provide greater understanding of the child's cognitive strengths and weaknesses not necessarily conveyed in an overall IQ score.

TABLE 4 **Types of Abilities Assessed by the Stanford-Binet 5 (SB5)**

Scale	Definition	Example
Fluid Reasoning	Ability to solve novel problems	Sort picture chips into groups of three
Knowledge	Accumulated fund of general information	Show how to perform a given action
Quantitative Reasoning	Ability to solve problems with numbers or numerical concepts	Count a set of items
Visual-Spatial Reasoning	Ability to analyze spatial relationships and geometric concepts	Assemble puzzle-like forms
Working Memory	Ability to store, transform, and retrieve information in short-term memory	Recall a sequence of taps

Roid, G. H., & Barram, R. A. (2004). *Essentials of Stanford-Binet Intelligence Scales (SB5) assessment.* Hoboken, NJ: Wiley.

Wechsler Intelligence Scales

Wechsler Adult Intelligence Scale (WAIS)
The first comprehensive individual test that researchers specifically designed to measure adult intelligence

The first comprehensive individual test that researchers specifically designed to measure adult intelligence was the **Wechsler Adult Intelligence Scale (WAIS).** Originally developed in 1939 by David Wechsler as the Wechsler-Bellevue test, the WAIS, first published in 1955, is now in its fourth edition (WAIS-IV) (Wechsler, 2008). Researchers subsequently developed parallel tests for children based on the same format as the adult scales. Those currently in use are the Wechsler Intelligence Scale for Children–Fourth Edition (WISC-IV) (Wechsler, 2003) and the Wechsler Preschool and Primary Scale of Intelligence–Third Edition (WPPSI-III) (Wechsler, 2002).

Wechsler originally sought to develop a tool for use in clinical settings that could provide an adjunct to diagnoses of psychopathology. He also believed that it was important to include both verbal and nonverbal tests. Originally he labeled these two categories "Verbal" and "Performance." For many years, clinicians reported the WAIS scores in terms of these two categories of subtests; however, over time it became increasingly evident that these two categorical scores didn't adequately capture the full complexity of intellectual functioning. Thus, the WAIS-IV was published in 2008 to replace the WAIS-III, and now includes new tests and a completely revamped scoring system.

The WAIS-IV, like its predecessors and the SB5, can produce an overall IQ score based on an age-normed mean of 100 and standard deviation of 15. The full scale IQ is not as useful for clinical purposes, however, as are scores on Verbal Comprehension, Perceptual Reasoning, Working Memory, and Processing Speed scales (Table 5). The intent of the WAIS-IV is to allow clinicians to examine in more depth the client's cognitive functioning along these key dimensions.

You can think of scores from the WAIS-IV as forming a triangle (Figure 1). At the top is the Full Scale IQ (FSIQ), which reflects general cognitive functioning and is the best single predictor of school achievement of all scales on the WAIS-IV. Beneath the FSIQ score at the top of the pyramid are four index scores. Verbal Comprehension Index (VCI) assesses acquired knowledge and verbal reasoning skills. Perceptual Reasoning Index (PRI) measures visual-spatial and fluid reasoning. Working Memory Index (WMI) measures

TABLE 5 **Scales on the Wechsler Adult Intelligence Scale-IV (WAIS-IV)**

Scale	Tests	Type of Item
Verbal Comprehension	Vocabulary	Define the word "barrel"
	Information	How many minutes are there in an hour?
	Comprehension	Why do plants need water?
	Similarities	How are an elephant and a cat alike?
Perceptual Reasoning	Matrix reasoning	Choose which pattern logically follows after a set of patterns
	Visual puzzles	Indicate which pictures of shapes go together in a drawing of a puzzle
	Block design	Arrange a set of blocks so that they reproduce a design
	Picture completion	State what is missing in a picture of a common object
Working Memory	Digit span forward	Recall a series of digits in forward order
	Digit span backward	Recall a series of digits in backward order
	Letter-number sequencing	Recall a set of digits from smallest to largest
		Recall a set of mixed letters and numbers from largest to smallest
Processing Speed	Symbol search	
	Coding	Copy numbers that match symbols into appropriate boxes

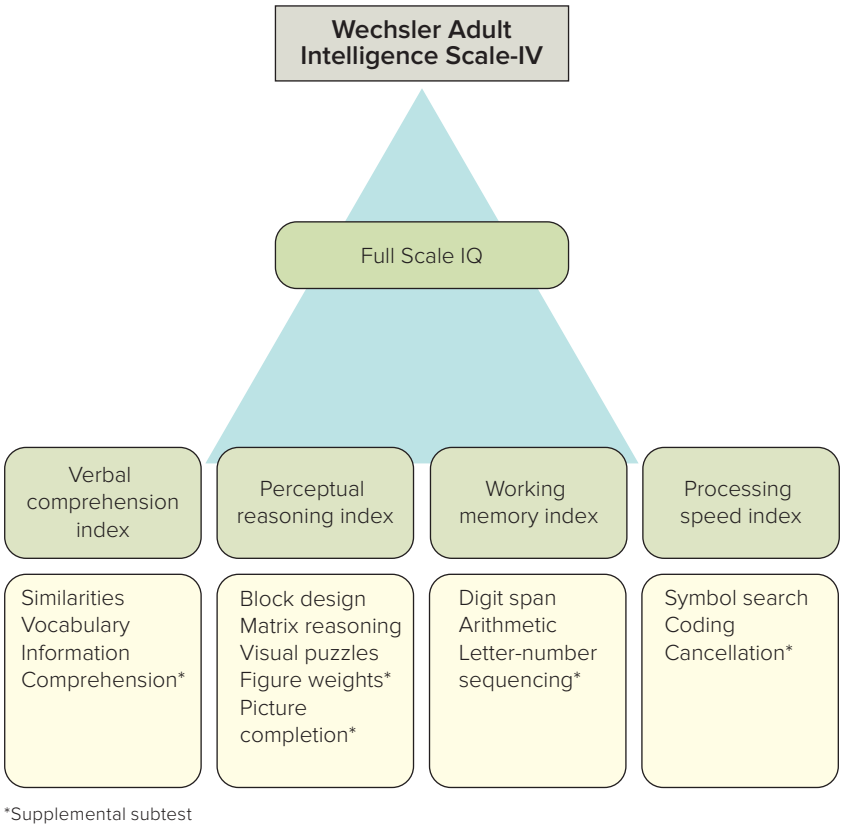


FIGURE 1 Structure of the WAIS-IV

the capacity to hold and process information in memory. Processing Speed Index (PSI) measures the ability to process nonverbal information quickly. Beyond interpreting the index scores, clinicians propose hypotheses about individuals' performance based on an interpretation of clinical clusters, which are comprised of various combinations of individual subscale scores.

Because the WAIS-IV is given on an individual basis, clinicians have ample opportunities to observe the test-taker's behavior during the test, possibly gaining valuable diagnostic information to complement the test scores. In fact, the instructions for the WAIS-IV scoring include suggestions for the examiner to include behavioral observations such as the individual's fluency in English; physical appearance; problems with vision, hearing, or motor behavior; difficulties with attention and concentration; motivation for testing; and any unusual behaviors that the test-taker shows.

Table 6 shows Ben's performance on the WAIS-IV. Ben's FSIQ was 115, indicating that he has an above-average level of performance (higher than 84 percent of the population). If you look across the entire pattern of his scores, however, you'll notice that Ben demonstrated high variability among the index scores that make up the FSIQ. This type of variability suggests a wide range to Ben's cognitive abilities. The clinician found it noteworthy that Ben's Processing Speed cluster score was low (higher than only 40 percent of the population), suggesting that Ben struggles with the perception of visual patterns and stimuli, particularly when speed is a factor. The appearance of this low test score where he should have performed well given his job suggests possible injury to the areas of his brain involved in processing of spatial information.

While administering the WAIS-IV, Dr. Washington carefully recorded Ben's behaviors, further fleshing out the picture provided by the test scores themselves. Ben stated several times throughout the testing session that "they give you fake confidence early on," referring to his frustration as the test became more difficult. Despite his frustration, Ben remained determined to complete the test. For example, he took nearly 6 minutes to complete the final Block Design item (far longer than average), and finally stated,

TABLE 6 **Ben's WAIS-IV Scores**

Full Scale:	115		
Verbal Comprehension Index	132		
Perceptual Reasoning Index	107		
Working Memory Index	111		
Processing Speed Index	97		
Individual Subtests:			
Vocabulary:	15	Picture Completion:	12
Similarities:	17	Coding:	7
Arithmetic:	13	Block Design:	10
Digit Span:	11	Matrix Reasoning:	14
Information:	14	Symbol Search:	12
Comprehension:	18	Figure Weights:	13
Letter-Number Seq.:	10	Visual Puzzles:	10
		Cancellation:	12

"It doesn't make sense—there aren't enough blocks." On the Matrix Reasoning subtest, Ben took nearly 1 minute for each response toward the end of the task. While completing the Figure Weights subtest, Ben commented on what the shapes in the stimulus book looked like and made several jokes throughout the subtest administration. On the Letter-Number Sequencing task, before giving his response to each item, Ben described how each correlated with the name of a different type of army ship or plane. As the tests became more difficult toward the end of the testing session, Ben appeared visibly restless and began to tap his fingers and tap on his legs. On tasks requiring verbal responses, Ben provided long elaborations, and when the test required a short answer, he would sometimes respond in a sing-song voice.

3.5 Personality Testing

Clinicians use tests of personality to understand a person's thoughts, behaviors, and emotions. There are a variety of personality tests that clinicians adapt for their purposes, including whether the goal is diagnosis or clinical formulation. Personality tests also vary in their theoretical orientation, another factor determining which ones a particular clinician might use.

Outside of the clinical realm, personality tests provide valuable information that researchers use to test predictions related to their own particular area of investigation. The scores from these tests are not used for diagnostic purposes, but to examine correlations among related theoretical variables.

Self-Report Tests

self-report clinical inventory
A psychological test with standardized questions having fixed response categories that the test-taker completes independently, self-reporting the extent to which the responses are accurate characterizations.

A **self-report clinical inventory** contains standardized questions with fixed response categories that the test-taker completes independently either on paper or via tablet, laptop, or desktop computer. In a self-report inventory, test-takers rate the appropriateness of the item to themselves on a fixed scale.

Objective in the sense that the scoring does not involve any form of subjective judgment on the part of the examiner, self-report clinical inventories are easily scored by computers. Using algorithms to interpret the scores, computers can even produce brief explanatory reports. However, clinicians need to balance the advantages of

the ease of administration and objectivity of these tests against the possibility that the reports they produce are subject to the Barnum effect. Because computer programs rely on linking specific response patterns to specific summary statements or phrases, they run the risk of being overly generic and not tapered to the particular test-taker's idiosyncrasies.

Nevertheless, a major advantage of self-report inventories is they are relatively easy to administer and score. Consequently, large numbers of people can take these in an efficient manner. Clinicians can take advantage of the wealth of information on the validity and reliability of the better-known self-report inventories when interpreting the scores of their own clients.

Minnesota Multiphasic Personality Inventory (MMPI)
Self-report personality inventory containing 567 true-false items all in the form of statements that describe the individual's thoughts, behaviors, feelings, and attitudes.

The most widely used self-report inventory is the **Minnesota Multiphasic Personality Inventory (MMPI),** originally published in 1943. The current version of the test is the 1989 revision known as the MMPI-2 (Table 7). There are 567 true-false items on the MMPI-2, all in the form of statements that describe the individual's thoughts, behaviors, feelings, and attitudes. The developers of the MMPI sought to provide scores on

TABLE 7 **Clinical and Validity Scales of the MMPI-2, with Adapted Items**

Scale	Scale Name	Type of Content	Adapted Item
Clinical scales			
1	**Hypochondriasis**	Bodily preoccupations and concerns, fear of illness and disease.	I have a hard time with nausea and vomiting.
2	**Depression**	Unhappiness and feelings of low personal worth.	I wish I were as happy as others appear to be.
3	**Hysteria**	Denial of psychological problems and over-reactions to stressful situations, various bodily complaints.	Frequently my head seems to hurt everywhere.
4	**Psychopathic deviate**	Antisocial tendencies and delinquency.	I was occasionally sent to the principal's office for bad behavior.
5	**Masculinity-femininity**	Adoption of stereotypic sex-role behaviors and attitudes.	I like reading romantic tales (female item).
6	**Paranoia**	Feelings of persecution and suspiciousness of others.	I would have been a lot more successful had others not been vindictive toward me.
7	**Psychasthenia**	Uncontrollable urges to think and act; unreasonable fears.	Sometimes I think thoughts too awful to discuss.
8	**Schizophrenia**	Disturbances of thinking, mood, and behavior.	I have had some rather bizarre experiences.
9	**Hypomania**	Elevated mood, accelerated speech and motor activity.	I become excited at least once a week.
10	**Social introversion**	Tendency to withdraw from social situations.	I usually do not speak first. I wait for others to speak to me.
Validity scales (composed of items from clinical scales)			
L	**Lie scale**	Unrealistically positive self-representation	
K	**Correction**	Similar to L scale—more sophisticated indication of tendency toward positive self-presentation	
F	**Infrequency**	Presenting oneself in an unrealistically negative light	

TABLE 8 **Clinical Scales of the MMPI-2-RF**

Scale	Scale Name	Type of Content
RCd	Demoralization	General unhappiness and dissatisfaction
RC1	Somatic complaints	Diffuse physical health complaints
RC2	Low positive emotions	Lack of positive emotional responsiveness
RC3	Cynicism	Non self-referential beliefs expressing
RC4	Antisocial behavior	Rule breaking and irresponsible behavior
RC6	Ideas of persecution	Belief that others pose a threat to the self
RC7	Dysfunctional negative emotions	Maladaptive anxiety, anger, and irritability
RC8	Aberrant experiences	Unusual thoughts or perceptions
RC9	Hypomanic activation	Over-activation, aggression, impulsivity, and grandiosity

Ben-Porath, Y. (2010). An introduction to the MMPI-2-RF (Reconstructed Form). University of Minnesota. Used with permission.

10 "clinical scales" corresponding to major diagnostic categories such as schizophrenia, depression, and anxiety. The text developers built an additional three "validity" scales into the test to guard against people trying to feign either exceptional psychological health or illness.

In the decades after its publication, researchers and clinicians became aware of limitations in MMPI-2 clinical scale scores. These scores did not correspond to the original clinical categories, meaning that the test's administrators could not interpret them as evidence of specific diagnoses (i.e., a high "Schizophrenia" scale score did not imply that the individual had a diagnosis of schizophrenia). Consequently, MMPI-2 users are incorporating the MMPI's newer, restructured clinical scales (or RCs). In fact, the newest version of the MMPI is the MMPI-2-RF, published in 2008 (Table 8). The MMPI-2-RF is based entirely on the restructured scales. Containing only 338 items, this latest version of the MMPI-2 also provides scores for "higher order" factors that indicate a client's overall emotional, cognitive, and behavioral functioning.

Another self-report measure, the Personality Assessment Inventory (PAI) (Morey, 1992), offers an alternative to the MMPI. The PAI consists of 344 items organized into 11 clinical scales, 5 treatment scales, 2 interpersonal scales, and 4 validity scales. One advantage of the PAI is that clinicians can use it with clients who may not have the language or reading skills to complete the MMPI-2. A second advantage is that, unlike the MMPI, one calculates the validity scale independently of any of the content scales.

The SCL-90-R (Derogatis, 1994) measures the test-taker's current experiencing of 90 physical and psychological symptoms. One advantage of the SCL-90-R is that it focuses on the client's current status rather than asking about symptoms over a previous period of time. Consequently, clinicians can track the progress of their clients over multiple occasions.

Less oriented toward clinical use is the NEO Personality Inventory (Revised) (NEO-PI-R)(Costa & McCrae, 1992), a 240-item questionnaire that measures five personality dimensions, or sets of traits. The scales are designed so the test-taker can complete them as well as individuals who know the test-taker, such as spouses, partners, or relatives (Form R). People use the NEO-PI-R less in clinical settings than in personality research or in personnel selection, although it can be of value in describing a client's "personality" as distinct from the client's symptoms.

Clinicians and researchers may also use specific self-report inventories designed to investigate a given disorder for which a general test may not be as relevant. There are literally hundreds of these developed for such purposes, including measures of individual diagnoses as well as measures that tap qualities related to such clinical traits as narcissism,

psychopathy, and perfectionism. These inventories may also supplement more general assessment methods.

Returning to Ben, you can see his MMPI-2 scores in Figure 2. He has slightly elevated scores on the Paranoia scale and his endorsement of several critical items relating directly to psychosis such as "I have no enemies who really wish to harm me" (False), "I have strange and peculiar thoughts" (True), and "At times my thoughts have raced ahead faster than I could speak them" (True). According to his responses, he may have unusual thought content and may often feel suspicious that others are saying bad things about him. As a result, he may feel disconnected from reality. He may believe that his feelings and thoughts are controlled by others. His abnormal thought content was evidenced at times throughout the WAIS-IV administration in his unusual reactions to certain test items. His scores on the MMPI-2, however, indicate that he does not tend to be impulsive or take physical risks and generally follows rules and laws. These may be protective factors for Ben in that he may be able to maintain some control of his abnormal thoughts, which may differentiate him from those with diagnosable psychotic disorders.

From looking at Ben's scores, Dr. Washington concluded that his limited coping resources may be a more situational than long-standing problem. Further, his clinical profile suggests that he may be excessively sensitive and overly responsive to the opinions of others. He may overemphasize rationality and be moralistic and rigid in his attitudes and opinions. As a result, he may be argumentative and have a tendency to blame others and act suspicious, hostile, and guarded in relationships. This may account for his report of having few close friends at school and his preference to be alone in his dorm room.

Based on his scores on the MMPI-2, it appears that Ben has a traditional sense of masculinity and may have stereotypically masculine preferences in work, hobbies, and other activities. In the clinical interview, he reported having had no previous significant romantic relationships with women, which may be a result of his tendency to be guarded and hostile in his relationships with others. Ben's scores on the MMPI-2-R suggest that he does endorse aberrant experiences, but his score on persecution is within the normative range. He also received scores above the norm on somatic complaints.

Clinicians typically interpret the MMPI-2 scores in the context of other test scores. They also may use the content scales to flesh out the profiles provided by the basic 10 clinical scales of the MMPI-2. The Restructured MMPI-2 also provides a different perspective on a client's current psychological state, because the content scales provide a more descriptive summary of the client's symptoms. In Ben's case, Dr. Washington noted that his score was high on the Demoralization scale, suggesting that Ben felt discouraged and hopeless about his current life situation.

projective test
A technique in which the test-taker is presented with an ambiguous item or task and is asked to respond by providing his or her own meaning or perception.

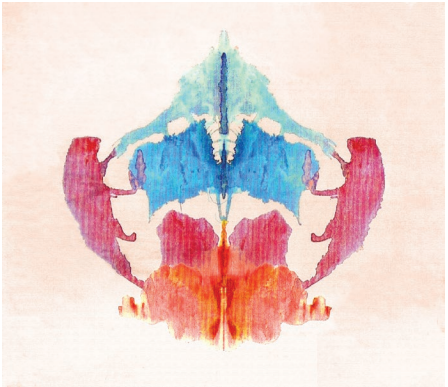
Rorschach Inkblot Test
Projective assessment method in which individuals describe their perceptions to each of a set of symmetrical inkblots.

Projective Testing

A **projective test** is a technique in which the examiner asks the test-taker questions about an ambiguous item. The underlying idea behind projective tests is that people cannot or perhaps will not provide accurate statements on self-report inventories. For example, clients may not wish to say that they are experiencing unusual symptoms or have qualities that they deem negative. On projective tests, clients may be less guarded about their responses because they don't know how the assessor will interpret their answers.

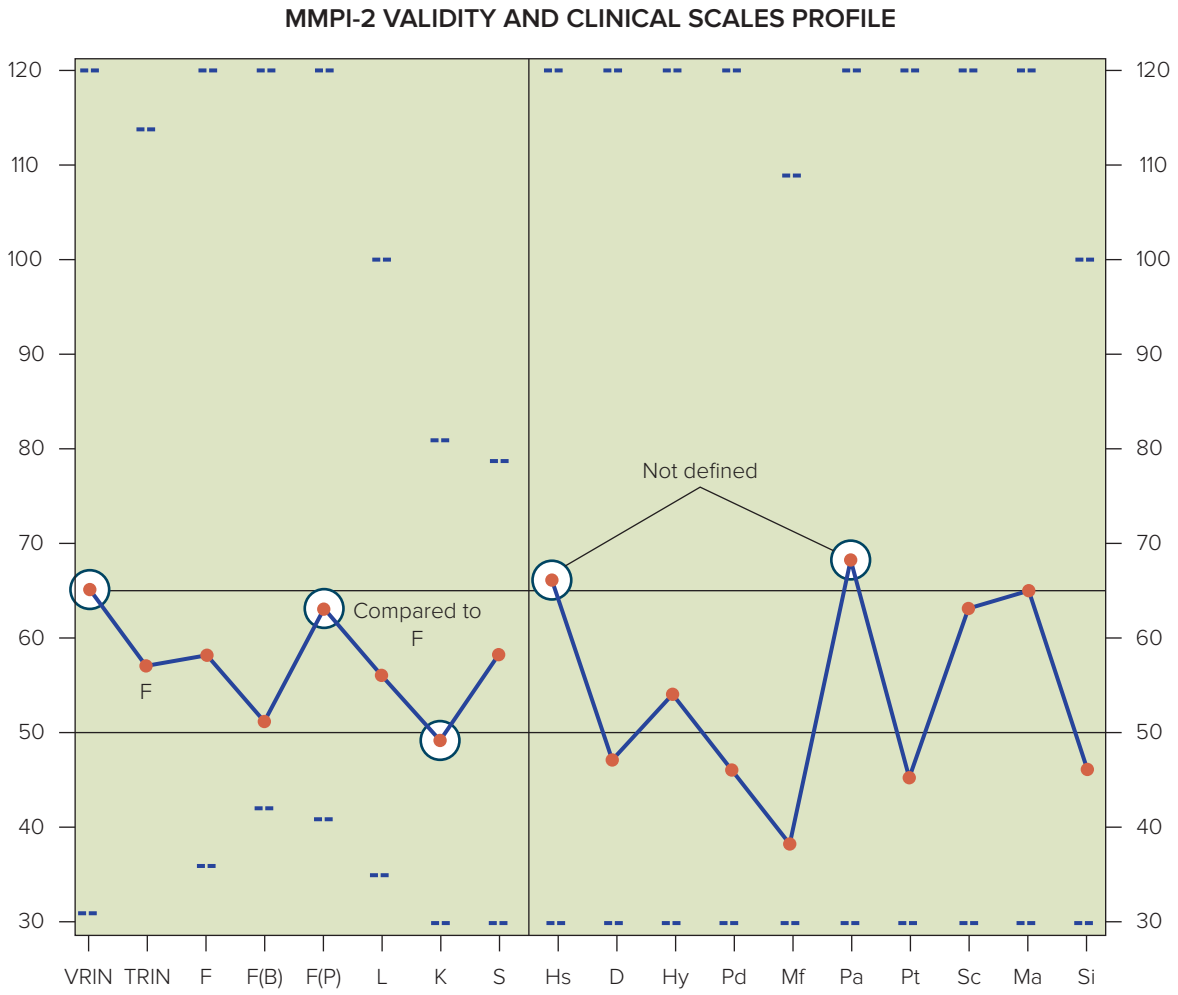
Projective tests are most useful when combined with self-report inventories rather than used as the sole basis for diagnosing or evaluating a client. The initial intent in developing these tests is that they would provide a diagnosis, but clinicians who use them typically look for verification of major themes in a client's response across assessment instruments.

The most famous projective technique is the **Rorschach Inkblot Test,** named after Swiss psychiatrist Hermann Rorschach, who developed the method in 1911.



Ben's perception of this Rorschach-like inkblot was "An evil mask that's jumping out to get you. Also a seed, some kind of seed, which is dividing itself into two equal halves. It could be a sign of conception and yet it's dying. It's losing part of itself, falling apart, raging."

FIGURE 2 Ben's MMPI-2 profile



	VRIN	TRIN	F	F(B)	F(P)	L	K	S	Hs	D	Hy	Pd	Mf	Pa	Pt	Sc	Ma	Si
Raw score:	9	8	7	2	3	5	15	32	11	17	23	15	20	15	9	19	23	21
K correction:									8			6			15	15	3	
T score (plotted):	65	57F	58	51	63	56	49	58	66	47	54	46	38	68	45	63	65	46
Non-gendered T score:	65	57F	59	50	64	57	50	58	64	45	53	46		67	44	63	66	45
Response %:	100	100	100	100	100	100	100	100	100	100	100	100	100	100	98	100	100	99

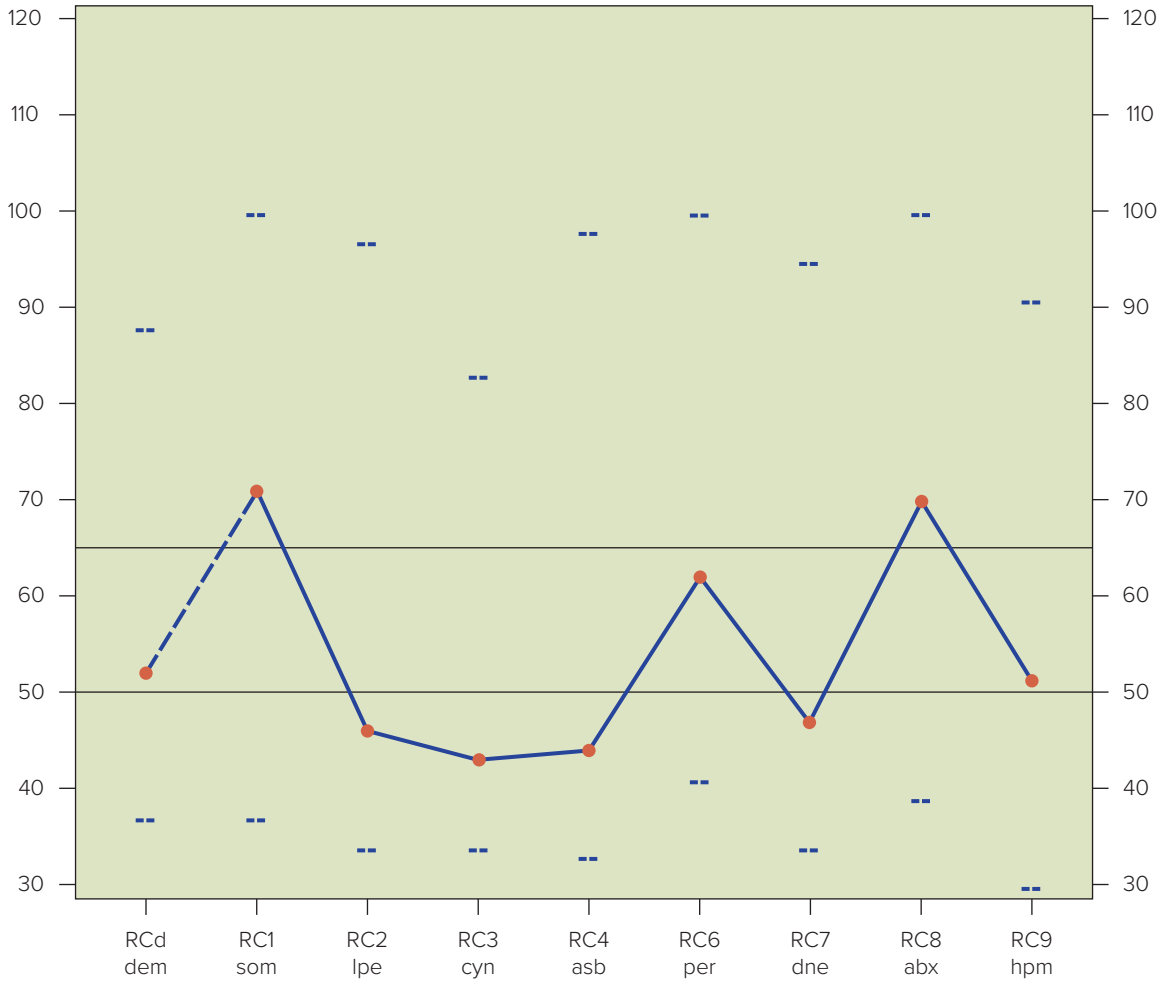
Note: The highest and lowest Uniform T scores possible on each scale are indicated by a *--*.

Thematic Apperception Test (TAT)
A projective test in which individuals invent a story to explain what is happening in a set of ambiguous pictures.

To administer the test, the examiner shows the test-taker a set of 10 cards (5 black and white, 5 with color), one by one. The test-taker's job is to describe what the inkblot looks like. Although the method sounds simple enough, over the last century researchers and clinicians continue to refine the scoring methods.

The **Thematic Apperception Test (TAT)** presents test-takers with a very different task than the Rorschach. Test-takers look at black-and-white drawings that portray people in a variety of ambiguous situations such as standing in a dark hallway or sitting in a bedroom. Their task is to tell a story about what is happening in each scene, focusing on such details as what the characters in the picture are thinking and

MMPI-2 RESTRUCTURED CLINICAL SCALES PROFILE



	RCd dem	RC1 som	RC2 lpe	RC3 cyn	RC4 asb	RC6 per	RC7 dne	RC8 abx	RC9 hpm
Raw score:	4	10	3	3	3	2	4	7	14
T score (plotted):	52	71	46	43	44	62	47	70	51
Non-gendered T score:	51	68	47	44	46	63	46	69	53
Response %:	100	100	100	100	100	100	100	100	100

Note: The highest and lowest Uniform T scores possible on each scale are indicated by a "--".

Legend

dem = Demoralization	cyn = Cynicism	dne = Dysfunctional negative emotions
som = Somatic complaints	asb = Antisocial behavior	abx = Aberrant experiences
lpe = Low positive emotions	per = Ideas of persecution	hpm = Hypomanic Activation

feeling. The TAT's original purpose was to evaluate motivational needs, such as the need for achievement or the need for power. Like the Rorschach, its use has evolved over time and clinicians can administer it as part of a larger test battery. They may look for particular themes that cut across the client's responses or reactions to particular scenarios.

In Ben's case, Dr. Washington decided not to conduct projective testing until he completed the neuropsychological assessment. Clinicians typically do not administer these instruments as part of a standard battery, particularly if there is the potential that the client's symptoms are related to a trauma or injury.

REAL STORIES

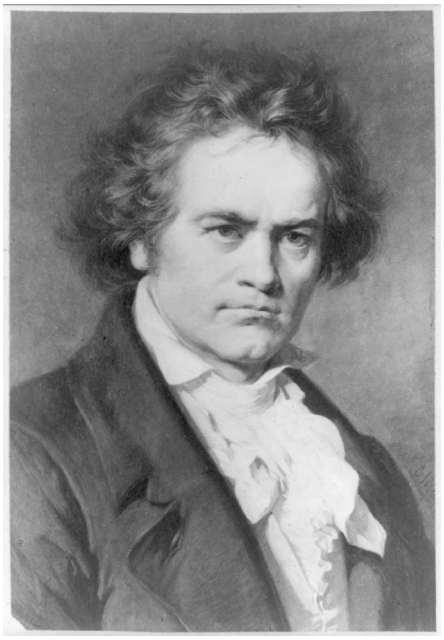
Ludwig van Beethoven: Bipolar Disorder

The German composer Ludwig van Beethoven is one of the most brilliant musical composers of all time. His music captures the incredibly vast range of emotions he experienced throughout his lifetime–arguably a greater range than most people experience, as scholars believe he suffered from bipolar disorder. The book *The Key to Genius* chronicles the stories from Beethoven's life based on letters from the composer and accounts from his friends who recall the emotionally chaotic and often volatile life he led. As one friend remarks in the book, "It seems unlikely that one could achieve works of emotional range and intensity comparable to those of Beethoven without such extraordinary emotional experiences."

Beethoven was raised by a father who often beat him and would reportedly lock him in the basement, and a mother whom he loved but who was more or less absent for much of the time he was growing up. When Beethoven was 17, his mother became ill and passed away, leaving behind three young sons and a husband who began abusing alcohol. Since their father was unable to care for his children, it fell upon Beethoven to take care of his two younger brothers until they were grown.

At this point in his life, Beethoven had already published his first piano composition. At 22, he left his family to study with the renowned composer Franz Joseph Haydn in Vienna, Austria, where he remained for the rest of his life. Though most composers at the time worked on commission from churches, Beethoven was a freelance composer and quickly became a successful and respected name. This success protected him from a society that would have undoubtedly looked upon him in a negative light. Those close to Beethoven viewed him as an emotionally unstable man who was prone to periods of both intense irritability and paranoia, as well as lengthy periods of depression. His fiery temper often led to quarrels with landlords and servants, and he often moved residences as a result. His temper greatly affected his personal relationships, and he would often excommunicate friends only to later beg them for forgiveness, which they usually granted due to his generally good nature, aside from his periods of agitation and melancholy.

Remarkably, although Beethoven suffered from hearing loss to the point he became completely deaf for the last 10 years of his life, causing great anguish, he continued to compose and perform music until his death. As with many creative individuals with bipolar disorder, Beethoven's mania proved to be a strong creative force in his life. In contrast, his periods of depression were usually unproductive as he typically languished in solitude until the mood passed. He was often physically ill and dealt with asthma in the winters, which undoubtedly contributed to his persistent depression and high consumption of alcohol. In turn, his alcoholism led to many more physical problems. Unfortunately, substance abuse such as alcoholism is often a secondary problem for individuals suffering from bipolar disorder, in an attempt to control their distressing mood fluctuations.



Ludwig van Beethoven was believed to have suffered from bipolar disorder.

Library of Congress Prints and Photographs Division [LC-USZ62-29499]

Beethoven's episodes of mania allowed for not only heightened periods of creativity, but also opportunities to temporarily overcome any physical conditions he suffered, even in the later years of his life when he was afflicted with a multitude of painful medical problems. As one doctor noted, "Often, with rare endurance, he worked at his compositions on a wooded hillside and his work done, still aglow with reflection, he would not infrequently run about for hours in the most inhospitable surroundings, denying every change of temperature, and often during the heaviest snowfalls."

Beethoven was never married and had no children of his own, though he was known as a romantic who had many amorous pursuits. When his younger brother died, he took in his 9-year-old nephew, Karl, an action that soon turned disastrous by all accounts. Beethoven was highly untrusting of Karl's mother (it was not uncommon that he was suspicious of people in his life) and took her to court over his nephew's custody. The custody dispute lasted for some time, and once Beethoven gained guardianship of Karl, he was known to constantly harangue the boy and interfere with his life. It became so hard on Karl that he attempted suicide and later decided to join the military, apparently in an effort to seek a more stable life than the one he came to know with his uncle. It's not hard to imagine that it was difficult for Beethoven to take care of a young child when he often took very poor care of himself. His friends tell accounts in *The Key to Genius* about the composer's often complete lack of hygiene and self-care in his later years. He often appeared so disheveled that once he was imprisoned when he was mistaken for a burglar while walking around a neighborhood in Vienna, and was only released once a friend was able to identify him. Based on his appearance, the officers did not believe he was Beethoven.

Those close to Beethoven eventually tolerated his unusual, sometimes rapid shifts in mood and impulsive behaviors. Additionally, Viennese society accepted his odd behavior due to his success and musical contributions. His unbounded creativity and love for music both benefited from his emotional experiences and helped him survive through many trying periods of his life. Wrote one friend, ". . . it may be that Beethoven survived as a creator because he was brave or because his love of music kept him going." However, his physical health was in constant compromise due in large part to the mania that caused him to push himself to the brink of limitation. When his illnesses became too much to bear, depression often would follow, and this constant cycle represents the struggles that those with bipolar disorder experience. In the end, Beethoven's passion for music was not enough to save him from succumbing to cirrhosis of the liver caused by excessive alcohol consumption in 1827 at the age of 57. Though we remember him for his music, we can hear his emotional struggles within his creations. As one friend noted, "So much of Beethoven's life was spent in sickness and pain, weakness, and depression that it is remarkable that he accomplished anything at all. Given the pervasiveness of his misery, his work is all the more miraculous."

3.6 Behavioral Assessment

Clients often complete individual self-reports of behavioral patterns as part of a comprehensive psychological assessment.

Unlike psychological tests, **behavioral assessments** record actions rather than responses to rating scales or questions. The **target behavior** is what the client and clinician wish to change. Behavioral assessments include descriptions of the antecedents (i.e., events that precede the behaviors) and consequences (i.e., the outcomes of those behaviors). For example, a child in a classroom may be unusually disruptive immediately following recess, but not immediately following lunch. The antecedent is recess and the consequences are perhaps the teacher's attention or reactions of classmates to the child's disruptive behavior at play but not during a meal.

When clinicians record behavior in its natural context, such as the classroom or the home, this is called ***in vivo* observation.** However, it's not always possible or practical to conduct an *in vivo* observation. The teacher or a teacher's aide may be too busy to record the behavior of one child, and having a clinician in the room would create a distraction or influence the behavior the clinician wants to observe. Therefore, the classroom environment must somehow be simulated.

Analog observations allow for such simulation to occur, taking place in a setting or context such as a clinician's office or a laboratory specifically designed for observing the target behavior. A clinician assessing the disruptive child would need to arrange a situation as comparable as possible to the natural setting of the classroom for the analog observation to be useful.

Clients may also report on their own behavior rather than having someone observe them. In a **behavioral self-report** the client records the target behavior, including the antecedents and consequences of the behavior. **Self-monitoring** is a form of behavioral self-report in which the client keeps a record of the frequency of specified behaviors, such as the number of cigarettes smoked or calories consumed, or the number of times in a day that a particular unwanted thought comes to the client's mind. Clinicians may also obtain information from their clients using **behavioral interviewing** in which they ask questions about the target behavior's frequency, antecedents, and consequences.

3.7 Multicultural Assessment

When psychologists conduct an assessment, they must take into account the person's cultural, ethnic, and racial background, by performing a **multicultural assessment.** To do so, clinicians evaluating clients who speak English as a second language, or do not speak English at all, must ask a number of questions: Does the client understand the assessment process sufficiently to provide informed consent? Does the client understand the instructions for the instrument? Are there normative data for the client's ethnic group? Even if clients appear as fairly fluent, they may not understand idiomatic phrases for which there are multiple meanings (Weiner & Greene, 2008).

Publishers of psychological tests are continually reevaluating their instruments to ensure that clients from a range of diverse backgrounds can understand the items. At

behavioral assessment
A form of measurement based on objective recording of the individual's behavior.

target behavior
A behavior of interest or concern in an assessment.

***in vivo* observation**
Process involving the recording of behavior in its natural context, such as the classroom or the home.

analog observations
Assessments that take place in a setting or context such as a clinician's office or a laboratory specifically designed for observing the target behavior.

behavioral self-report
A method of behavioral assessment in which the individual provides information about the frequency of particular behaviors.

self-monitoring
A self-report technique in which the client keeps a record of the frequency of specified behaviors.

behavioral interviewing
Assessment process in which clinicians ask questions about the target behavior's frequency, antecedents, and consequences.

multicultural assessment
Assessment process in which clinicians take into account the person's cultural, ethnic, and racial background.

It is important for psychologists to take multicultural considerations into account throughout each part of the assessment process.

the same time, graduate trainees in clinical programs are trained to understand the cultural backgrounds of clients they assess, to evaluate assessment instruments from a critical perspective, and to recognize when to either conduct a culturally sensitive assessment or seek further consultation (Dana, 2002).

3.8 Neuropsychological Assessment

Neuropsychological assessment is the process of gathering inferences about the functioning of a client's brain from performance on psychological tests. The way that clinicians use neuropsychological assessment measures is to compare a client's responses on a particular test with normative data from individuals who are known to have certain types of injuries or disorders.

In a neuropsychological assessment, the clinician can choose from tests that measure attention and working (short-term) memory, processing speed, verbal reasoning and comprehension, visual reasoning, verbal memory, and visual memory. A number of tests evaluate what clinicians call **executive functioning,** the ability to formulate goals, make plans, carry out those plans, and then complete the plans in an effective way. There are a variety of available tests within each category. If a clinician wishes to investigate one area in depth for a particular client, then the clinician will administer more tests from that category.

There is no one set procedure for conducting a neuropsychological assessment. Particular clinicians may have preferences for certain tests, but these preferences are not set in stone. Moreover, neuropsychologists typically adapt their choice of tests based on the client's presenting symptoms and possible diagnoses. The client's age is another factor that the clinician takes into account. Tests appropriate for older adults are not necessarily either appropriate or useful for diagnosing a child or adolescent.

neuropsychological assessment
The process of gathering inferences about the functioning of a client's brain from performance on psychological tests.

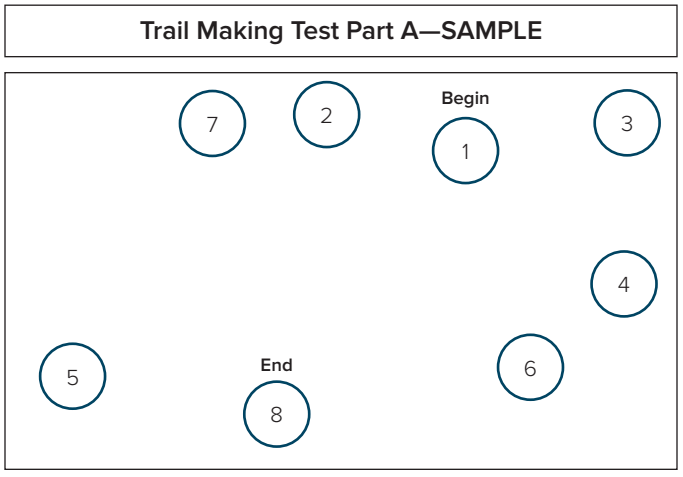
executive functioning
The ability to formulate goals, make plans, carry out those plans, and then complete the plans in an effective way.

Certain neuropsychological tests are derived from or the same as tests on the WAIS-IV, such as Digit Span (used to assess verbal recall and auditory attention) and Similarities (used to assess verbal abstraction abilities). These tests have the advantage of being widely used and comparison data from them are readily available.

The Trail Making Test, also called "Trails," is a simple test of executive functioning. Figure 3 shows a sample item from Trail Making Test Part A. In this example,

FIGURE 3 Trail Making Test

Adapted from Reitan, R. M. Validity of the Trail Making Test as an indicator of organic brain damage. *Perceptual and Motor Skills,* Vol. 8, 1958, 271–276.



the test-taker is asked to draw a line connecting the numbers in order. Although it may seem to be a simple task, individuals with frontal lobe damage may find it challenging to track a sequence of numbers. The abilities tapped by the Trail Making Test include attention, scanning of visual stimuli, and number sequencing.

There are a large number of tests that measure visuospatial ability. Many neuropsychologists rely on the Clock Drawing Test (Sunderland et al., 1989), a simple procedure that involves giving the client a sheet of paper with a large predrawn circle on it. Then the examiner asks the client to draw the numbers around the circle to look like the face of an analog clock. Finally, the examiner asks the client to draw the hands of the clock to read "10 after 11." The clinician then rates the client's drawing according to number of errors. The most impaired clients are unable to reproduce a clock face at all, or make mistakes in writing the numbers or placing them around the clock.

The Wisconsin Card Sorting Test (WCST) (Figure 4) requires that the client match a card to one of a set of cards that share various features. The test was originally developed using physical cards, but now clinicians typically administer the test in its computerized format. The test requires that the client shift mental set, because the basis for a correct match shifts from trial to trial. In the

What's in the *DSM-5*

Section 3 Assessment Measures

DSM-5's Section 3 contains a set of assessment measures that clinicians can use to enhance their decision-making process. These tools include a "cross-cutting" interview that reviews symptoms across all psychological disorders such as emotional distress, anger, and repetitive thoughts that either the client or someone close to the client can complete. This review of symptoms would allow clinicians to draw attention to symptoms that may not fit precisely into the categorically based diagnoses. Such questions could be incorporated into a mental status examination. One set of questions contains a brief survey of 13 domains for adults and 12 for children. The follow-up questions go into more depth in domains that seem to warrant further attention.

The *DSM-5* authors recognize that dimensional approaches are increasingly being supported by the literature due to the fact that categorical distinctions among disorders may, at times, seem arbitrary. In addition, there are disorders that combine features of two disorders. Many clients also have more than one disorder, diagnoses that do not fit easily into one category. Eventually, a dimensional approach could be combined with the DSM's categorically based diagnoses. This approach would allow clinicians to indicate the severity of a client's disorder, making it possible to evaluate a client's progress during treatment.

In addition to these tools, Section 3 includes the WHODAS (as presented in the chapter "Diagnosis and Treatment" and a section providing clinicians with tools to perform a cultural formulation. This is a comprehensive semistructured interview that focuses on the client's experience and social context. The *DSM-5* authors emphasize that the interview should be conducted in a way that allows the client to report his or her subjective experiences. This is intended to reduce the chances that the clinician's stereotypes or preexisting biases will affect the diagnostic process.

The *DSM-5* authors express the hope that by providing these tools and techniques, they will not only improve the diagnostic process, but also contribute to the research literature on the nature and causes of psychological disorders.

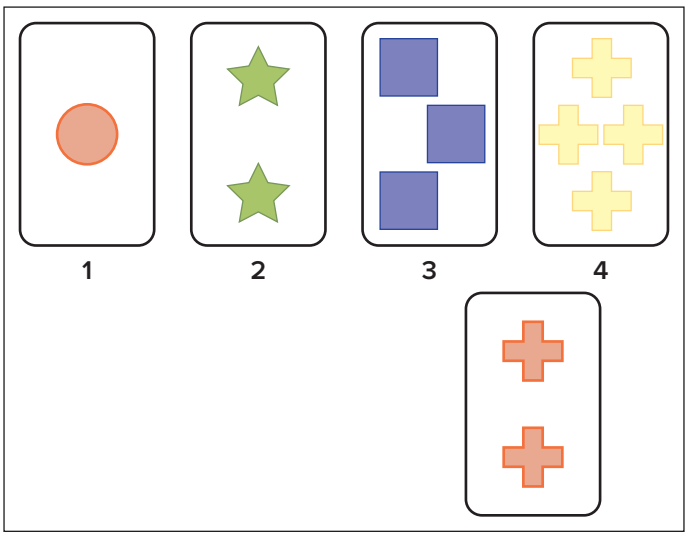


FIGURE 4 Sample item from the Wisconsin Card Sorting Test

You Be the Judge

Psychologists in the Legal System

Psychologists working within the legal system are frequently called on to serve as expert witnesses, and their testimony often relies on psychological assessments. Unlike the therapeutic setting, the forensic setting does not necessarily involve a positive relationship. In fact, the psychologist may face a malpractice suit from the clients if they wish to seek revenge for an assessment that led to a conviction or unfavorable decision, as in custody cases.

Knapp and VandeCreek (2001) present an interesting case history of a psychologist involved in a custody case who wrote in his report that the father had "authoritarian tendencies and could benefit from participating in parenting classes" (pp. 244–245). However, the psychologist had not actually interviewed the father; he based this statement on what the children told him. As a result, the psychologist was reprimanded by his state licensing board.

Psychologists are also mandated by the APA Ethical Principles of Psychologists and Code of Conduct (also called the Ethics Code) to practice within their field of competence. If they have not received training in forensic psychology, they are required to seek consultation from an expert colleague. A second case example presented by Knapp and VandeCreek involved the testimony by a psychologist proficient in assessment, but not forensic assessment, who testified that on the basis of elevated scores on the MMPI-2 scales 6 and 9, the defendant was indeed "insane." However, legal insanity is not the same as psychologically disordered, and therefore the psychologist's testimony was discredited in court.

Informed consent is another key ethical principle that applies not only to research but also to assessment and treatment. When a defendant with a psychological disorder is interviewed for a forensic assessment, the psychologist must take all possible precautions to let the defendant know about the limits of confidentiality in this context. In another example presented by Knapp and VandeCreek, a defendant was genuinely startled to hear the psychologist report on the interview, because the defendant had not understood the nature of the informed consent.

As a final example, consider the prohibition in the Ethics Code against dual relationships. Psychologists providing therapy should not be providing information that could be used by a lawyer in a legal case. The example cited by Knapp and VandeCreek involved a psychologist treating the children of a separated couple. The children stated that they preferred to live with their mother. The mother later requested that the psychologist write a letter to her attorney. In turn, the attorney asked the psychologist to "share your opinions as to where the children should live" (p. 250).

Q: *You be the judge:* As you can see, the APA Ethics Code clearly states the proper course of action in each case. The question for you to judge is not which course of action is proper, as this is clearly stated in the APA Ethics Code. Instead, consider the complexities that psychologists face when interacting in the legal system. These examples are only a handful from the many possible scenarios that can ensue, placing psychologists in situations that require them to be entirely familiar with the principles that guide the profession.

example shown in Figure 4, the client could match the card on the basis of color (red), number of items (two), or shape (plus sign). The WCST is a good test of executive functioning (Rabin, Barr, & Burton, 2005) that is sensitive to injury of the frontal lobes, but also assesses damage in other cortical areas (Nagahama, Okina, Suzuki, Nabatame, & Matsuda, 2005).

Neuropsychologists use the Boston Naming Test (BNT) to assess language capacity. Containing 60 line drawings of objects ranging in familiarity, clinicians can use the test to examine children with learning disabilities and adults who suffer from brain injury or dementia. Simple items are those that have high frequency, such as a house. Each item on the BNT contains a picture of a common object that the test-taker must name (e.g., chimney, church, school, and house).

The Paced Auditory Serial Addition Test (PASAT) assesses a client's auditory information processing speed, flexibility, and calculation ability. The client hears a recording of numbers between 1 and 9 every 3 or fewer seconds. The task is to add the number just heard with the number that preceded it. If the recording was "1-3-5-2-6-7," the correct response would be "4-8-7-8-13." In addition to its usage to assess traumatic brain injury, clinicians also use the PASAT extensively in assessing the functioning of individuals with multiple sclerosis (Tombaugh, Stormer, Rees, Irving, & Francis, 2006).

Other neuropsychological tests investigate a variety of memory functions. The Wechsler Memory Scale, now in its fourth edition (WMS-IV) includes tests of working (short-term) and long-term memory for visual and verbal stimuli. Examiners can choose from among the WMS-IV subscales according to which areas they believe are most critical to evaluate in particular clients. For example, when testing an older adult, the examiner may use only the scales assessing Logical Memory (recall of a story), Verbal Paired Associates (remembering the second in pairs of words), and Visual Reproduction (drawing a visual stimulus).

Computerized test batteries, which contain a range of tests adaptable to the possible brain damage in the client, provide the opportunity for **adaptive testing,** in which the client's responses to earlier questions determine the subsequent questions presented to them. For example, the Cambridge Neuropsychological Testing Automated Battery (CANTAB) consists of 22 subtests that assess visual memory, working memory, executive function and planning, attention, verbal memory, and decision making and response control.

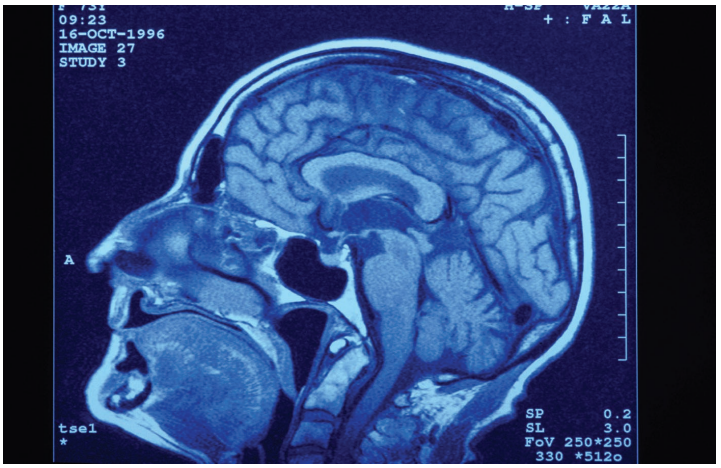
adaptive testing
Testing in which the client's responses to earlier questions determine the subsequent questions presented to them.

Before deciding whether to move to a computerized test, the clinician must weigh the advantages of ease of administration and scoring against the potential disadvantages that may exist for clients who are disadvantaged in their ability to use computers, such as young children (Luciana, 2003). However, given the relatively rapid growth of this field, more extensive normative data will be available that will allow clinicians to feel more confident about their utility.

One useful instrument is the Glasgow Coma Scale (GCS), a common test that clinicians use to assess brain trauma during the period after an accident, or while the client is in critical care. Included in the GCS are ratings, for example, of the individual's ability to hear and obey commands, open the eyes, and speak coherently.

Looking now at Ben's tests, Dr. Washington chose to administer tasks that would be sensitive to the type of injury that Ben might have sustained given his low WAIS-IV coding score, which suggested that Ben may have suffered brain damage that led to changes in his ability to focus his visual attention and perform quickly on a psychomotor speed task. Because Dr. Washington did not see Ben at the scene of the accident or in the ER, he could not administer the GCS.

Ben's completion time on Trail Making Test Part A was in the marginally impaired range. On the Clock Drawing Test, Ben received a score of 5 out of a possible 10, erroneously crowding the numbers at one end of the clock. He received a score within the normal range on the PASAT, suggesting that the injury did not affect his auditory attentional functioning. On the WCST, Ben showed evidence of perseverative errors, meaning that he was unable to switch mental set in categorizing the cards according to different criteria. Ben's performance on the WMS-IV was within normal range, a finding consistent with his relatively high scores on the Verbal scales of the Wechsler, indicating that he has not suffered either short- or long-term memory loss.



A CAT scan of a patient's brain helps neuropsychologists to find brain structure abnormalities that may be causing cognitive dysfunction.

3.9 Neuroimaging

Neuroimaging provides a picture of the brain's structures or level of activity and therefore is a useful tool for "looking" at the brain. There are several types of neuroimaging methods that vary in the types of results they provide.

The **electroencephalogram (EEG)** measures electrical activity in the brain. EEG activity reflects the extent to which an individual is alert, resting, sleeping, or dreaming. The EEG pattern also shows particular patterns of brain waves when an individual engages in particular mental tasks. Clinicians use EEGs to evaluate clients for conditions such as epilepsy, sleep disorders, and brain tumors.

Computed axial tomography (CAT or CT) scan is an imaging method that clinicians and researchers use to provide an image of a cross-sectional slice of the brain from any angle or level. CT scans provide an image of the fluid-filled areas of the brain, called the ventricles. The method is useful when clinicians are looking for structural damage to the brain.

Magnetic resonance imaging (MRI) uses radiowaves rather than X-rays to construct a picture of the living brain based on the water content of various tissues. The person is placed inside a device that contains a powerful electromagnet. This causes the nuclei in hydrogen atoms to transmit electromagnetic energy (hence the term *magnetic resonance*), and activity from thousands of angles is sent to a computer, which produces a high-resolution picture of the scanned area. The picture from the MRI differentiates areas in the brain of white matter (nerve fibers) from gray matter (nerve cells) and is useful for diagnosing diseases that affect the nerve fibers that make up the white matter. However, like the CT scan, the MRI produces static images so it cannot monitor brain activity.

Positron emission tomography (PET) scan, or a variant known as **single photon emission computed tomography (SPECT) scan,** are ways to take images of the brain sensitive to activity. Specialists inject radioactively labeled compounds into a person's veins in very small amounts. The compounds travel through the blood into the brain and emit positively charged electrons called positrons, which act much like X-rays in a CT scan. The images, which represent the accumulation of the labeled compound, can show blood flow, oxygen or glucose metabolism, and concentrations of brain chemicals. Vibrant colors at the red end of the spectrum represent higher levels of activity, and colors at the blue-green-violet end of the spectrum represent lower levels of brain activity. **Proton magnetic resonance spectroscopy (MRS)** is another scanning method that measures metabolic activity of neurons, and therefore may indicate areas of brain damage (Govind et al., 2010).

Functional magnetic resonance imaging (fMRI) provides a picture of how people react to stimuli virtually in real time, making it possible to present stimuli to an individual while the examiner monitors the individual's response. Researchers are increasingly using fMRIs to understand the brain areas involved in the processing of information. One major advantage of the fMRI is that it does not require injection of radioactive materials, like the PET or SPECT scan. However, because the fMRI uses magnetism to detect brain activity, people with artificial limbs made from metals such as titanium cannot use this testing method.

Researchers also use **diffusion tensor imaging (DTI),** a method to investigate abnormalities in the white matter of the brain. DTI scans show the activity of water molecules as they diffuse along the length of axons, making it possible to investigate abnormalities in neural pathways.

neuroimaging
Assessment method that provides a picture of the brain's structures or level of activity and therefore is a useful tool for "looking" at the brain.

electroencephalogram (EEG)
A measure of changes in the electrical activity of the brain.

computed axial tomography (CAT or CT) scan
A series of X-rays taken from various angles around the body that are integrated by a computer to produce a composite picture.

magnetic resonance imaging (MRI)
The use of radiowaves rather than X-rays to construct a picture of the living brain based on the water content of various tissues.

positron emission tomography (PET) scan
A measure of brain activity in which a small amount of radioactive sugar is injected into an individual's bloodstream, following which a computer measures the varying levels of radiation in different parts of the brain and yields a multicolored image.

single photon emission computed tomography (SPECT) scan
A variant of the PET scan that permits a longer and more detailed imaging analysis.

It's important to keep in mind that brain scans can produce evidence of specific areas of damage, but they do not necessarily correspond to a specific loss of behavioral functioning (Meyers & Rohling, 2009). At present, then, they can be suggestive of brain damage or lowered neural activity, but their links to how people think, remember, plan, or perceive cannot be guaranteed. You may hear a brain scan described as showing an area that "lights up," but it is not always clear that higher or lower amounts of brain activity are directly translatable into their subjective equivalents in emotions such as fear, love, or anger.

Upon evaluating Ben through neuropsychological testing, Dr. Washington ordered a CT scan (de Guise et al., 2010), because Ben showed some signs of frontal lobe damage (personality changes, some perseveration on the WCST, and marginal errors on the TMT). However, it was necessary to rule out parietal lobe damage, which can also contribute to this performance pattern and to visual attentional deficits. The CT scan revealed that Ben had suffered a traumatic brain injury as a result of the incident, perhaps in the form of a brain hemorrhage.

An fMRI is used to monitor changes in brain activity.

3.10 Putting It All Together

As we have just shown in Ben's case, clinicians face a formidable task when attempting to develop a diagnosis from the evidence that they obtain through the assessment process. They must evaluate each client on an individual basis and determine which combination of tests is most appropriate to identify as closely as possible the nature and cause of that client's behavioral symptoms. In addition, clinicians performing assessments attempt to understand a client's adaptive skills, so that they can make recommendations to build on the client's existing abilities and help address treatment to maximize his or her functioning in everyday life.

proton magnetic resonance spectroscopy (MRS)
A scanning method that measures metabolic activity of neurons, and therefore may indicate areas of brain damage.

functional magnetic resonance imaging (fMRI)
A variant of the traditional MRI, which makes it possible to construct a picture of activity in the brain.

diffusion tensor imaging (DTI)
A method to investigate abnormalities in the white matter of the brain.

Return to the Case: Ben Robsham

Given the potential cause of his symptoms, Dr. Washington recommended that Ben will require rehabilitation to strengthen his existing skills so that he can return to his previous employment. Ben will also receive supportive therapy and possibly vocational counseling if he continues to demonstrate deficits in visual and spatial processing speed, skills that he clearly needs for his present job.

Dr. Tobin's reflections: It is somewhat reassuring to know that Ben's injury, though currently interfering with his ability to go to work, will most likely resolve on its own. A neuropsychological assessment was clearly called for in this case; unfortunately, with increases in traumatic brain injuries in recent years, this type of assessment will be increasingly necessary. Ben's injury occurred at work, but many other young people are experiencing such injuries in areas of activity as diverse as playing hockey or football to involvement in war. With the development of more sophisticated neuroimaging and computerized testing, we will be better prepared to assess individuals like Ben in the future, as well as those clients we see whose disorders are primarily psychological in nature.

SUMMARY

- A psychological assessment is a procedure in which a clinician provides a formal evaluation of an individual's cognitive, personality, and psychosocial functioning. Clinicians conduct assessments under a variety of conditions. In many cases, clinicians use the assessment process to provide a diagnosis, or at least a tentative diagnosis, of an individual's psychological disorder.
- To be useful, clinicians must hold assessments to standards that ensure that they provide the most reproducible and accurate results. The reliability of a test indicates the consistency of the scores it produces. The test's validity reflects the extent to which a test measures what it is designed to measure.
- Clinicians should use the best assessment methods possible. Evidence-based assessment includes (1) relying on research findings and scientifically viable theories, (2) using psychometrically strong measures, and (3) empirically evaluating the assessment process.
- The clinical interview is a series of questions that clinicians administer in face-to-face interaction with the client. The answers the client provides to these questions provide important background information on clients, allow them to describe their symptoms, and enable clinicians to make observations of their clients that can guide decisions about the next steps, which may include further testing. The format can be structured or unstructured.
- A clinician uses a mental status examination to assess a client's current state of mind. The clinician assesses a number of features of the client including appearance, attitudes, behavior, mood and affect, speech, thought processes, content of thought, perception, cognition, insight, and judgment. The outcome of the mental status examination is a comprehensive description of how the client looks, thinks, feels, and behaves.
- Intelligence tests such as the Stanford-Binet Intelligence Test, but particularly the Wechsler scales, provide valuable information about an individual's cognitive functioning.
- Clinicians use tests of personality to understand a person's thoughts, behaviors, and emotions. There are two main forms of personality tests: self-report and projective. Tests include the Minnesota Multiphasic Personality Inventory (MMPI), the Personality Assessment Inventory (PAI), the SCL-90-R, the NEO Personality Inventory, and other specific self-report inventories designed to investigate specific disorders or research questions for which a general test may not be relevant. In projective tests, the examiner asks questions about an ambiguous stimulus. The most common are the Rorschach and the TAT.
- Behavioral assessments record actions rather than responses to rating scales or questions. The target behavior is what the client and clinician wish to change. Behavioral assessments include descriptions of the events that precede or follow the behaviors. *In vivo* observation takes place when clinicians record behavior in its natural context, such as the classroom or the home. Analog observations take place in a setting or context such as a clinician's office or a laboratory specifically designed for observing the target behavior. In a behavioral self-report the client records the target behavior, including the antecedents and consequences of the behavior. Self-monitoring is a form of behavioral self-report in which the client keeps a record of the frequency of specified behaviors.
- When psychologists conduct a multicultural assessment, they must take into account the person's cultural, ethnic, and racial background.
- Neuropsychological assessment is the process of gathering information about a client's brain functioning on the basis of performance on psychological tests. Clinicians use neuropsychological assessment measures to attempt to determine the functional correlates of brain damage by comparing a client's performance on a particular test with normative data from individuals who are known to have certain types of injuries or disorders. There are a variety of tests to assess verbal recall and auditory attention. Neuroimaging includes EEG, CT scan, MRI, fMRI, PET scan and DTI.

KEY TERMS

Adaptive testing
Analog observation
Barnum effect
Behavioral assessment
Behavioral interviewing
Behavioral self-report
Clinical interview
Computed axial tomography (CAT or CT) scan
Deviation intelligence (IQ)
Diffuser tension imaging (DTI)
Electroencephalogram (EEG)
Evidence-based assessment
Executive functioning
Functional magnetic resonance imaging (fMRI)
In vivo observation
Magnetic resonance imaging (MRI)
Mental status examination
Mini-Mental State Examination (MMSE)
Minnesota Multiphasic Personality Inventory (MMPI)
Multicultural assessment
Neuroimaging
Neuropsychological assessment
Positron emission tomography (PET) scan
Projective test
Proton magnetic resonance spectroscopy (MRS)
Psychological assessment
Rorschach Inkblot Test
Self-monitoring
Self-report clinical inventory
Single photon emission computed tomography (SPECT) scan
Standardization
Structured Clinical Interview for *DSM-5* Disorders (SCID-5)
Structured interview
Target behavior
Thematic Apperception Test (TAT)
Unstructured interview
Wechsler Adult Intelligence Scale (WAIS)

Theoretical Perspectives

OUTLINE

Case Report: Meera Krishnan

Theoretical Perspectives in Abnormal Psychology

Biological Perspective

- Theories
- Treatment

What's in the *DSM-5:* Theoretical Approaches

Trait Theory

Psychodynamic Perspective

- Freud's Theory
- Post-Freudian Psychodynamic Views
- Treatment

Behavioral Perspective

- Theories

You Be the Judge: Evidence-Based Practice

- Treatment

Cognitive Perspective

- Theories
- Treatment

Humanistic Perspective

- Theories
- Treatment

Sociocultural Perspective

- Theories

Real Stories: Sylvia Plath: Major Depressive Disorder

- Treatment

Biopsychosocial Perspectives on Theories and Treatments: An Integrative Approach

Return to the Case: Meera Krishnan

Summary

Key Terms

Learning Objectives

4.1 Assess theories of the biological perspective and identify treatments.

4.2 Describe trait theory.

4.3 Compare and contrast Freud's theory to post-Freudian psychodynamic views and identify treatments.

4.4 Assess theories of the behavioral perspective and identify treatments.

4.5 Assess theories of the cognitive perspective and identify treatments.

4.6 Assess theories of the humanistic perspective and identify treatments.

4.7 Assess theories of the sociocultural perspective and identify treatments.

4.8 Explain the biopsychosocial perspective.

CHAPTER 4

Case Report: Meera Krishnan

Demographic information: 26-year-old Indian-American female.

Presenting problem: Meera self-referred to my outpatient private practice upon the urging of a friend. For the past 3 weeks she reports feeling "profoundly sad for no reason at all," lethargic, and preoccupied with thoughts of suicide, although she states she has no specific plan or intent to commit suicide. Her work performance has suffered. She oversleeps most days, has lost her appetite, and tries to avoid any social contact. She describes feeling that she has greatly let down her family and friends.

Relevant history: A college graduate, Meera works as a biologist in a hospital research laboratory. The younger of two daughters, Meera reports feeling that her parents favor her older sister. She feels that her parents disapprove of her current lifestyle in comparison to her sister, who married the son of family friends. Although she and her sister had once been very close, they no longer maintain regular contact, and she rarely visits her parents, although they live in a neighboring town.

Meera reports that she rarely drinks alcohol and has never used illicit drugs. She has no medical conditions and reports that, in general, her health is very good. Prior to the onset of her current depressive episode, Meera reports that she exercised regularly by participating in a long-distance running club and enjoyed cooking with her friends and listening to music.

This is Meera's third depressive episode since her junior year of high school. Each episode has lasted approximately 2 months or slightly longer. She has not previously sought treatment.

Symptoms: For 3 weeks, Meera has been experiencing overwhelming feelings of sadness, not accounted for by bereavement, substance use, or a medical condition. Her symptoms include feelings of worthlessness, tearfulness, loss of interest, sleep disturbance (oversleeping), and loss of appetite. She has experienced recurrent thoughts about death and passive suicidal ideation.

Case formulation: Meera meets *DSM-5* criteria for major depressive disorder (MDD), recurrent. The symptoms of her current depressive episode are interfering with her ability to carry out her normal daily functioning. Because Meera has experienced two previous depressive episodes, each of which have been at least 2 months apart, her diagnosis is major depressive disorder, recurrent.

Treatment plan: The principles of evidence-based practice suggest that the best treatment for Meera is cognitive-behavioral therapy. Following intake, she will receive a complete psychological assessment and be referred to a psychiatrist for a medical evaluation.

Sarah Tobin, PhD

4.1 Theoretical Perspectives in Abnormal Psychology

theoretical perspective
An orientation to understanding the causes of human behavior and the treatment of abnormality.

Underlying **theoretical perspectives,** orientations to understanding the causes of human behavior and the treatment of abnormality, guide all research and clinical work in abnormal psychology. In this chapter, we will explore the major theoretical perspectives that form the foundation for the text. You will read in more detail about each perspective and how it applies to specific disorders within the chapters covering the major psychological disorders. To facilitate your understanding of these perspectives, we will use Meera's case as an example to show how clinicians working within each perspective would address her treatment. Although Meera's plan calls for treatment within the cognitive-behavioral perspective, her case has many facets that each of the major theories address, and therefore warrant discussion.

4.2 Biological Perspective

biological perspective
A theoretical perspective in which it is assumed that disturbances in emotions, behavior, and cognitive processes are caused by abnormalities in the functioning of the body.

Psychologists working within the **biological perspective** believe that abnormalities in the body's functioning are responsible for the symptoms of psychological disorders. In particular, they maintain that we can trace the causes of psychological symptoms primarily to disturbances in the nervous system or other bodily systems that have an impact on the nervous system.

Theories

Biological approaches to abnormality focus on the roles of the nervous system and genetics. How these interact through life become important pieces of the biopsychosocial perspective.

Role of the Nervous System

neurotransmitter
A chemical substance released from a neuron into the synaptic cleft, where it drifts across the synapse and is absorbed by the receiving neuron.

The transmission of information throughout the nervous system takes place at synapses, or points of communication between neurons. **Neurotransmitters** are chemical messengers that travel across the synapse, allowing neurons to communicate with each other. Neuroscientists assume that neurons that transmit and respond to the same neurotransmitters operate as pathways responsible for specific functions.

Table 1 shows the proposed role of several major neurotransmitters in psychological disorders. The "serotonin pathway" consists of neurons involved in regulating mood, among other functions. As you can see from the table, however, several neurotransmitters may be involved in the same function. Conversely, some functions are served by more than one neurotransmitter. In other words, there is not a one-to-one mapping of functions and neurotransmitters, which greatly adds to the complexity of understanding how the nervous system works. It may be possible someday for these links to be understood, and to be able to treat abnormalities in neurotransmitters that could alleviate psychological symptoms.

Altered brain structures, either through injury or present at birth, may also play a role in psychological disorders. The role of structural abnormalities in the brain is getting greater attention with the availability of the increasingly sophisticated brain scanning methods that we described in the chapter "Assessment".

Role of Genetics

genes
The instructions for forming proteins contained within each of the body's cells.

Basics of Genetics **Genes** are the instructions for forming proteins contained within each of the body's cells. These instructions, in turn, determine how the cell performs. In the case of neurons, genes control the manufacturing of neurotransmitters, as well as the way the neurotransmitters behave in the synapse. Genes also determine, in part, how the brain's structures develop throughout life. Any factor that can alter the genetic code can also alter how these structures perform.

TABLE 1 Selected Neurotransmitters Involved in Psychological Disorders

Neurotransmitter	Related disorders
Norepinephrine	Depressive disorders Anxiety disorders (panic disorder)
Serotonin	Depressive disorders Anxiety disorders Schizophrenia Anorexia nervosa Substance use disorders
Gamma-aminobutyric acid (GABA)	Anxiety disorders Substance use disorders
Dopamine	Neurocognitive disorder due to Parkinson's disease Schizophrenia Eating disorders Substance use disorders
Acetylcholine	Neurocognitive disorder due to Alzheimer's disease
Opioid peptides	Substance use disorders

Inherited disorders come about when the genes from each parent combine in such a way that the ordinary functioning of a cell is compromised. Genetic abnormalities can themselves produce the neurotransmitter and structural brain variations that can be tied to psychological disorders. The inheritance of particular combinations of genes, faulty copying when cells reproduce, or mutations that a person acquires over the course of life may all contribute to genetic alterations that have an effect on psychological functioning. These genetic abnormalities may also interact with damage caused by exposure to environmental agents such as toxins or injury.

Many genetic abnormalities are inherited. Your **genotype** is your genetic makeup, which contains the form of each gene that you inherit, called an **allele.** Let's say that Allele A causes a protein to form that leads a neuron to form abnormally. Allele B causes the neuron to be entirely healthy. If you have inherited two genes containing Allele B, then you have no chance of developing that disease. If, on the other hand, you have inherited two genes containing Allele A, you will almost certainly get the disease. If you inherit one Allele A and one Allele B, the situation becomes more complicated. Whether or not you get the disease depends on whether the disease is "dominant," meaning that Allele A's instructions to code the harmful protein will almost certainly prevail over those of Allele B (Figure 1, left), and you need only one affected allele to develop the disease. If the disease is "recessive," then Allele A alone cannot cause the harmful protein to form. However, if you have one Allele A and one Allele B, you are an unaffected carrier. Should you produce a child with another unaffected carrier, that child could receive the two Allele As, and therefore develop the disorder (Figure 1, right).

genotype
The genetic makeup of an organism.

allele
One of two different variations of a gene.

The dominant-recessive gene inheritance model rarely, if at all, can account for the genetic inheritance of psychological disorders. In some cases, inherited disorders come about through maternal linkages only, meaning that they transmit only through the mother. These disorders occur with defects in the mitochondrial DNA, which is the DNA that controls protein formation in the cell's mitrochondria (energy-producing structures). Many psychological disorders reflect a **polygenic** model involving the joint impact of multiple gene combinations.

polygenic
A model of inheritance in which more than one gene participates in the process of determining a given characteristic.

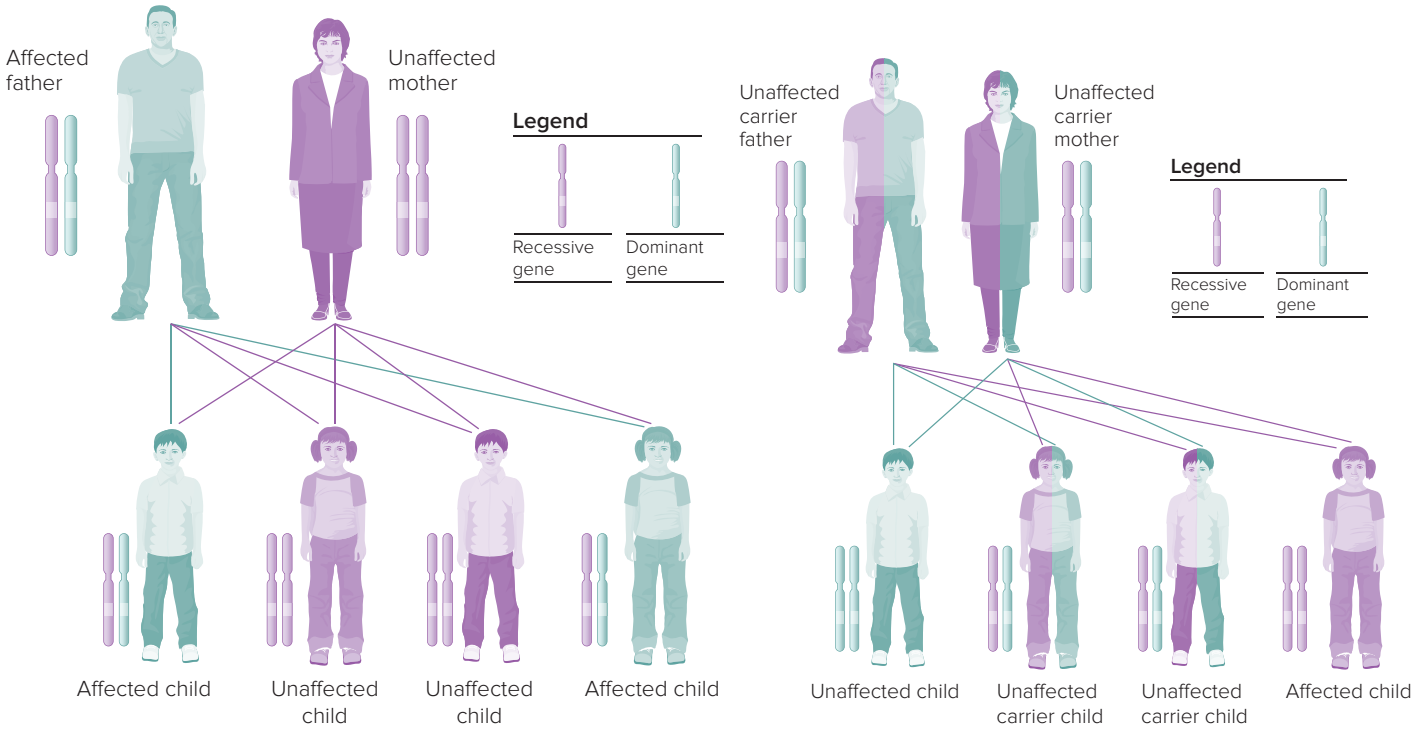


FIGURE 1 Pattern of Dominant-Recessive Trait Inheritance

When a genetic disease is dominant, a child who receives one copy of the affected allele will get the disease; (left); when a genetic disease is recessive, only a child who receives two copies of the affected allele will get the disease (right).

NHGRI, www.genome.gov

phenotype
The expression of the genetic program in the individual's physical and psychological attributes.

epigenetics
The science that attempts to identify the ways that the environment influences genes to produce phenotypes.

endophenotypes
Biobehavioral abnormalities that are linked to genetic and neurobiological causes of mental illness.

To complicate matters further, not only are multiple genes involved in the development of psychological disorders, but as we indicated earlier, the environment plays an important role in contributing to the way our behavior reflects our genetic inheritance. Your **phenotype** is the observed and measurable set of characteristics that results from the combination of environmental and genetic influences. Some phenotypes are relatively close to their genotype. For example, your eye color does not reflect environmental influences. Complex organs such as the brain, however, often show a wide disparity between the genotype and phenotype because the environment to which people are exposed heavily influences brain development throughout life. Moreover, there are numerous genes that participate in building the structures in the brain and influencing their changes over time. The study of **epigenetics** attempts to identify the ways that the environment influences genes to produce phenotypes.

Reflecting the complexity of the brain's structures and functions, leading researchers in schizophrenia (Gottesman & Shields, 1972; Gottesman & Shields, 1973) proposed the use of the term **endophenotypes** to characterize the combination of genetic and environmental contributors to complex behaviors. An endophenotype is an internal phenotype—that is, a characteristic that is not outwardly observable. In the case of schizophrenia, for example, there are several possible endophenotypes that may underlie the disease's outwardly observed symptoms. These include abnormalities in memory, sensory processes, and particular types of nervous system cells. The assumption is that these unobservable characteristics, which heredity and the environment influence, are responsible for the disease's behavioral expressions. The concept of endophenotypes was probably decades ahead of its time, because in the 1970s, researchers were limited in what they could study in terms of both genetics and the brain. With the development of sophisticated DNA testing and brain imaging methods, the concept is resurging (Gottesman & Gould, 2003).

Gene-Environment Interactions The relationships between genetic and environmental influences fall into two categories: gene-environment correlations and interactions between genes and the environment (Lau & Eley, 2010). Gene-environment

correlations exist when people with a certain genetic predisposition are distributed unequally in particular environments (Scarr & McCartney, 1983).

Gene-environment correlations can come about in three ways. The first is through passive exposure. Children with certain genetic predispositions can be exposed to environments that their parents create based on their genetic predispositions. For example, a child of two athletically gifted parents who participate in sports inherits genes that give this child athletic prowess. Because the parents themselves are involved in athletic activities, they have created an environment that fosters the child's own athletic development.

The second gene-environment interaction occurs when the parents treat the children with certain genetic predispositions in particular ways because their abilities bring out particular responses. Returning to our example, the school coach may recruit the athletically gifted child for sports teams starting in early life, leading the child to become even more athletically talented.

"Niche picking" is the third gene-environment correlation. The athletically gifted child may not wait to be recruited, but instead seeks out opportunities to play sports, and in this process becomes even more talented.

Any one or combination of these three gene-environment correlations heightens the risk that children of parents with genetic predispositions are more likely to develop the disorder because of the environment's enhancing effect. A child born with a genetic inheritance to developing a disorder may never express that inheritance if that child grows up under the right conditions. Alternatively, children with a genetic predisposition may be more likely to express this in their behavior if they are exposed to harsh, stressful environments that trigger the disorder.

Genetic predispositions may also interact with environmental influences when both alter the effect or expression of the other. In the case of people with major depressive disorder, for example, researchers have found that those with high genetic risk are more likely to show depressive symptoms when placed under high-stress conditions than are those with low genetic risk. Thus, the same stress has different effects on people with different genetic predispositions.

Conversely, the genetic risk of people exposed to higher stress levels becomes higher than that of people who live in low-stress environments. In other words, a person may have a latent genetic predisposition or vulnerability that only manifests itself when that individual comes under environmental stress (Lau & Eley, 2010).

Researchers studying psychopathology have long been aware of the joint contributions of genes and the environment to the development of psychological disorders. The **diathesis-stress model** proposed that people are born with a diathesis (genetic predisposition) or acquire vulnerability early in life due to formative events such as traumas, diseases, birth complications, or harsh family environments (Zubin & Spring, 1977). This vulnerability then places these individuals at risk for the development of a psychological disorder as they grow older (Johnson, Cohen, Kasen, Smailes, & Brook, 2001).

diathesis-stress model
The proposal that people are born with a predisposition (or "diathesis") that places them at risk for developing a psychological disorder if exposed to certain extremely stressful life experiences.

MINI CASE

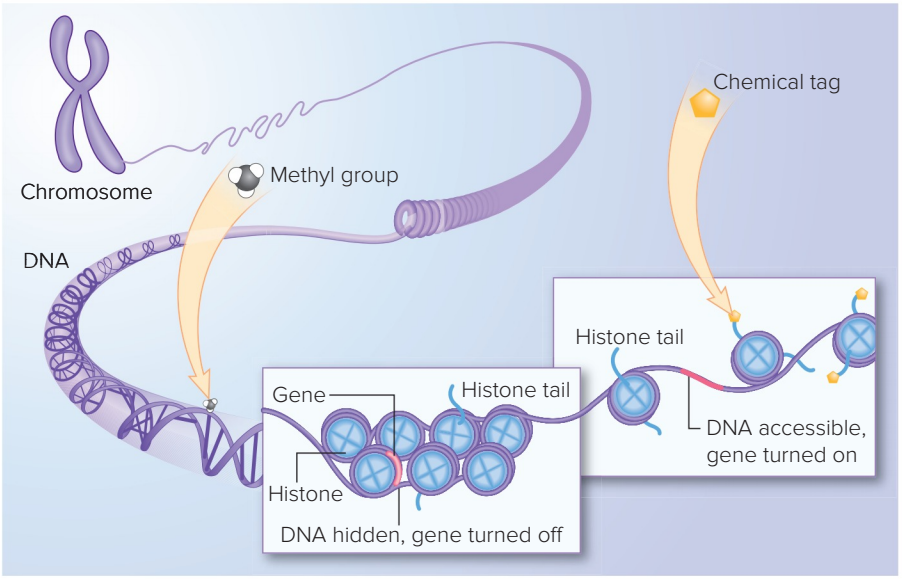
Biological Approaches to Treating Meera

A clinician working within a biological perspective would treat Meera's depression with antidepressant medications beginning, most likely, with SSRIs. Because these medications do not take effect for several weeks, the clinician would monitor her closely during this period to ensure that Meera remains stable. During this time, the clinician would meet with her on a weekly basis at least, to monitor Meera's progress, learn of any side effects that she is experiencing, and make adjustments as necessary particularly after 4 to 6 weeks. Meera is not a suitable candidate for more radical interventions because, although she has suicidal thoughts, she does not have plans and does not appear to be at significant risk. The clinician may also recommend that Meera attempt to resume her prior exercise routines to help augment the therapeutic effects of her medications.

FIGURE 2 Epigenesis

The epigenome can mark DNA in two ways, both of which play a role in turning genes off or on. The first occurs when certain chemical tags, which we call methyl groups, attach to the backbone of a DNA molecule. The second occurs when a variety of chemical tags attach to the tails of histones, which are spool-like proteins that package DNA neatly into chromosomes. This action affects how tightly DNA is wound around the histones.

National Institute on Aging. (2010). 2009 progress report on Alzheimer's disease: U.S. Department of Health and Human Services.



epigenesis
Process through which the environment causes genes to turn "off" or "on."

DNA methylation
The process that can turn off a gene as a chemical group, methyl, attaches itself to the gene.

With advances in genetic science, researchers are now much better able to understand the precise ways in which genes and environmental factors interact. The ordinary pathway for genetic transmission is that people inherit two copies of a gene, one from each parent, and both copies actively shape the individual's development. However, certain genes regulate through a process known as **epigenesis,** meaning that the environment causes them to turn "off" or "on." If the remaining working gene is deleted or severely mutated, then a person can develop an illness. The process of **DNA methylation** can turn off a gene as a chemical group, methyl, attaches itself to the gene (Figure 2); also see http://www.nature.com/scitable/topicpage/the-role-of-methylation-in-gene-expression-1070.

Through the epigenetic processes of DNA methylation, maternal care, for example, can change gene expression. One study showed that during pregnancy, a mother's exposure to environmental toxins caused DNA methylation in her unborn child (Furness, Dekker, & Roberts, 2011). Studies on laboratory animals also show that stress can affect DNA in specific ways that alter brain development (Mychasiuk, Ilnytskyy, Kovalchuk, Kolb, & Gibb, 2011). Researchers believe that certain drugs that the mother uses during pregnancy cause DNA methylation, including nicotine, alcohol, and cocaine.

Genetics Research Methods To understand the contributions of genetics to psychological disorders, researchers use three methods: family inheritance studies, DNA linkage studies, and genomics combined with brain scan technology. The methods often complement each other as researchers attempt to tease apart these very complex relationships.

In family inheritance studies, researchers compare the disorder rates across relatives who have varying degrees of genetic relatedness. The highest degree of genetic relatedness is between identical or monozygotic (MZ) twins, who share 100 percent of their genotype. Dizygotic (DZ) or fraternal twins share, on the average, 50 percent of their genomes, but both types of twins share the same familial environment. Therefore, although MZ-DZ twin comparisons are useful, they do not allow researchers to rule out the impact of the environment. Similarly, studies of parents and children are confounded by the fact that the parents create the environment in which their children are raised. In order to separate the potential impact of the environment in studies comparing MZ and DZ twins, researchers turned long ago to adoption studies in which different families raised MZ twins, and therefore the twins experienced different environments.

For decades, family and twin studies were the only methods researchers had at their disposal to quantify the extent of genetic influences on psychological disorders. With the advent of genetic testing, however, researchers became able to examine specific genetic contributions to a variety of traits, including both physical and psychological disorders.

In a **genome-wide linkage study,** researchers study the families of people with specific psychological traits or disorders. The principle behind a linkage study is that characteristics near to each other on a particular gene are more likely inherited together. With refined genetic testing methods available, researchers can now carry this task out with far greater precision than was true in the past.

genome-wide linkage study
Genetic method in which researchers study the families of people with specific psychological traits or disorders.

Although useful, linkage studies have limitations primarily because they require the study of large numbers of family members and may produce only limited findings. In **genome-wide association studies (GWAS),** researchers scan the entire genome of individuals who are not related to find the associated genetic variations with a particular disease. They are looking for a **single nucleotide polymorphism (SNP)** (pronounced "snip"), which is a small genetic variation that can occur in a person's DNA sequence. Four nucleotide letters—adenine, guanine, thymine, and cytosine (A, G, T, C)—specify the genetic code. A SNP variation occurs when a single nucleotide, such as an A, replaces one of the other three. For example, a SNP is the alteration of the DNA segment AAGGTTA to ATGGTTA, in which a "T" replaces the second "A" in the first snippet (Figure 3).

genome-wide association studies (GWAS)
Genetic method in which researchers scan the entire genome of individuals who are not related to find the associated genetic variations with a particular disease.

single nucleotide polymorphism (SNP—pronounced "snip")
A small genetic variation that can occur in a person's DNA sequence.

With high-tech genetic testing methods now more readily available, researchers have more powerful tools to find SNPs that occur with particular traits (or diseases) across large numbers of people. Although many SNPs do not produce physical changes in

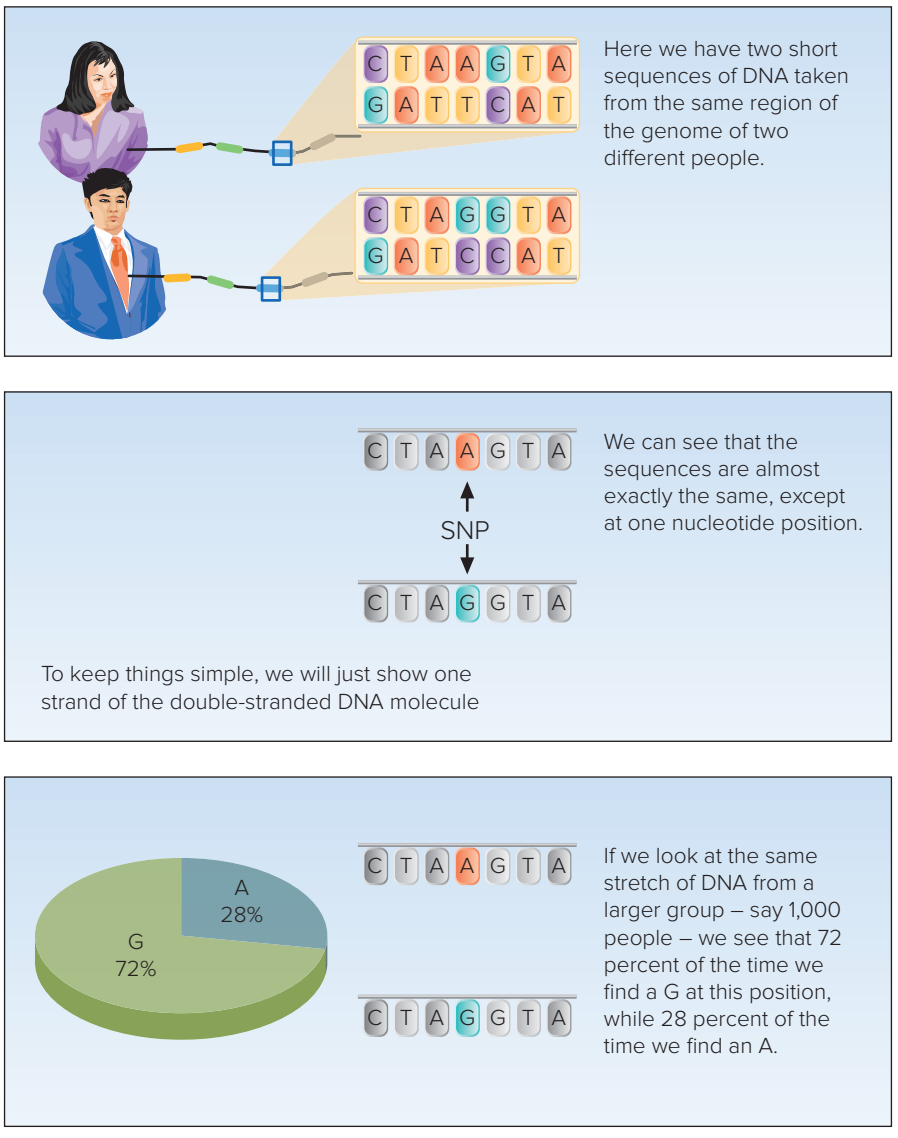


FIGURE 3 SNP Detection

This figure shows how SNP variation occurs such as when two sequences of DNA differ only by a single nucleotide ("A" vs. "G").

people, researchers believe that other SNPs may predispose people to disease and even influence their response to drug regimens.

Imaging genomics is increasingly augmenting genetic studies. Researchers can combine linkage or association methods with imaging tools to examine connections between gene variants and activation patterns in the brain.

Treatment

At the present time, biologically based treatment cannot address the disorder's cause in terms of fixing genetic problems. Instead, biological therapies either involve medications, surgery, or other direct treatment forms on the brain.

psychotherapeutic medications
Somatic treatments that are intended to reduce the individual's symptoms by altering the levels of neurotransmitters that researchers believe are involved in the disorder.

neuroleptics
A term used to refer to antipsychotic medications.

Psychotherapeutic medications are intended to reduce the individual's symptoms by altering the levels of neurotransmitters that researchers believe are involved in the disorder. In 1950, a French chemist, Paul Charpentier, synthesized chlorpromazine (Thorazine). This medication gained widespread acceptance in the 1960s, and led the way toward the development of a wider range of psychotherapeutic agents.

Currently, the major categories of psychotherapeutic agents include antipsychotics, antidepressants, mood stabilizers, anticonvulsants, antianxiety medications, and stimulants (Table 2). Antipsychotic medications are also called **neuroleptics** (derived from the

TABLE 2 **Major Psychotherapeutic Medications**

Used to Treat	Category
Schizophrenia spectrum and other psychotic disorders	Antipsychotics Conventional or "typical" antipsychotic medications "Atypical" antipsychotic medications (also called "second generation")
Major depressive disorder	Selective serotonin reuptake inhibitors (SSRIs) Serotonin and norepinephrine reuptake inhibitors (SNRIs) Atypical antidepressants Tricyclic antidepressants Monoamine oxidase inhibitors (MAOIs) Mood stabilizers
Bipolar disorder	Anticonvulsants Atypical antipsychotics Antianxiety medications
Anxiety disorders	Benzodiazepines Atypical antidepressants MAOIs SSRIs SNRIs Tricyclics Stimulants
Attention-deficit/hyperactivity disorder	Stimulants Antidepressants

http://www.nimh.nih.gov/health/publications/mental-health-medications/complete-index.shtml

Greek words meaning "to seize the nerve"). In addition to their sedating qualities, neuroleptics reduce the frequency and severity of the individual's psychotic symptoms.

Some medication categories that researchers developed to treat one disorder, such as antidepressants, also serve to treat other ones, such as anxiety disorders. That clinicians use the same medications to treat different disorders suggests that abnormalities involving similar neurotransmitter actions may mediate these disorders.

Each of these medications can have serious side effects, leading clients experiencing these so-called adverse drug reactions to discontinue their use and try a different medication, perhaps from a different category. The Federal Drug Administration maintains a watch list of side effects with monthly updates (http://www.fda.gov/Safety/MedWatch/default.htm) and clients can sign up for a monthly newsletter by following a link on this website.

psychosurgery
A form of brain surgery, the purpose of which is to reduce psychological disturbance.

Biological treatments also include a second major category of interventions. **Psychosurgery** is a treatment in which a neurosurgeon operates on brain regions, thought to be responsible for the individual's symptoms. The first modern use of psychosurgery was a prefrontal lobotomy, which the Portuguese neurosurgeon Egas Moniz developed in 1935. By severing the prefrontal lobes from the rest of the brain, Moniz found that he was able to reduce the individual's symptoms. Unfortunately, the procedure also caused severe personality changes including loss of motivation. The technique was regarded as a major breakthrough at the time, leading Moniz to be honored with a Nobel Prize in 1949. In the 1960s, when psychotherapeutic medications became available, psychiatrists had an alternative to prefrontal lobotomies, allowing them to reduce a patient's symptoms without resorting to this extreme measure.

deep brain stimulation (DBS)
A somatic treatment in which a neurosurgeon implants a microelectrode that delivers a constant low electrical stimulation to a small region of the brain, powered by an implanted battery; also called *neuromodulation.*

Modern psychosurgery relies on targeted interventions designed to reduce symptoms in patients who have proven otherwise unresponsive to less radical treatment (Figure 4). Each type of psychosurgery targets a specific region of the brain that researchers believe is involved as a cause of symptoms. With higher levels of precision that reflect advances in surgical techniques, neurosurgeons can produce a lesion in a specific brain region to provide symptom relief. For individuals with severe obsessive-compulsive or major depressive disorder, the lesions target the cortex, striatum, and thalamus. **Deep brain stimulation (DBS),**

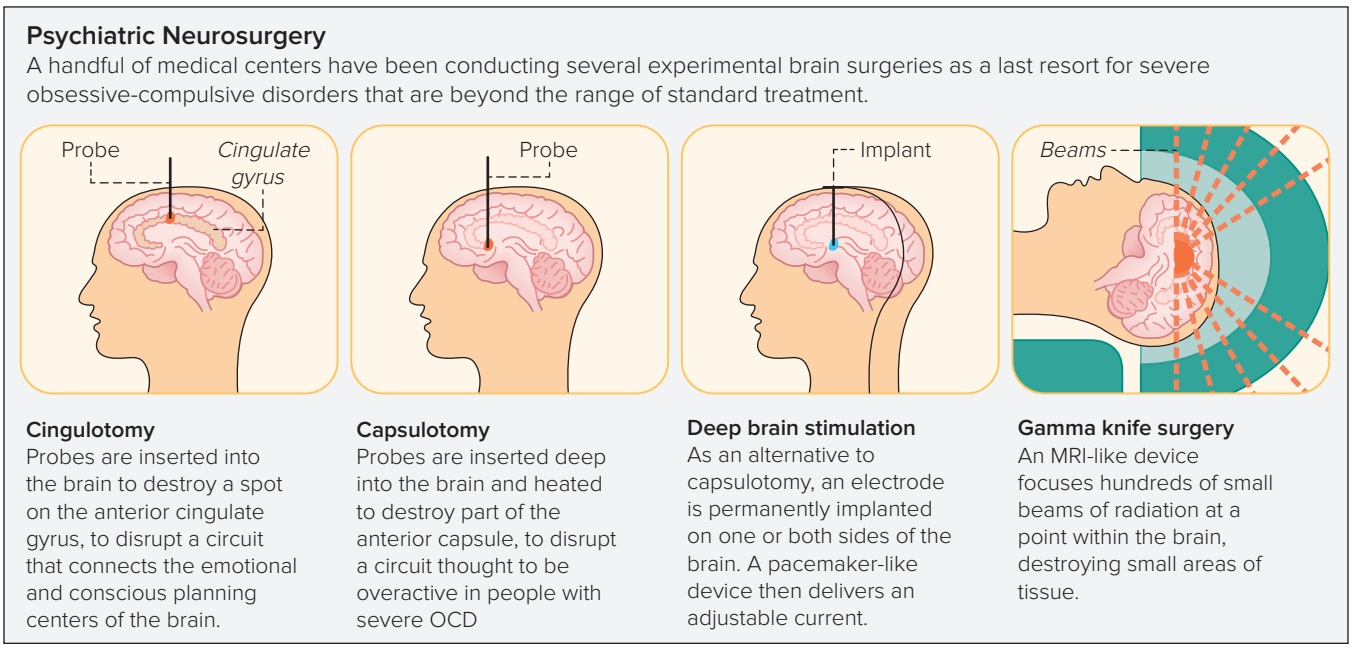


FIGURE 4 Forms of Psychosurgery for Treating Severe Obsessive-Compulsive Disorder That Are Beyond the Range of Standard Treatment

What's in the *DSM-5*

Theoretical Approaches

Versions of the *DSM* prior to *DSM-III* were based almost entirely on clinical judgments framed within the psychodynamic model of abnormality. The *DSM* used terms such as "neurosis" and "psychosis," which had meaning in the psychodynamic world, to differentiate disorder categories. For example, anxiety disorders fell into the category of neurosis because their primary symptoms included irrational fears and worries. It labeled schizophrenia a psychotic disorder because its primary symptoms involve lack of contact with reality and other cognitive distortions. The *DSM-III* authors reconceptualized their approach along two major lines. First, they intended it to be atheoretical—meaning that there was no underlying theory, psychodynamic or otherwise. Second, they intended the diagnostic criteria to be ones that a variety of mental health professionals could reliably evaluate. The *DSM-III* Task Force therefore commissioned studies in which researchers could evaluate the reliability of the diagnostic criteria. Rather than use the rather vague terminology (such as neurosis) that could be open to various interpretations, the *DSM-III* diagnostic spelled out criteria in exacting levels of detail. The *DSM-IV* and its later revision, the *DSM-IV-TR,* carried on this tradition of specifying diagnostic criteria in research-based, objective terms.

The *DSM-5* continues this empirical tradition and remains atheoretical. Critics now maintain that the authors should, instead, have developed a system that recognizes the known (to date) underpinnings of many of the disorders (Hyman, 2011). Rather than maintain the distinct categorical system of previous *DSM*s, disorders that share common features, whether in terms of symptoms, risk factors, or shared neural abnormalities, they believed that the *DSM-5* should have represented on spectrums or larger grouping systems. Although the *DSM-5* task forces considered making this radical change, they eventually decided to maintain the previous categories, albeit with some alterations. The move away from categories and toward dimensions would have required not only a massive restructuring, but also a need to retrain clinicians who were trained on the previous *DSM*s. These changes would also reinforce the medical model because they would lead to a system more similar to the diagnosis of physical diseases than psychological.

Whether future *DSM*s move away from the present system will depend largely on developments in the field of psychopathology. Section III of the *DSM-5* contains a dimensional system that clinicians can use to supplement their formal diagnoses of the personality disorders. Diagnoses are now in groups or chapters according to their presumed underlying similarities or causes. Ultimately, the authors will make decisions on empirical grounds, which will maintain the intent of *DSM* to maintain its atheoretical basis.

also called *neuromodulation,* is another form of psychosurgery in which permanently implanted electrodes trigger responses in specific brain circuits, as needed (Shah, Pesiridou, Baltuch, Malone, & O'Reardon, 2008).

In **electroconvulsive therapy (ECT),** electrodes attached across the head produce an electric shock that produces brief seizures. Ugo Cerletti, an Italian neurologist seeking a treatment for epilepsy, developed this method in 1937 and it became used for psychiatric disorders because of its seemingly therapeutic side effects. ECT became increasingly popular in the 1940s and 1950s, but, as the movie *One Flew over the Cuckoo's Nest* famously depicts, staff in psychiatric hospitals also misused it as a way to restrain violent patients.

Even though ECT had largely fallen into disuse by the mid-1970s, psychiatrists continued to use it to treat a narrow range of disorders. A comprehensive review of controlled studies using ECT for treatment of major depressive disorder showed that, in the short term, ECT was more effective than medications in producing rapid improvement of symptoms; however, there are long-term ECT consequences, including memory impairment (UK ECT Review Group, 2003).

4.3 Trait Theory

electroconvulsive therapy (ECT)
The application of electrical shock to the head for the purpose of inducing therapeutically beneficial seizures.

personality trait
An enduring pattern of perceiving, relating to, and thinking about the environment and others.

As much a theory about normal personality functioning as about psychological disorders, the trait theory approach proposes that psychopathology develops when the individual has maladaptive **personality traits.** In the chapter "Assessment", we mentioned briefly that some assessment methods focus on measuring these qualities of personality, which psychologists think of as stable, enduring dispositions that persist over time. For many personality trait theorists, these components of psychological functioning are more than long-standing qualities of personality but are actually genetically inherited.

It is easy for most people to relate to trait theory because it fits so closely with the use of the term "personality" in everyday life. When you think about how to describe the personality of someone you know, you will likely come up with a list of qualities that seem to fit the individual's typical way of behaving. These characteristics typically take the form of adjectives such as "friendly," or "calm," or perhaps, "anxious" and "shy." Trait theories of personality propose that adjectives such as these capture the essence of the

individual's psychological makeup. The fact that people use these adjectives in everyday life to describe themselves and others agrees with the basic principle of trait theory—namely, that personality is equivalent to a set of stable characteristic attributes.

The predominant trait theory in the field of abnormal psychology is the **Five Factor Model,** also called the "Big Five" (Figure 5) (McCrae & Costa, 1987). According to this theory, each of the basic five dispositions has six facets, which leads to a total of 30 personality components. The Five Factor Model includes the personality traits of neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness (conveniently, they spell out "OCEAN" or "CANOE"). A complete characterization of an individual on the five factors involves providing scores or ratings on each facet.

According to trait theory, where people fall on the 30 facets strongly influences the shape of their lives. People high on personality traits representing riskiness (thrill seeking) are more likely to get hurt because their personalities lead them into situations that can land them in trouble. Similarly, people high on the traits that define the less psychologically healthy end of each continuum may be more likely to experience negative life events because their personalities make them more vulnerable to life stresses. According to the Five Factor Model, although circumstances can change personality, it's more likely that personality molds circumstances.

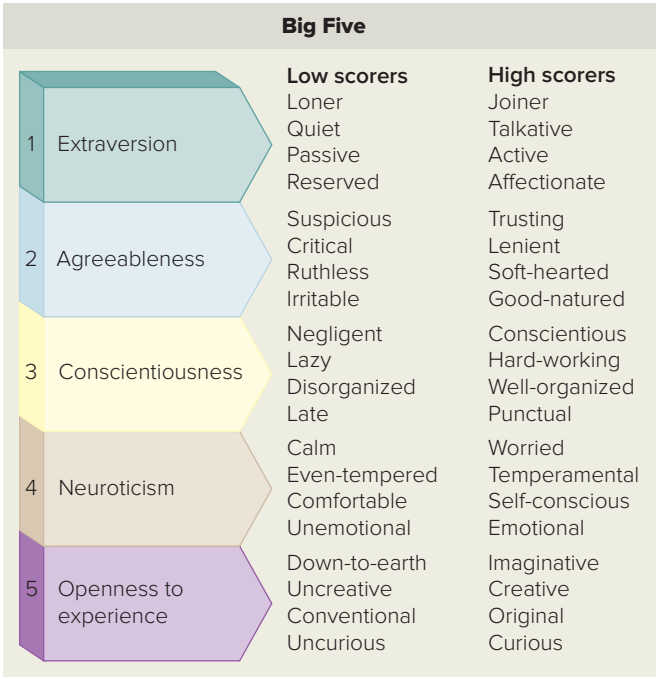


FIGURE 5 Five Factor Model of Personality

http://dandebat.dk/eng-person3.htm

However, according to research using highly sophisticated data analytic designs to follow up on people over time, people can change even their fundamental personality traits. Most of the research is based on samples whose scores fall within the normal range of functioning. For example, as people get older, they are less likely to act impulsively (Terracciano, McCrae, Brant, & Costa, 2005).

Five Factor Model (or "Big Five")
Trait theory proposing that there are five basic dispositions in personality.

The main value of understanding personality trait theory is that it provides a perspective for examining personality disorders. Research based on the Five Factor Model became the basis for the current attempts to reformulate the personality disorders in the *DSM-5*. Although the Five Factor Model does not necessarily provide a framework for psychotherapy, it has proven valuable as a basis for personality assessment within the context of understanding an individual's characteristic behavior patterns (Bastiaansen, Rossi, Schotte, & De Fruyt, 2011).

MINI CASE

Trait Theory Approaches to Treating Meera

Because trait theory does not incorporate treatment, there are no obvious ways in which a clinician would apply this perspective to Meera's depression. However, as Dr. Tobin noted in the Case Report, Meera's Axis II diagnosis is deferred. Assessment of Meera's personality traits could assist in determining whether she in fact would receive such a diagnosis. Even if she does not have a personality disorder, it is possible that Meera's personality trait profile would be relevant to treatment. For example, she seems not to be overly introverted, as she interacts frequently with friends. Her depressive symptoms appear not to be overlaid onto personality traits that include high neuroticism. She seems to enjoy activities that involve creativity and exploration of the outdoors, indicating a normative personality for her age in openness to experience. Prior to her depressive episode, she was, at least, average in conscientiousness, as her successful work history indicated, and there is no evidence to suggest that she is unusually low in agreeableness. Meera's clinician would most likely order an assessment that includes a personality trait-based measure to confirm these hypotheses and to determine whether or not she has a comorbid personality disorder.

4.4 Psychodynamic Perspective

psychodynamic perspective
The theoretical orientation in psychology that emphasizes unconscious determinants of behavior.

The **psychodynamic perspective** emphasizes unconscious determinants of behavior. Of all the psychological approaches, the psychodynamic gives greatest emphasis to the role of processes beneath the surface of awareness as influences on abnormality.

Freud's Theory

Emerging out of his interest in the cause of unusual symptoms in his clients, in the late 1800s, Sigmund Freud began to explore the idea that it was possible to study and explain the causes, and symptoms, of psychological disorders. By the time of his death in 1939, Freud had articulated a vision for psychological disorder cause and treatment with the basic tenet that most symptoms had roots buried deep within an individual's past.

id
In psychoanalytic theory, the structure of personality that contains the sexual and aggressive instincts.

libido
An instinctual pressure for gratification of sexual and aggressive desires.

pleasure principle
In psychoanalytic theory, a motivating force oriented toward the immediate and total gratification of sensual needs and desires.

ego
In psychoanalytic theory, the structure of personality that gives the individual the mental powers of judgment, memory, perception, and decision making, enabling the individual to adapt to the realities of the external world.

reality principle
In psychoanalyic theory, the motivational force that leads the individual to confront the constraints of the external world.

According to Freud (1923), the mind has three structures: the id, the ego, and the superego. The **id** is the structure of personality hidden in the unconscious that contains instincts oriented toward fulfilling basic biological drives, including gratification of sexual and aggressive needs. Its primal instincts are referred to as the **libido.**

The id follows the **pleasure principle,** a motivating force that seeks immediate and total gratification of sensual needs and desires. According to Freud, we can only obtain pleasure when we are able to reduce the tension of an unmet drive. The id, however, does not require tangible gratification of a need. Instead, the id can use wish fulfillment to achieve its goals. Through wish fulfillment, the id conjures an image of whatever will satisfy the needs of the moment.

The center of conscious awareness in personality is the **ego,** the structure of personality that gives the individual the cognitive powers of judgment, memory, perception, and decision making. Freud (1911) described the ego as being governed by the **reality principle,** meaning that the ego tries to deal with real-life constraints to achieve its goals. You may want to grab someone else's donut (id) but realize that the best you can hope for is for that person to offer you a bite or two (ego). In contrast to the id's illogical

Sigmund Freud believed that an individual's dreams held vital information about innermost wishes and desires that could be understood through dream analysis.

TABLE 3 **Categories and Examples of Defense Mechanisms**

Defense Mechanism	Definition
Displacement	Shifting unacceptable feelings or impulses from the target of those feelings to someone less threatening or to an object
Intellectualization	Resorting to excessive abstract thinking rather than focus on the upsetting aspects of response to issues that cause conflict or stress
Reaction formation	Transforming an unacceptable feeling or desire into its opposite in order to make it more acceptable
Repression	Unconsciously excluding disturbing wishes, thoughts, or experiences from awareness
Denial	Dealing with emotional conflict or stress by refusing to acknowledge a painful aspect of reality or experience that would be apparent to others
Projection	Attributing undesirable personal traits or feelings to someone else to protect one's ego from acknowledging distasteful personal attributes
Sublimation	Transferring an unacceptable impulse or desire into a socially appropriate activity or interest
Regression	Dealing with emotional conflict or stress by reverting to childish behaviors

primary process thinking, **secondary process thinking**—logical analytic approaches to problem solving—characterize the ego functions.

The third part of the equation in psychodynamic theory is the **superego,** which is the personality's seat of morality. The superego includes the conscience (sense of right and wrong) and the ego ideal, or aspirations. The superego would instruct you, for example, that to take someone else's donut would constitute theft and therefore be morally wrong.

In a healthy individual's personality, as stated by Freud, the id achieves instinctual desires through the ego's ability to navigate in the external world within the confines that the superego places on it. Psychodynamics, or the interplay among the structures of the mind, is thus the basis for both normal and pathological functioning.

Freud believed people were primarily sexual and aggressive in content, and therefore need protection from knowing about their own unconscious desires. They do so by using **defense mechanisms** (Table 3). According to Freud, everyone uses defense mechanisms on an ongoing basis to prevent recognizing the existence of these desires. They create problems when an individual fails to come to terms completely with his or her true unconscious nature.

The topic of development forms an important piece of Freud's theory. In 1905, he proposed that there is a normal sequence of development through a series of what he called **psychosexual stages.** Freud claimed that children go through these stages in accordance with the development of their libido. At each stage, the libido becomes fixated on a particular "erogenous" or sexually excitable zone of the body.

According to Freud, an individual may regress to behavior appropriate to an earlier stage or may become stuck, or fixated, at that stage. For example, the "anal retentive" personality is overly rigid, controlled, and perfectionistic. Freud believed that the adult personality reflects the way in which the individual resolves the psychosexual stages in early life, though some reworking may occur at least up through middle adulthood. Freud also believed that the child's feelings toward the opposite-sex parent set the stage for later psychological adjustment. The outcome of what he called the **Oedipus complex** (named after a tragic character in ancient Greece) determined whether the individual has a healthy ego or would spend a life marred by anxiety and repressed conflictual feelings

secondary process thinking
In psychoanalytic theory, the kind of thinking involved in logical and rational problem solving.

superego
In psychoanalytic theory, the structure of personality that includes the conscience and the ego ideal; it incorporates societal prohibitions and exerts control over the seeking of instinctual gratification.

defense mechanisms
Tactics that keep unacceptable thoughts, instincts, and feelings out of conscious awareness and thus protect the ego against anxiety.

psychosexual stages
According to psychoanalytic theory, the normal sequence of development through which each individual passes between infancy and adulthood.

Oedipus complex
The child's feelings, according to Freud, toward the opposite-sex parent that peaks in early childhood.

MINI CASE

Psychodynamic Approaches to Treating Meera

A clinician working with Meera from a psychodynamic perspective would assume that her difficulties stem from conflicts in early life. For example, the clinician would explore the resentment that she feels toward her parents for favoring her sister and her possible guilt over breaking away from the family when she established her own independent life. In treatment, the clinician would observe whether Meera reenacts the conflicted feelings she has toward her parents onto the relationships that Meera establishes with the clinician. CCRT would seem particularly appropriate for Meera, given the possible role of these difficult relationships in triggering her depressive disorder. Meera's depressive symptoms would warrant a time-limited approach focusing on her current episode with the option that she would seek treatment in the future if her depression recurs.

associated with wanting to engage in what society deems to be taboo behavior (i.e., incest). In the course of ordinary development, children's desire for the opposite-sex parent eventually submerges beneath the surface of conscious awareness, therefore posing no further threat to their sense of self-acceptance.

Post-Freudian Psychodynamic Views

Freud developed his theory in the context of his clinical practice, but he also encouraged like-minded neurologists and psychiatrists to work together to develop a new theory of the mind. Over a period of years, they spent many hours comparing notes about their clinical cases and trying to come to a joint understanding about normal and pathological functioning. Although they shared many of the same views when they began their discussions, several went on to develop their own unique brand of psychodynamic theory and now have their own schools of thought.

The most notable departure from Freud's school of thought came when Swiss psychiatrist Carl Jung (1875–1961) revamped the definition of the unconscious. According to Jung (1961), the unconscious is formed at its very root around a set of images common to all human experience, which he called **archetypes.** Jung believed that people respond to events in their daily lives on the basis of these archetypes, because they are part of our genetic makeup. For example, Jung asserted that archetypal characters (such as today's Batman and Superman) are popular because they activate the "hero" archetype. In addition,

archetypes
In Jung's theory, a set of images common to all human experience.

Jung's archetype theory would explain that popular superheroes are outward representations of universal aspects of human personality.

According to Alfred Adler's theory, this person may be portraying himself negatively to others due to a sense of low self-worth and inferiority.

Karen Horney believed the ego to be a central aspect of human functioning.

Jung believed that psychopathology resulted from an imbalance within related parts of the mind, especially when people fail to pay proper attention to their unconscious needs.

One group or category of post-Freudian theorists advocated for the study of **ego psychology.** These theorists believed that the ego, not the id, was the main driving force in personality.

ego psychology
Theoretical perspective based on psychodynamic theory emphasizing the ego as the main force in personality.

Alfred Adler (1870–1937) focused on the "inferiority complex" as a cause of psychopathology. Neurotic individuals, he maintained, try to overcompensate for feelings of inferiority by constantly "striving for superiority." Karen Horney (1885–1952) proposed that neurotic individuals put up a false front to protect their very fragile true sense of self. Both Adler and Horney also emphasized social concerns and interpersonal relations in the development of personality. They saw close relationships with family and friends and an interest in the life of the community as gratifying in their own right, not because a sexual or an aggressive desire is indirectly satisfied in the process, as Freud might say.

Perhaps the only psychodynamic theorist to give attention to the whole of life, not just childhood, was Erik Erikson (1902–1994). Like Adler and Horney, Erikson gave greatest attention to the ego, or what he called "ego identity." In fact, we associate Erikson with the term "identity crisis," a task that he believed was central to development in adolescence.

Erikson believed that the ego goes through a series of transformations throughout life in which a new strength or ability can mature. According to his theory, each stage builds on the one that precedes it, and in turn, influences all the stages that follow it. However, Erikson proposed that any stage could become a major focus at any age—identity issues can resurface at any point in adulthood, even after a person's identity is relatively set. For example, a middle-aged woman who is laid off from her job may once again question her occupational identity as she seeks to find a new position for herself in the workforce.

Yet another group of psychodynamically oriented theorists focused on **object relations,** namely, the relationships that people have with the others ("objects") in their lives. These theorists included John Bowlby (1907–1990), Melanie Klein (1882–1960), D. W. Winnicott (1896–1971), Heinz Kohut (1913–1981), and Margaret Mahler (1897–1995). As with the ego psychologists, the object relations theorists each have a particular model of therapy that we associate with their theories. However, they all agree that early childhood relationships are at the root of abnormality.

object relations
One's unconscious representations of important people in one's life.

Attachment theorists believe that a child transfers emotional bonding from the primary caregiver to an object, such as a teddy bear, and eventually from this object to people outside the family.

Despite the differences among them, all theorists in the object relations perspective believed that the individual's relationship with the caregiver (usually the mother) becomes an inner framework or model for all close adult relationships. Themes of your adult relationships, in other words, reflect themes from your early childhood and how your caregivers (mother, father, other adults) treated you.

attachment style
The way a person relates to a caregiver figure.

Putting their theory to the test, Canadian psychologist Mary Salter Ainsworth (1913–1999) and her associates (1978) studied differences among infants in **attachment style,** or the ways they related to a caregiver figure. She developed the "strange situation," an experimental setting in which researchers separated infants from and then reunited them with their mothers. Children who accepted the mother's leaving and then her return were regarded as securely attached. Those who either became frantic, on the one hand, or seemed distant and remote, at the other extreme, were considered insecurely attached.

Although designed as a theory of child development, later researchers have adapted the concept of attachment style to apply to adult romantic relationships. Most children develop secure attachment styles, and later in life relate to their close romantic partners without undue anxiety about whether or not their partners will care about them. Those who are insecurely attached in childhood, however, may show a pattern in adulthood of anxious attachment in which they feel they cannot rely on their partner's love and support. Alternatively, insecurely attached adults may show a dismissive or avoidant attachment style in which they fear rejection from others, and therefore try to protect themselves by remaining distant.

An individual's attachment style may also influence how he or she responds to psychotherapy. Across 19 separate studies involving nearly 1,500 clients, researchers found that attachment security was positively related to therapy outcome. Individuals with a secure attachment style, these researchers showed, are better able to establish a positive working relationship with their therapists, which, in turn, predicts positive therapy outcomes (Levy, Ellison, Scott, & Bernecker, 2011).

Treatment

free association
A method used in psychoanalysis in which the client speaks freely, saying whatever comes to mind.

The main goal of traditional psychoanalytic treatment as developed by Freud was to bring repressed, unconscious material into conscious awareness. To accomplish this task, Freud developed the therapeutic method of **free association,** in which the client literally

says whatever comes to mind during the treatment session. Freud believed that clients needed to work through their unconscious conflicts, bringing them gradually into conscious awareness by speaking them aloud. Eventually they could gain insight into the forces that produced those thoughts and words.

Current psychodynamic treatment is focused on helping clients explore aspects of the self that are "unconscious" in the sense that the client does not recognize them. Therapists focus in particular on how clients reveal and influence these aspects of the self in their relationship with the therapist. The key elements of psychodynamic therapy involve exploring the client's emotional experiences, use of defense mechanisms, close relationships with others, past experiences, and exploration of fantasy life in dreams, daydreams, and fantasies (Shedler, 2010).

Psychodynamic therapists also use **transference** to help inform their treatment in which they analyze the feelings their clients seem to have toward them. The idea behind this is that clients regard their therapists in a way similar to the way they felt about their parents because they see their therapists as important figures in their lives. In the context of therapy, these feelings can be examined and put to valuable use.

transference
The carrying over of feelings that clients have from their parents to their therapists.

Unlike the stereotyped portrayal that you might see in movies or on television, clinicians need not conduct psychodynamic therapy on a couch, for years at a time, or in total silence. However, given the impracticality of maintaining such a long-term and intense form of treatment, psychotherapists began developing briefer and seemingly as effective forms of psychodynamic therapy. Instead of attempting to revamp a client's entire psychic structure, psychotherapists using these methods focus their work on a specific symptom or set of symptoms for which the client is seeking help. The number of sessions can vary, but rarely exceeds 25. Unlike traditional psychodynamic therapy, the therapist takes a relatively active approach in maintaining the focus of treatment on the client's presenting problem or issues immediately relevant to that problem (Lewis, Dennerstein, & Gibbs, 2008).

In one version of brief psychodynamic therapy, the clinician identifies the client's "Core Conflictual Relationship Theme (CCRT)." The clinician assesses the client's wishes, expected responses from others, and client responses either to the responses of others or to the wish itself. Clients describe specific instances in their relationships with others that allow the clinician to make the CCRT assessment. The clinician then works with the clients in a supportive way to help them recognize and eventually work through these patterns (Jarry, 2010).

Clearly, the psychodynamic perspective has come a long way from traditional Freudian psychoanalysis, although it maintains its focus on helping clients understand and overcome interpersonal issues from their past that continue to create challenges in their present lives.

4.5 Behavioral Perspective

According to the **behavioral perspective,** the individual acquires maladaptive behavior through learning. Consistent with its name, the focus of this perspective is on the individual's observable behavior, the factors that might precipitate it, and the consequences that maintain it over time.

behavioral perspective
A theoretical perspective in which it is assumed that abnormality is caused by faulty learning experiences.

Theories

The two main approaches within the behavioral perspective differ in their focus on either emotional, involuntary reactions such as fear or on complex, voluntary actions such as engaging in an unwanted or undesirable habit.

Classical conditioning is the process in the behavioral perspective that accounts for the learning of emotional, automatic responses. For example, if you were trapped in a smoke-filled room with no immediate escape, you might in the future experience fear every time you hear a loud buzzing noise that sounds like the fire alarm that blared in

classical conditioning
The learning of a connection between an originally neutral stimulus and a naturally evoking stimulus that produces an automatic reflexive reaction.

aversive conditioning
Classical conditioning in which the individual associates a maladaptive response with a stimulus that could not itself cause harm.

operant conditioning
A learning process in which an individual acquires behaviors through reinforcement.

reinforcement
The "strengthening" of a behavior, in operant conditioning, through the pairing of the behavior with its consequences.

social learning theory
Perspective that focuses on understanding how people develop psychological disorders through their relationships with others and through observation of other people.

vicarious reinforcement
A form of learning in which a new behavior is acquired through the process of watching someone else receive reinforcement for the same behavior.

self-efficacy
The individual's perception of competence in various life situations.

You Be the Judge

Evidence-Based Practice

As we discussed in the chapter "Diagnosis and Treatment", APA adopted principles of evidence-based practice that provide guidelines for clinicians to follow in their provision of psychological treatment. In this chapter, you've learned about the wide range of theoretical models available to clinicians, ranging from psychosurgery at one extreme, to family therapy at another. Given the recommendation that psychologists provide treatment best suited to the client's psychological disorder, the question becomes one of ensuring that each clinician has the ability to provide treatment within each of these theoretical models. However, is this a realistic assumption? Can we expect a clinician literally to be knowledgeable about each theoretical perspective thoroughly enough to be able to give clients the most effective interventions?

As research within clinical psychology and related fields continues to expand by an almost exponential rate, how can each clinician stay on top of all of the latest developments well enough to be comfortable in providing the most recent approaches to each client? According to the APA Ethical Guidelines, clinicians should work within their areas of expertise, and if they must extend outside of this area, then they should seek consultation. Moreover, each state within the United States maintains strict regulations over licensing of psychologists to ensure that they participate in continuing education. As a result, there are many safeguards to give clients protection from receiving outdated or inappropriate intervention methods.

You be the judge: As a consumer of psychology, do you feel that it is more important for potential clients to see a clinician whom they trust based on reputation, prior experience, or recommendations from other people, or should they instead find a specialist who, in the theoretical perspective, most closely matches evidence-based standards? Can a respected "generalist" provide care that is as high quality as another professional who is more narrowly trained? Ultimately, clients have protection against inadequate care by the standards that govern each profession (counseling, psychiatry, psychology, social work). However, it also benefits consumers to stay abreast of the latest developments so that they can make the most informed choices possible.

Behavioral therapists often use a fear hierarchy to gradually expose individuals to their most feared situations, such as being trapped in a smoke-filled room with no escape.

the background while you awaited rescue. Much of the classical conditioning that behavioral clinicians attempt to help their clients overcome involves this type of **aversive conditioning** in which the individual associates a maladaptive response with a stimulus that could not itself cause harm.

The learning of complex, voluntary behaviors occurs through **operant conditioning** in which an individual acquires a maladaptive response by learning to pair a behavior with its consequences. The behavior's consequences are its **reinforcement**—the outcome that makes the individual more likely to repeat the behavior in the future. Reinforcement can take many forms. For example, through positive reinforcement, your friends may laugh when you express outrageous opinions, making you more likely to express those opinions in the future. You might also learn through negative reinforcement to take an over-the-counter sleep medication if you find that it helps alleviate your insomnia. Both negative and positive reinforcement increase the frequency of the behaviors that precede them. In these examples, the behaviors that increase are speaking outrageous opinions and taking sleep medication.

According to the behavioral perspective, you don't have to directly experience reinforcement in order for it to modify your behavior. Psychologists who study **social learning theory** believe that people can learn by watching others. Through **vicarious reinforcement,** you become more likely to engage in these observed behaviors. You can also develop ideas about your own abilities, or sense of **self-efficacy,** by watching the results of your own actions or those of other people with whom you

MINI CASE

Behavioral Approaches to Treating Meera

Following from the behavioral assumption that clients experiencing major depressive episodes have developed maladaptive responses, a behaviorally oriented clinician would give Meera the opportunity to learn new, adaptive behaviors. As you will learn in the chapter "Dissociative and Somatic Symptom Disorders", behavioral approaches to major depressive disorder involve having clients increase the frequency of positively reinforcing events. Meera would keep a diary of her interactions with friends, involvement in exercise, and other enjoyable activities, which she would then show to her therapist. To increase the frequency of these behaviors, Meera and her clinician would develop a set of rewards that would occur with their completion based on rewards that Meera would find desirable. For effective intervention, the clinician would need to ensure that Meera can realistically obtain her goals so that she continues to experience success in achieving them.

identify. For example, you may wonder whether you have the ability to overcome your fear of public speaking, but if you see a fellow student present successfully in class, this will build your feelings of self-efficacy, and you do well when it's your turn to get up and speak.

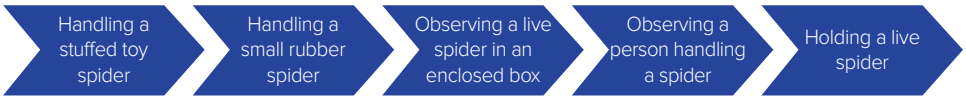
Treatment

Behavior therapists focus their therapeutic efforts on helping their clients unlearn maladaptive behaviors and replacing them with healthy, adaptive behaviors. In **counterconditioning,** which is most closely related to classical conditioning, clients learn to pair a new response to a stimulus that formerly provoked the maladaptive response. The new response is, in fact, incompatible with the old (undesirable) response. For example, you cannot be physically anxious and relaxed at the same time. Through counterconditioning, as developed by physician Joseph Wolpe (1915–1997), clients learn to associate the response of relaxation to the stimulus that formerly caused them to feel anxious. Clinicians teach clients to relax through a series of progressive steps—for example, by first relaxing the head and neck muscles, then the shoulders, arms, and so forth.

counterconditioning
The process of replacing an undesired response to a stimulus with an acceptable response.

The psychologist (in the aisle) teaches breathing exercises to his clients, to reduce their physiological tension and address the automatic thoughts they have about their fears of flying.

FIGURE 6 Fear Hierarchy in Systematic Desensitization



systematic desensitization
A variant of counterconditioning that involves presenting the client with progressively more anxiety-provoking images while in a relaxed state.

Counterconditioning often occurs in gradual stages using the **systematic desensitization** method. The therapist breaks down the maladaptive response into its smallest steps rather than exposing the client all at once to the feared stimulus. The client provides the therapist with a hierarchy, or list, of situations associated with the feared stimulus. Starting with the least fearful situation in the hierarchy, the clinician asks the client to imagine that situation and practice relaxing at the same time. After the client has established the connection between that image and relaxation, the clinician then moves up the hierarchy to the next level. Eventually, the client can confront the feared situation while at the same time feeling entirely relaxed. At any point, though, if the client suffers a setback, the clinician moves back down the hierarchy to help the client relearn to associate relaxation with the image at the previous lower level. Figure 6 shows an example of a fear hierarchy that a clinician might use in systematically desensitizing a person who fears spiders.

contingency management
A form of behavioral therapy that involves the principle of rewarding a client for desired behaviors and not providing rewards for undesired behaviors.

Based on principles of operant conditioning, **contingency management** is a form of behavioral therapy in which clinicians provide clients with positive reinforcement for performing desired behaviors. The client learns to connect the outcome of the behavior with the behavior itself, in order to establish a contingency or connection. The clinician works with the client to develop a list of positive reinforcements that the client can receive only after performing the desired behavior. For example, if the client is trying to quit smoking, the clinician suggests a schedule in which the client can receive the designated reinforcement after going without a cigarette for a specific amount of time (such as permission to play video games). Gradually, the client extends the time period until he or she is able to cease smoking altogether. One contingency management form that hospitals use is the **token economy,** in which residents who perform desired activities earn tokens that they can later exchange for tangible benefits (LePage et al., 2003).

token economy
A form of contingency management in which a client who performs desired activities earns chips or tokens that can later be exchanged for tangible benefits.

Behavioral treatments can also involve the principle of vicarious reinforcement, in which clinicians show models of people receiving rewards for demonstrating the desired behaviors (Bandura, 1971). For example, the clinician may show a video of someone who is enjoying playing with a dog to a client who is afraid of dogs. The vicarious reinforcement in this situation is seeing the other person's enjoyment of playing with the dog. The therapist might also use **participant modeling,** a form of therapy in which the therapist first shows the client a desired behavior and then guides the client through the behavior change.

participant modeling
A form of therapy in which the therapist first shows the client a desired behavior and then guides the client through the behavioral change.

Clinicians working within the behavioral perspective often provide their clients with homework assignments. The clinician may ask the client to keep a detailed record of the behaviors that he or she is trying to change, along with the situations in which the behaviors occur. The homework assignment might also include specific tasks that the clinician asks the client to perform with specific instructions for observing the outcome of completing those tasks.

4.6 Cognitive Perspective

cognitive perspective
A theoretical perspective in which it is assumed that abnormality is caused by maladaptive thought processes that result in dysfunctional behavior.

The **cognitive perspective** focuses on the way that people's thoughts influence their emotions. One of the fundamental assumptions of the cognitive perspective is that having "rational," or logical, thoughts will help pave the way toward individual's developing and maintaining psychological health.

Theories

Consistent with its emphasis on thoughts, the cognitive perspective proposes that psychological disorders are the product of disturbed thoughts. By changing people's thoughts, cognitive psychologists believe they can also help clients develop more adaptive emotions (Figure 7).

Especially problematic, according to the cognitive perspective, are **automatic thoughts**—ideas so deeply entrenched that the individual is not even aware that they lead to particular feelings. Automatic thoughts are the product of **dysfunctional attitudes,** which are negative beliefs about the self that are also deeply ingrained and difficult to articulate. Faulty logical processes contribute to the problem. Although everyone is illogical from time to time, people prone to certain psychological disorders draw conclusions about themselves that are consistently erroneous and therefore impact their emotions, self-concept, and interactions with others.

In one of the central models of the cognitive perspective, there is an "A-B-C" chain of events leading from faulty cognitions to dysfunctional emotions (Ellis, 2005). *A* refers to the activating experience, *B* to beliefs, and *C* to consequences. In people with psychological disorders, these beliefs take an irrational form of views about the self and the world that are unrealistic, extreme, and illogical. These irrational beliefs cause people to create unnecessary emotional disturbance because they think they "must" be a certain way, and when they're not, they unduly punish themselves. They then engage in unnecessary self-pity and may even refuse to seek help because they feel that they will never improve (see Figure 7).

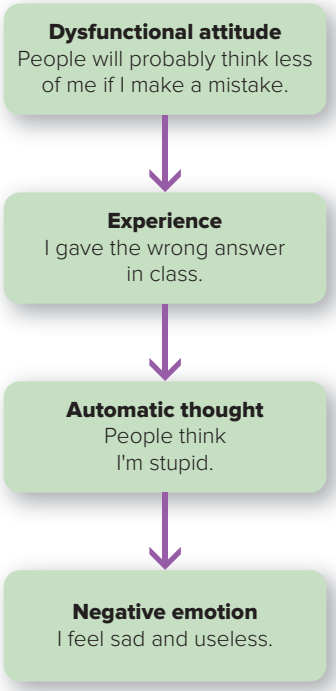


FIGURE 7 The Relationship Among Dysfunctional Attitude, Experience, Automatic Thought, and Negative Emotion

Adapted from A. T. Beck, A. J. Bush, B. F. Shaw, & G. Emery in *Cognitive Therapy of Depression.*

Treatment

If dysfunctional thoughts cause dysfunctional emotions, as the cognitive perspective proposes, then changing a person's thoughts should alleviate the distress that they cause. In **cognitive restructuring,** the clinician attempts to change the client's thoughts by questioning and challenging the client's dysfunctional attitudes and irrational beliefs. The clinician also makes suggestions that the client can test in behavior outside the therapy session. For example, the clinician might give the client the assignment of going to a party and trying to meet someone new instead of illogically assuming that they're socially undesirable.

In **cognitive-behavioral therapy (CBT),** as the term implies, clinicians focus on changing both maladaptive thoughts and maladaptive behaviors. Clinicians incorporate behavioral techniques such as homework and reinforcement with cognitive

automatic thoughts
Ideas so deeply entrenched that the individual is not even aware that they lead to feelings of unhappiness and discouragement.

dysfunctional attitudes
Personal rules or values people hold that interfere with adequate adjustment.

cognitive restructuring
One of the fundamental techniques of cognitive-behavioral therapy in which clients learn to reframe negative ideas into more positive ones.

cognitive-behavioral therapy (CBT)
Treatment method in which clinicians focus on changing both maladaptive thoughts and maladaptive behaviors.

MINI CASE

Cognitive Approach to Treating Meera

A clinician working within a cognitive perspective would treat Meera by helping her to develop more adaptive thoughts. From a strictly cognitive point of view, a clinician would focus on Meera's beliefs that she has let down her family and friends. The clinician would encourage Meera to challenge her conclusion and look with her at the basis for her assumption about her family's feelings toward her.

Combining the cognitive with a behaviorist approach, the clinician would also ask Meera to keep a record of her behaviors, including her participation in positively rewarding activities. However, unlike the strict behaviorist, a clinician working within the cognitive-behavioral perspective would also instruct Meera to keep a record of her dysfunctional thoughts, particularly those that exacerbate her negative emotions.

Acceptance and Commitment Therapy (ACT)
A form of cognitive therapy that helps clients accept the full range of their subjective experiences, such as distressing thoughts and feelings, as they commit themselves to tasks aimed at achieving behavior change that will lead to an improved quality of life.

humanistic perspective
An approach to personality and psychological disorder that regards people as motivated by the need to understand themselves and the world and to derive greater enrichment from their experiences by fulfilling their unique individual potential.

methods that increase awareness by clients of their dysfunctional thoughts. Clients learn to recognize when their appraisals of situations are unrealistically contributing to their dysfunctional emotions. They can then try to identify situations, behavior, or people that help them counteract these emotions. The central aim of CBT is to give clients greater control over their dysfunctional behaviors, thoughts, and emotions. Through this approach, CBT seeks to empower clients to find more adaptive ways to respond to life's challenges—thus not only improving current symptoms (such as depression or anxiety), but decreasing the likelihood that symptoms will reoccur in the future.

Cognitive theorists and therapists have continued to refine methods that target the problematic ways in which people view and deal with their psychological problems. **Acceptance and Commitment Therapy (ACT)** helps clients accept the full range of their subjective experiences, including distressing thoughts and feelings, as they commit themselves to tasks aimed at achieving behavior change that will lead to an improved quality of life (Forman, Herbert, Moitra, Yeomans, & Geller, 2007). Central to ACT's approach is the notion that, rather than fighting off disturbing symptoms, clients should acknowledge that they will feel certain unpleasant emotions in certain situations. By accepting rather than avoiding such situations, individuals can gain perspective and, in the process, feel that they are more in control of their symptoms.

Many psychologists today believe that early childhood experiences with primary caregivers influence how an individual behaves in interpersonal relationships throughout the life span.

4.7 Humanistic Perspective

Psychologists who adhere to the **humanistic perspective** believe that people are motivated to strive for self-fulfillment and meaning in life. The "human" in humanistic refers to the focus of this perspective on the qualities that make each individual unique. Unlike the behavioral perspective, which translates principles from animal research to the behavior of people, the humanistic perspective focuses specifically on the values, beliefs, and ability to reflect on our own experiences that separate humans from other species.

Theories

When these theories were first developed in the 1960s, humanistic theorists and clinicians saw their ideas as a radical departure from the traditional focus of psychology, which minimized the role of free will in human experience. These theorists also saw human behavior in much more positive terms and viewed psychological disorders as the result of restricted growth potential.

By the mid-twentieth century, psychologists who were disenchanted with the major theoretical approaches to understanding human behavior and psychological disorder had come to believe that psychology had lost its contact with the human side of human behavior. These humanists joined together to form the "third force" in psychology, with the intention of challenging psychoanalysis and behaviorism.

Existential psychology heavily influenced the work of humanistic theorists, a theoretical position that emphasizes the importance of fully appreciating each moment as it occurs (May, 1983). According to existential psychology, people who are tuned in to the world around them and experience life as fully as possible in each moment are the psychologically

healthiest. Psychological disorders arise when people are unable to experience living in the moment. People develop disorders not due to fundamental flaws in their biology or thoughts, but modern society imposes restrictions on our ability to express our inner selves (Frankl, 1963; Laing, 1959).

Two of the most prominent theorists within this tradition were Carl Rogers and Abraham Maslow. Both wrote about the ways that individuals can achieve fulfillment, but Rogers was far more clinically oriented than Maslow, whose theory is primarily one regarding motivation.

Carl Rogers's (1902–1987) **person-centered theory** focuses on each individual's uniqueness, the importance of allowing each individual to achieve maximum fulfillment of potential, and the individual's need to confront honestly the reality of his or her experiences in the world. In applying the person-centered theory to the therapy context, Rogers (1951) used the term **client-centered** to reflect his belief that people are innately good and that the potential for self-improvement lies within the individual rather than in the therapist or therapeutic techniques.

person-centered theory
The humanistic theory that focuses on the uniqueness of each individual, the importance of allowing each individual to achieve maximum fulfillment of potential, and the need for the individual to confront honestly the reality of his or her experiences in the world.

client-centered
An approach based on the belief held by Rogers that people are innately good and that the potential for self-improvement lies within the individual.

Rogers believed that a well-adjusted person's self-image should be congruent with the person's experiences. In this state of congruence, a person is fully functioning—meaning that the individual is able to put his or her psychological resources to their maximal use. Conversely, a psychological disorder is the result of a blocking of the individual's potential for living to full capacity, resulting in a state of incongruence or mismatch between self-image and reality. Congruence is not a static state, however; to be fully functioning means that the individual is constantly evolving and growing.

According to Rogers, psychological disorders have their origins in early life, when children are raised by parents who are harshly critical and demanding. Under such circumstances, people develop chronic anxiety about making mistakes that will cause their parents to disapprove of them even more. Rogers used the term "conditions of worth" to refer to the demands that parents place upon children in which they communicate the message that in order to be loved, they have to meet these criteria. As adults, they are constantly trying to meet the expectations of others instead of feeling that others will value them for their true selves even with flaws.

Abraham Maslow's (1962) humanistic model centers on the notion of **self-actualization,** the maximum realization of the individual's potential for psychological growth. According to Maslow, self-actualized people have accurate self-perceptions and are able to find rich sources of enjoyment and stimulation in their everyday activities. They are capable of peak experiences in which they feel a tremendous surge of inner happiness, as if they were totally in harmony with themselves and their world. But these individuals are not simply searching for sensual or spiritual pleasure. They also have a philosophy of life that is based on humanitarian and egalitarian values.

self-actualization
In humanistic theory, the maximum realization of the individual's potential for psychological growth.

Maslow defined the hierarchy of needs, which proposes that people are best able to experience self-actualization when they meet their basic physical and psychological needs. We call needs that are lower on the hierarchy *deficit needs,* because they describe a state in which the individual seeks to obtain something that is lacking. An individual who is preoccupied with meeting deficit needs cannot achieve self-actualization. For example, people who are motivated solely to make money (a lower-order need) will not be able to move up the hierarchy to self-actualization until they set their materialistic motives aside. Self-actualization is not a final end-state in and of itself, but a process in which the individual seeks true self-expression.

Treatment

A theory rich with implications for treatment, person-centered theory now forms the foundation of much of contemporary therapy and counseling. The client-centered model of therapy proposed specific guidelines for therapists to follow in order to ensure that clients are able to achieve full self-realization. According to Rogers, clinicians should

Individuals who are self-actualized are able to achieve a sense of fulfillment by helping others because they have already met their own needs.

focus on the client's needs, not on the preconceived clinician notions about what is best for the client. In fact, reflecting this emphasis on the inherent strengths of people seeking treatment, Rogers originated the use of the term "clients" because it implies a partnership between the helper and the person being helped. He preferred this to the illness-oriented term "patients."

Rogers believed that a clinician's job is to help clients discover their inherent goodness and in the process, to help each client achieve greater self-understanding. To counteract the problems caused by conditions of worth in childhood, Rogers recommended that therapists treat clients with **unconditional positive regard.** This method involves total acceptance of what the client says, does, and feels. As clients feel less self-critical, they become better able to tolerate the anxiety that occurs with acknowledging their own weaknesses because they no longer feel driven to see themselves as perfect. The clinicians try to be as compassionate as possible and gradually, the clients feel increasingly confident to reveal their true, inner selves because they know that the clinician will not reject or label them as inadequate.

unconditional positive regard
A method in client-centered therapy in which the clinician gives total acceptance of what the client says, does, and feels.

Contemporary humanistic and experiential therapists emphasize that, as much as possible, therapists can be most effective if they are empathic, or able to see the world from the eyes of their clients. Therapists working within the client-centered model are trained in the techniques of reflection and clarification in order to express empathic understanding. In reflection, the therapist mirrors back what the client has just said, perhaps rephrasing it slightly, and makes every attempt to see the client's situation as it appears to them. These techniques allow clients to feel that the clinician is empathically listening and not judging them.

Rogers also suggested that clinicians should provide a model of genuineness and willingness to disclose their personal weaknesses and limitations. By doing so, clients realize that they don't have to put up a false front of trying to appear to be something that they're not. Ideally, the client will see that it is acceptable and healthy to be honest in confronting one's experiences, even if those experiences have less than favorable implications. For example, the Rogerian clinician might admit to having experiences similar to those the client describes, such as feeling anxious about speaking before a group. This is the kind of self-disclosure that a Freudian psychoanalyst would never engage in, because it takes away from the therapist's status as being completely neutral. To a Rogerian clinician, the sharing of personal experiences (within bounds) helps the client to feel more accepted and understood.

MINI CASE

Humanistic Approaches to Treating Meera

In humanistic therapy, a clinician would treat Meera by focusing on her low feelings of self-worth. The clinician would explore how Meera was influenced by the negative comparisons her parents made when comparing her to her sister. The fact that they refused to accept Meera in the family unless she abided by their rules caused Meera to feel that people could not regard her as an individual on her own terms. The clinician would work with Meera to establish a firm therapeutic alliance by empathically listening to her descriptions of her feelings. Consistent with Carl Rogers's emphasis on becoming more aware of one's feelings, the clinician would encourage Meera to experience more fully her feelings regarding her rejection by her family and her sadness as a result of her disconnectedness from them. In this process, the clinician would help Meera identify her feelings and accept them without undue self-criticism.

Motivational interviewing (MI) is another client-centered technique that uses empathic understanding as a means of promoting behavioral change in clients (Miller & Rose, 2009). In motivational interviewing, the clinician collaborates with the client to strengthen the client's motivation to make changes by asking questions that elicit the individual's own arguments for change. MI, like the client-centered approach in general, emphasizes the client's autonomy.

motivational interviewing (MI)
A directive, client-centered style for eliciting behavior change by helping clients explore and resolve ambivalence.

4.8 Sociocultural Perspective

Theorists within the **sociocultural perspective** emphasize the ways that people, social institutions, and social forces influence people in the world around them. The sociocultural perspective reaches outside individuals to include factors that may contribute to their development of psychological disorders.

sociocultural perspective
The theoretical perspective that emphasizes the ways that individuals are influenced by people, social institutions, and social forces in the world around them.

Theories

Proponents of the **family perspective** see abnormality as caused by disturbances in the patterns of interactions and relationships that exist within the family. These disturbed patterns of relationships may create the "identified patient"—namely, the individual in treatment whose difficulties reflect strains within the family.

family perspective
A theoretical perspective in which it is assumed that abnormality is caused by disturbances in the pattern of interactions and relationships within the family.

According to family systems theorists, dysfunction within the family dynamic may be a main source of an individual's psychological distress.

REAL STORIES

Sylvia Plath, Major Depressive Disorder

At the age of 30, American poet Sylvia Plath succumbed to her lifelong battle with depression. On the night of February 11, 1963, with her two infant children asleep, Sylvia carefully placed towels under the crack of the doors to her children's bedroom and her kitchen, turned on the gas to her oven, and laid her head inside. She had left milk and bread in her children's room with the window open to the chilly London night so that their breakfast would be fresh for the morning. Only days prior, she had begun a course of antidepressants, and experts believe that her suicide occurred at a dangerous time in the course of treatment with such medications, when the individual–still depressed–becomes simultaneously more active, leading to an increased risk for suicide attempts. *Bitter Fame: A Life of Sylvia Plath*, by Anne Stevenson, chronicles the entire life and writings of the notoriously tortured writer through Sylvia's journal entries, personal letters, and interviews with those who were in her life. Born and raised around Boston, Massachusetts, Sylvia began writing at the age of 7. Her life experiences would serve to inspire her until the final days of her life. Throughout her childhood and adolescence, Sylvia produced an impressive number of poems and short stories that gave rise to her ultimate dream of being a professional writer. Perhaps the most influential event of her life was the sudden death of her father shortly after her eighth birthday. The event served to fuel her innermost fears and desires, and the loss of her father was an ever-present theme in her work. This loss also left her incredibly sensitive to depression following abandonment from others in her life, particularly romantic partners.

Sylvia grew up in the prototypical New England town of Wellesley, Massachusetts, and attended Smith College in Northampton, Massachusetts, on an academic scholarship. Although the transition to college was initially difficult for Sylvia, her intelligence and diligent work ethic helped her receive high grades and a prominent reputation at Smith. As she grew into young adulthood, Sylvia started to experience heightened moodiness and began to suffer from bouts of depression. At age 19, she attempted suicide by swallowing her mother's sleeping pills and hiding in a crawlspace in her house. It was 2 days before anyone discovered her in a semiconscious and dazed state. Following the attempt, Sylvia entered a nearby psychiatric hospital for a 4-month period, where she received electroconvulsive therapy (ECT). This marked a major turning point in her life and in her writing.

"Attributable to her ECT," Stevenson writes in *Bitter Fame*, "is the unseen menace that haunts nearly everything she wrote, her conviction that the world, however benign in appearance, conceals dangerous animosity, directed particularly toward herself." We can observe her deeply introspective nature in her personal journals that she faithfully kept throughout her life. Her journals served as an important source of self-expression in which she poured her every thought and feeling. She utilized this means of self-expression particularly in times of distress, offering readers an intimate view of her darkest moments.

Sylvia Plath in 1957.
© Bettman/Corbis

After her hospitalization, Sylvia returned to Smith and graduated in 1954, summa cum laude. She went on to pursue graduate studies on a prestigious Fulbright scholarship in Cambridge, England. As Sylvia matured professionally while studying at Cambridge, her romantic interests turned to a fellow poet whom she greatly admired, Ted Hughes. After meeting at a party, the two experienced an immediate attraction and, after a whirlwind romance, married in a secret ceremony in England. At the time, Sylvia was funded by a fellowship that she feared would dissipate should news of her marriage surface. Eventually, the couple became public with their union, and spent the first few months of their married life in Spain while Ted was teaching.

In *Bitter Fame*, Stevenson describes how Sylvia's mood shifts became highly pronounced after the initial period of marital bliss had faded. "Her moods seemed to soar and sink with alarming rapidity. Sylvia recorded in her journal her volatile and intense reactions to some unmentioned incident, possibly arising out of her husband's surprise at the rancor she displayed in a running tiff with the house owner, who wanted to raise the rent, or perhaps arising out of an evening when they had drinks with some English people who upset Sylvia. These moods, Ted found, were largely unaccountable: they began and ended like electric storms, and he came to learn simply to accept their occurrence."

The couple then moved overseas to Sylvia's home state of Massachusetts where Sylvia taught English courses at her alma mater, Smith College. Her initial excitement about the prestige of teaching at such a renowned institution quickly gave way to her anxiety about the amount of work entailed and particularly how this left no time for her to work on her own writing. She was further plagued by crippling periods of self-doubt that propelled her again into depression. She wrote, "Last night I

felt . . . the sick, soul-annihilating flux of fear in my blood switching its current to defiant fight. I could not sleep, although tired, and lay feeling my nerves shaved to pain and the groaning inner voice: oh, you can't teach, can't do anything. Can't write, can't think. And I lay under the negative icy flood of denial, thinking that voice was all my own, a part of me, and it must somehow conquer me and leave me with my worst visions: having had the chance to battle it and win day by day, and having failed." Such thoughts of worthlessness are common to individuals suffering from major depression.

After a year of teaching, Sylvia and Ted moved to Boston, where they became part of a closely knit community of poets and writers. At this point, Ted had begun to gain considerable accolades for his writing, and the couple lived mainly off of his award money. This allowed Sylvia to spend the majority of her time developing her writing. When she was pregnant with the couple's first child, they moved to England, settling in an apartment in London, and then a home in the countryside prior to the birth of their second child.

Although by all accounts Ted was a devoted husband and father, Sylvia was stricken with fears of his infidelity and often accused him of extramarital affairs. On one occasion, Ted was late returning home from an interview with the BBC. She reacted by destroying a large portion of his writing materials, along with some of his most prized books. Eventually, the two separated (although they never divorced), and after Ted moved out of their home, Sylvia moved to a flat in London with their two children. Here, she experienced a surge of creative energy that produced many of her most famous poems. At this point Sylvia had completed her first and what was to be her only novel, *The Bell Jar*, a semi-autobiographical account of a young woman's journey through young adulthood, navigating the muddy waters of career, romance, and psychological distress. Much of the narrative of the book directly mirrors Sylvia's own experiences.

Her poetry, too, reflected her struggles as she continued to grapple with her deteriorating mental health. "As absorbed and intent as a cartographer," Stevenson writes in *Bitter Fame*, "Sylvia reported in her poems on the weather of her inner universe and delineated its two poles: 'stasis' and rage. At the depressed pole there was a turning in on herself, a longing for nonbeing . . . It was as though she looked in a glass and a huge mirror image of her traumatized childhood self stared back."

Although she was experiencing a surge of creativity, Sylvia was falling into a deep depression. She began seeing a psychiatrist who noted the severity of her condition. Unable to care for herself and her children, Sylvia stayed with friends while she tried to recuperate–too afraid to face another round of ECT in a psychiatric hospital. One day, Sylvia defiantly decided that she was ready to return to her flat with her children. Her friends, puzzled by her sudden determinism, tried in vain to persuade her to stay in their care. The very evening she went home, finally away from the watchful eyes of friends, Sylvia ended her short, yet intense life. In the years following her death, critics have come to regard Sylvia Plath as one of the most talented and influential poets of the twentieth century. Compiled by Ted Hughes, who went on to raise their two children with his second wife, *The Collected Poems*, a complete collection of Sylvia's poems, which she wrote between adolescence and the end of her life, won the Pulitzer Prize in 1982.

Researchers within the sociocultural perspective also focus on **social discrimination** as a cause of psychological problems. Discrimination on the basis of gender, race, sexual orientation, religion, social class, and age, for example, can contribute to disorders in the realms of physical and mental health. Starting in the 1950s, researchers established the finding that psychological disorders are more commonly diagnosed among people in lower socioeconomic strata (Hollingshead & Redlich, 1958). This relationship may reflect the fact that people of lower social class experience economic hardships and have limited access to quality education, health care, and employment. Socioeconomic discrimination is further compounded by membership in ethnic or racial minorities. When people have few opportunities or when they encounter oppression because of unalterable human characteristics, they are likely to experience inner turmoil, frustration, and stress, leading to the development of psychological symptoms.

social discrimination
Prejudicial treatment of a class of individuals, seen in the sociocultural perspective as a cause of psychological problems.

Psychological disorders can also emerge as a result of destructive historical events, such as the violence of a political revolution, the turmoil of a natural disaster, or the poverty of a nationwide depression. Since World War I, American psychologists have conducted large-scale studies of the ways in which war negatively affects psychological functioning. People who are traumatized as the result of terrorist attacks, exposure to battle, persecution, or imprisonment are at risk for developing serious anxiety disorders. Similarly, fires and natural disasters such as earthquakes, tornadoes, and hurricanes leave psychological as well as physical destruction in their wake.

Treatment

How do clinicians intervene with people suffering from conditions which sociocultural factors cause or exacerbate? Clearly, it is not possible to "change the world," but clinicians can play a crucial role in helping people come to grips with

problems that have developed within a family system, the immediate environment, or extended society.

In family therapy, the clinician encourages all family group members (however defined) to try new ways of relating to each other or thinking about their problems. The family therapist, sometimes working with a co-therapist, meets with as many family members as possible at one time. Rather than focusing on an individual's problems or concerns, family and couples therapists focus on the ways in which dysfunctional relational patterns maintain a particular problem or symptom. They also use a lifespan perspective in which they consider the developmental issues, not only of each individual, but of the entire family or couple. Furthermore, family and couples therapists see the continuing relationships among the family members as potentially more healing than the relationship between clinicians and clients.

The particular techniques that clinicians use in family therapy depend greatly on the therapist's training and theoretical approach. An intergenerational family therapist might suggest drawing a diagram of all relatives in the recent past, in an effort to understand the history of family relationships and to use this understanding to bring about change. A structural family therapist might suggest that a subset of the family members enact a disagreement as if they were characters in a play about the family. By doing so, the family members can step outside their current conflicts and see new ways of handling their recurring patterns of interaction. An experiential family therapist might work with the family members to develop insight into their relationships with each other by bringing the focus onto how they are feeling at the moment as they discuss their joint concerns.

In group therapy, people who share similar experiences share their stories with each other, aided by the facilitation of the therapist. According to Irvin Yalom (1931–), a founder of group therapy, clients can find relief and hope in the realization that their problems are not unique by hearing that others share their emotional experiences. In the group, they can also acquire valuable information and advice from people who share their concerns. Furthermore, in the process of giving to others, people generally find that they themselves derive benefit.

Clinicians use milieu therapy in treatment settings such as inpatient hospitals to promote positive functioning in clients by creating a therapeutic community. Community members participate in group activities, ranging from occupational therapy to training classes. Staff members encourage clients to work and spend time with other residents with the goal of increasing the positive bonds among them. Every staff person, whether a therapist, nurse, or paraprofessional, takes part in the overall mission of providing an environment that supports positive change and reinforces appropriate social behaviors. The underlying idea behind milieu therapy is that the pressure to conform to conventional social norms of behavior fosters more adaptive behavior on the part of individual clients. In addition, the normalizing effects of a supportive environment are intended to help the individual make a smoother and more effective transition to life outside the therapeutic community.

MINI CASE

Sociocultural Approach to Treating Meera

A clinician working within the sociocultural perspective would incorporate Meera's specific family issues within the context of her cultural background. Not only have Meera's symptoms emerged from her own construction of her family's attitude toward her work and relationship decisions, but they also reflect her cultural background, which places heavy emphasis on family obligations. By choosing a path that is different from that of her sister, Meera has, perhaps, in reality, or in her own perception, violated her family's expectations. The clinician might suggest that Meera be seen with her family, if possible, to work through these cultural and relational issues.

Although clinicians cannot reverse social discrimination, they can adopt a **multicultural approach** to therapy that relies on awareness, knowledge, and skills of the client's sociocultural context. For example, therapists need to be sensitive to the ways in which the client's cultural background interacts with his or her specific life experiences and family influences. In so doing, they make a commitment to learning about the client's cultural, ethnic, and racial group and how these factors play a role in assessment, diagnosis, and treatment. Multicultural skills include mastery of culture-specific therapy techniques that are responsive to a client's unique characteristics.

multicultural approach
To therapy: therapy that relies on awareness, knowledge, and skills of the client's sociocultural context.

4.9 Biopsychosocial Perspectives on Theories and Treatments: An Integrative Approach

Now that you have read about the major perspectives on abnormal behavior, you probably can see value in each of them. Certain facets of various theories may seem particularly useful and interesting. In fact, you may have a hard time deciding which approach is the "best." However, as we have said repeatedly, most clinicians select aspects of the various models, rather than adhering narrowly to a single one. In fact, in recent decades, there has been a dramatic shift away from narrow clinical approaches that are rooted in a single theoretical model. Increasingly, clinicians use approaches that are integrative or eclectic. The therapist views the needs of the client from multiple perspectives and develops a treatment plan that responds to these particular concerns.

Return to the Case: Meera Krishnan

Following a more comprehensive psychological assessment as her treatment plan indicated, the clinician determined that Meera would benefit the most from a cognitive-behavioral approach to psychotherapy in conjunction with medication. She followed up on both of these recommendations and saw a psychiatrist who prescribed her an SSRI. She met with her psychiatrist once per week for the first month of her medication course and then began to meet once per month for a check-in. Meera also began seeing a therapist for weekly psychotherapy sessions. Using a cognitive-behavioral perspective, the beginning of the work with her therapist focused on strategies such as behavioral activation that would help her cope with the depressive symptoms that were interfering with her functioning. Once her depression remitted, the therapy began to focus on Meera's maladaptive thought patterns regarding her interpersonal relationships. With help from her therapist, Meera recognized that she had created unachievable standards for herself, which she thought her friends and family were expressing. Looking more carefully at her relationships, she discovered that she was imposing these expectations upon herself and that her friends and family accepted her for who she was.

Dr. Tobin's reflections: Given her response to treatment, Meera's depression appears to be a result of both a biological vulnerability and a maladaptive thought process that began to emerge as she grew into adulthood. As such, it will be important for Meera to remain on the antidepressant medication to prevent future depressive episodes from occurring. Her therapist may recommend that she stay in therapy as it can take some time for her thought patterns to become more adaptive. Although she was already feeling better after only 2 months, given that her thought pattern has seemingly been present most of her life, it will be important for Meera to remain in therapy to ensure that she adapts to a more corrective way of coping with her environment and with stress. Meera's strong commitment to recovery helped motivate her to receive the treatment that she needed, and as a result, her prognosis is quite positive.

SUMMARY

- Theoretical perspectives influence the ways in which clinicians and researchers interpret and organize their observations about behavior. In this chapter, we discussed seven major theoretical perspectives: biological, trait theory, psychodynamic, behavioral, cognitive, humanistic, and sociocultural. We concluded the discussion with a consideration of an integrative approach in which theorists and clinicians bring together aspects and techniques of more than one perspective.
- Within the biological perspective, clinicians view disturbances in emotions, behavior, and cognitive processes as caused by abnormalities in the body's functioning, such as brain and nervous system, or endocrine system disorders. A person's genetic makeup can play an important role in precipitating certain disorders. In trying to assess the relative roles of nature and nurture, researchers have come to accept the notion of an interaction between genetic and environmental contributors to abnormality. Treatments that clinicians base on the biological model involve a range of somatic therapies, the most common of which is medication. More extreme somatic interventions include psychosurgery and electroconvulsive treatment (ECT).
- Trait theory proposes that abnormal behavior reflects maladaptive personality traits. The basic principle of trait theory is that personality is equivalent to a set of stable characteristics. In abnormal psychology, the predominant trait theory is the Five Factor Model, or "Big Five," which includes the personality traits of neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness ("OCEAN" or "CANOE"). Although the Five Factor Model does not necessarily provide a framework for psychotherapy, it does provide a perspective for assessing for personality disorders.
- The psychodynamic perspective is a theoretical orientation that emphasizes unconscious determinants of behavior and is derived from Freud's psychoanalytic approach. We use the term *psychodynamics* to describe interaction among the id, the ego, and the superego. According to psychodynamic theorists, people use defense mechanisms to keep unacceptable thoughts, instincts, and feelings out of conscious awareness. Freud proposed that there is a normal sequence of development through a series of psychosexual stages, with each stage focusing on a different sexually excitable zone of the body: oral, anal, phallic, and genital.
- Post-Freudian theorists such as Jung, Adler, Horney, and Erikson departed from Freudian theory, contending that Freud overemphasized sexual and aggressive instincts. Object relations theorists such as Klein, Winnicott, Kohut, and Mahler proposed that interpersonal relationships lie at the core of personality and that the unconscious mind contains images of the child's parents and of the child's relationships with them.
- Treatment within the psychodynamic perspective may incorporate techniques such as free association, dream analysis, transference, and resistance. Considerable debate about the tenets and techniques of the psychodynamic perspective continues to take place. Much of this debate focuses on the fact that psychodynamic concepts are difficult to study and measure and that some clinicians now regard Freudian notions as irrelevant in contemporary society. Newer approaches, based on object relations theory, have adapted the concept of infant attachment style to understanding the ways that adults relate to significant people in their lives.
- According to the behavioral perspective, faulty learning experiences cause abnormality. According to the cognitive-behavioral (sometimes called cognitive) perspective, maladaptive thought processes cause abnormality. Behaviorists contend that individuals acquire many emotional reactions through classical conditioning. Operant conditioning, with Skinner's emphasis on reinforcement, involves the learning of behaviors that are not automatic. Social learning theorists have studied the process of acquiring new responses by observing and imitating the behavior of others, which we call modeling. In interventions based on behavioral theory, clinicians focus on observable behaviors.
- Cognitive theories emphasize disturbed ways of thinking. Clinicians adhering to a cognitive perspective work with clients to change maladaptive thought patterns.
- At the core of the humanistic perspective is the belief that human motivation is based on an inherent tendency to strive for self-fulfillment and meaning in life, notions that were rooted in existential psychology. Carl Rogers's person-centered theory focuses on the uniqueness of each individual, the importance of allowing the individual to achieve maximum fulfillment of potential, and the need for the individual to confront honestly the reality of his or her experiences in the world. Maslow's self-actualization theory focuses on the maximum realization of the individual's potential for psychological growth. In client-centered therapy, Rogers recommended that therapists treat clients with unconditional positive regard and empathy, while providing a model of genuineness and a willingness to self-disclose.
- Theorists within the sociocultural perspective emphasize the ways that people, social institutions, and social forces influence individuals. Proponents of the family perspective see the individual as an integral component of the pattern of interactions and relationships that exists within the family. The four major approaches are intergenerational, structural, strategic, and experiential. Psychological disturbance can also arise as a result of discrimination that occurs with attributes such as gender, race, or age or of pressures associated with economic hardships. General social forces such as fluid and inconsistent values in a society, and destructive historical events such as political revolution, natural disaster, or nationwide depression also can adversely affect people. The nature of the group involved determines treatments within the sociocultural perspective. In family therapy, clinicians encourage family members to try new ways of

relating to each other and thinking about their problems. In group therapy, people share their stories and experiences with others in similar situations. Milieu therapy provides a context in which the intervention is the environment, rather than the individual, usually consisting of staff and clients in a therapeutic community.

- In contemporary practice, most clinicians take an integrative approach, in which they select aspects of various models rather than adhering narrowly to a single one. Three ways in which clinicians integrate various models include technical eclecticism, theoretical integration, and the common factors approach.

KEY TERMS

Acceptance and Commitment Therapy (ACT)
Allele
Archetypes
Attachment style
Automatic thoughts
Aversive conditioning
Behavioral perspective
Biological perspective
Classical conditioning
Client-centered
Cognitive-behavioral therapy (CBT)
Cognitive perspective
Cognitive restructuring
Contingency management
Counterconditioning
Deep brain stimulation (DBS)
Defense mechanisms
Diathesis-stress model
DNA methylation
Dysfunctional attitudes
Ego
Ego psychology
Electroconvulsive therapy (ECT)
Endophenotypes
Epigenesis
Epigenetics
Family perspective
Five Factor Model
Free association
Genes
Genome-wide association study (GWAS)
Genome-wide linkage study
Genotype
Humanistic perspective
Id
Libido
Milieu therapy
Motivational interviewing (MI)
Multicultural approach
Neuroleptics
Neurotransmitter
Object relations
Oedipus complex
Operant conditioning
Participant modeling
Personality trait
Person-centered theory
Phenotype
Pleasure principle
Polygenic
Psychodynamic perspective
Psychosexual stages
Psychosurgery
Psychotherapeutic medications
Reality principle
Reinforcement
Secondary process thinking
Self-actualization
Self-efficacy
Single nucleotide polymorphism (SNP)
Social discrimination
Social learning theory
Sociocultural perspective
Superego
Systematic desensitization
Theoretical perspective
Token economy
Transference
Unconditional positive regard
Vicarious reinforcement

Neurodevelopmental Disorders

OUTLINE

Case Report: Jason Newman
Intellectual Disability (Intellectual Developmental Disorder)
- Causes of Intellectual Disability
  - Genetic Abnormalities

What's in the *DSM-5*: Neurodevelopmental Disorders
- Environmental Hazards
- Treatment of Intellectual Disability

Autism Spectrum Disorder
- Theories and Treatment of Autism Spectrum Disorder
- Rett Syndrome

Real Stories: Daniel Tammet: Autism Spectrum Disorder
- High-Functioning Autism Spectrum Disorder, Formerly Called Asperger's Disorder

Learning and Communication Disorders
- Specific Learning Disorder
- Communication Disorders

Attention-Deficit/Hyperactivity Disorder (ADHD)
- Characteristics of ADHD
- ADHD in Adults
- Theories and Treatment of ADHD

You Be the Judge: Prescribing Psychiatric Medications to Children

Motor Disorders
- Developmental Coordination Disorder
- Tic Disorders
- Stereotypic Movement Disorder

Neurodevelopmental Disorders: The Biopsychosocial Perspective

Return to the Case: Jason Newman

Summary

Key Terms

Learning Objectives

5.1 Explain the characteristics and causes of intellectual disability.

5.2 Explain characteristics, theories, and treatment of autism spectrum disorder.

5.3 Differentiate among learning and communication, and communication disorders.

5.4 Explain characteristics, theories, and treatment of ADHD.

5.5 Describe motor disorders.

5.6 Analyze the biopsychosocial model of neurodevelopmental disorders.

CHAPTER 5

Case Report: Jason Newman

Demographic information: 8-year-old African-American male.

Presenting problem: Jason's third-grade teacher, Mrs. Brownstein, noted his increasingly hyperactive behavior and inability to pay attention in class since the first day of school. As she did not wish to cause alarm for Jason's parents, Mrs. Brownstein observed his behavior over the first few weeks of school to determine if settling into the classroom might decrease his rowdy behavior. However, his behavior only deteriorated as the weeks went on, and Mrs. Brownstein decided to contact his parents, Pam and John, and suggest a psychological evaluation for Jason. Though they had been advised by previous teachers to bring Jason to a psychologist, the Newmans' health insurance had not covered this expense, and they were unable to afford it on their own. However, it was becoming clear that treatment for Jason would be necessary in order for him to successfully complete his schooling. Fortunately, Mrs. Brownstein's husband is a child psychologist with a private practice, and he has agreed to evaluate Jason free of charge. Jason's mother, Pam, accompanies him to see Dr. Brownstein, who interviews her separately before seeing Jason. Pam explains that Jason has been a "very fidgety child" from infancy but that his disruptive and often inappropriate behavior in school has been getting notably worse over the past 3 years. Because he was the first child for the couple, Pam did not perceive that his apparent abundance in energy was abnormal. The couple also has a 4-year-old child, Nicholas, whose behavior as an infant was much "calmer" in comparison, which further alerted them that something was different about Jason. Pam further explains that outside the classroom environment, Jason is usually more restless in situations where he has to sustain attention for a long period of time. For instance, Pam notes that in church on Sundays, Jason typically starts to squirm in his seat after the first 5 minutes of the service. She remarks that this is quite embarrassing for her and her husband, who have difficulty getting Jason to sit still. As a result, they have stopped going to church altogether. She reports that it was often difficult to take care of Nicholas when he was an infant, because Jason would often run into the nursery when Nicholas was being fed or changed and demand that Pam pay attention to him. On several occasions Jason grabbed the feeding bottle out of Pam's hand as she was feeding Nicholas.

Pam attempts to be very patient with Jason, but reports that her husband, John, has more difficulty coping with their son's restless behavior. Pam describes instances in which Jason has been particularly "rowdy" in the home and broken furniture and expensive items when he climbed on tabletops. She states that this has greatly strained the relationship between John and Jason and has been a source of tension between her and John as well, as they often disagree on how to discipline him. Pam and John have tried, unsuccessfully, to implement a system of punishment and rewards based on his performance at school; however, this has only caused further frustration as Pam and John often disagree as to the appropriate amount of punishment.

Pam states that Jason's teachers have been describing the same patterns of behavior each year, though during this current school year his ability to pay attention has severely declined, perhaps, as Pam notes, because the material presented in the classroom is more complex and requires more attention and thought. During earlier years, the extent of Jason's inability to pay attention would manifest in his leaving classroom

Case Report *continued*

materials strewn about after he was finished, and he would never pick up after himself. During the current school year, when presented with difficult problems in the classroom, Mrs. Brownstein reports that Jason bolts from his desk to another part of the room and begins playing with toys when she is giving a lesson. Pam is particularly concerned that Jason's misbehavior in school will continue to negatively impact the quality of his education throughout the years. Furthermore, it had been difficult for Jason to make friends at school, given his overly energetic demeanor and his propensity to be rude or impatient with other children. Pam states her fear that without good peer associations at school, Jason may become isolated and subjected to ridicule from his schoolmates. She remarks that Jason and Nicholas do not get along very well either, as Jason tends to be bossy with his younger brother and is usually unwilling to play with him.

When Dr. Brownstein calls Jason into his office after the interview with Pam, he finds that Jason has gone out into the hallway and is running up and down the staircase that leads to the office. Pam retrieves Jason and brings him back into the office, then waits outside while Dr. Brownstein interviews Jason individually. Once seated, Jason sits still for several minutes, but becomes increasingly restless, climbing out of his seat and trying to leave the office several times throughout the interview. His responses to Dr. Brownstein's questions are tangential and difficult to comprehend, as he repeatedly gets out of his chair while talking. When asked why it is so difficult for him to sit still, Jason responds, "I'm just bored all the time. I can't help it!"

In order to observe Jason's ability to maintain attention on a task, Dr. Brownstein presents Jason with colored markers and asks him to draw a house. Jason begins to draw the shape of a house but soon gives up the task and runs over to one corner of the room where he sees toy building blocks and begins playing with them. When Dr. Brownstein asks Jason to return to the task, Jason angrily states, "No! No! No! No! No! They make me draw in school all the time! Where is my mommy?" At this point, Jason begins to cry. Being careful not to cause undue distress, Dr. Brownstein calls Pam back into the office, and Jason immediately settles down and begins to smile.

Relevant history: Pam reports having no birth complications during her pregnancy and that Jason has had no health problems during his development. There is no family history of childhood or attention-deficit disorders.

Case formulation: Based on the interview with Pam and observation of Jason's behavior, Dr. Brownstein determines that Jason meets *DSM-5* diagnostic criteria for attention-deficit/hyperactivity disorder, hyperactive-impulsive type. His symptoms have been present for longer than 6 months and were present before the age of 7. He displays predominantly hyperactive-impulsive symptoms, and though he has some symptoms of inattention, they are too few to distinguish him as having combined presentation.

Treatment plan: Jason will be referred to his pediatrician for a medication consultation. He will also be referred for behavior therapy at a low-cost clinic in the area.

Sarah Tobin, PhD

neurodevelopmental disorders
Conditions that begin in childhood and have a major impact on social and cognitive functioning, involving serious deficits in social interaction and communication skills, as well as odd behavior, interests, and activities.

Disorders that begin early in life and remain with the individual throughout life are known as **neurodevelopmental disorders.** These disorders typically become evident early in children's development, often before they reach school age. The deficits associated with these disorders include impairments in personal, social, academic, or occupational functioning. Some disorders have specifiers to indicate, for example, that the disorder is linked to a genetic abnormality or environmental factors affecting the individual during the prenatal period.

Because they strike so early, disorders that begin in childhood are particularly significant in affecting the lives of individuals with the disorders, their families, the schools, and society as a whole. Interventions targeting these disorders are particularly important because they can literally reshape the direction that the individual's life will take. At the same time, clinicians, parents, and teachers struggle with the issue of whether or not to apply diagnoses of a particular disorder to the children who show behavioral disturbances. Once given a diagnosis, the potential exists for people to treat those children "differently" and hence to experience effects that go beyond their initial symptoms. For

example, is it right to give a psychiatric diagnosis to a boy who frequently loses his temper, argues with his parents, refuses to obey rules, acts in annoying ways, swears, and lies? How do these behaviors differ from those of the "normal" child going through phases such as the "terrible twos" or the rebellion of early adolescence? As you will learn, clinicians attempt to define these diagnoses as restrictively as possible to avoid confusing normal with abnormal development. Invariably, however, it is possible that there are cases in which a clinician considers normal behavior as one that meets the criteria for a psychological disorder.

It is important to keep in mind that, by definition, neurodevelopmental disorders may show important changes over time. As individuals develop from childhood through adolescence and adulthood, they may experience maturational changes that alter the way their disorder manifests in particular behaviors. Fortunately, with appropriate interventions, clinicians can help children either to learn to manage their symptoms or to overcome the symptoms entirely.

5.1 Intellectual Disability (Intellectual Developmental Disorder)

Clinicians diagnose individuals with an intellectual disability if they have intellectual and adaptive deficits that first became evident during their childhood. The ICD uses the term "intellectual developmental disorder," and to ensure compatibility the *DSM-5* places this term in parentheses after the term **intellectual disability.** The *DSM-IV-TR* used the term **mental retardation** to apply to this group of disorders. However, in keeping with recommendations by the American Association of Intellectual and Developmental Disabilities (AAIDD), among other groups, the *DSM-5* authors adopted the terminology of "intellectual disability" (intellectual developmental disorder). For the sake of brevity, we will refer to the disorder as intellectual disability, though technically the disorder should include "intellectual developmental disorder" as well.

intellectual disability (intellectual developmental disorder)
Diagnosis used to characterize individuals who have intellectual and adaptive deficits that first became evident when they were children.

mental retardation
A condition, present from childhood, characterized by significantly below-average general intellectual functioning (i.e., an IQ of 70 or below).

To receive a diagnosis of intellectual disability, the individual must meet conditions that fall into three sets of criteria. The first set of criteria includes deficits in the general intellectual abilities that an intelligence test might measure, including reasoning, problem solving, judgment, ability to learn from experience, and learning in an academic context. The cutoff for meeting this criterion is a measured intelligence of approximately 70 or below.

As we discussed in the chapter "Theoretical Perspectives", tests used for diagnostic purposes must be culturally appropriate as well as psychometrically sound, but this is particularly true for tests used to diagnose intellectual disability. Individuals who do not speak English as a first language and might not score well on an English-based intelligence test should therefore be given a test that matches their linguistic ability. Beyond linguistic appropriateness, the test should also consider cultural differences in the ways people communicate, move, and behave.

The second set of criteria for a diagnosis of intellectual disability involves impairments in adaptive functioning, relative to a person's age and cultural group, in a variety of daily life activities such as communication, social participation, and independent living. Some of these adaptive difficulties, for example, include problems in using money, telling time, and relating to other people in social settings. Clinicians should judge whether an individual's adaptive behavior is impaired using tests that are standardized, individualized, psychometrically sound, and culturally appropriate.

The third criterion relates to age of onset. Specifically, the disorder must begin prior to the age of 18. It is most likely that individuals with this disorder would be brought to professional attention well before that age.

Once the clinician determines that the diagnosis of intellectual disability is appropriate, the next step is to rate the degree of severity. The levels of severity are mild, moderate, severe, and profound. In previous classifications, intelligence test scores were used as a basis of severity classifications. Additionally, *DSM-5* requires that clinicians use

MINI CASE

Intellectual Disability

Juanita is a 5-year-old girl with Down syndrome. Her mother was 43 when she and her husband decided to start their family. Because of her age, doctors advised Juanita's mother to have prenatal testing for any abnormalities in the chromosomal makeup of the developing fetus. Juanita's parents were shocked and distressed when they learned the test results. When Juanita was born, her parents were prepared for what to expect in terms of the child's appearance, behavior, and possible medical problems. Fortunately, Juanita needed no special medical attention. Very early in Juanita's life, her parents consulted with educational specialists, who recommended an enrichment program designed to maximize cognitive functioning. From age 6 months, Juanita attended a program each morning in which the staff made intensive efforts to facilitate her motor and intellectual development. Now that she is school age, Juanita will enter kindergarten at the local public school, where teachers will make efforts to bring her into the mainstream of education. Fortunately, Juanita lives in a school district where administrators recognize the importance of providing resources for pupils like Juanita, so that they will have the opportunity to learn and grow as normally as possible.

tests reflecting cultural sensitivity, again reflecting a concern that assessment be culturally appropriate.

Rather than using simple intelligence test cutoffs, the levels of severity in *DSM-5,* are based on how well the individual is able to adapt in conceptual, social, and practical domains. Within each domain, clinicians rate their clients using four severity levels ranging from mild to profound. For example, in the conceptual domain, a mild level of severity would involve difficulties in learning academic skills, but the profound level would mean the individual is completely unable to think symbolically. Social skills, similarly, range from mild problems in emotional regulation to profound inability to engage in social interaction. Within the practical domain, the levels of severity range from the individual's needing support to carry out tasks such as shopping and money management. More significant limitations require the need for extensive training before performing even simple everyday life tasks.

The combination of improved specificity in adaptive behavior criteria and inclusion of culturally sensitive tests should result in a more accurate basis for diagnosis and, ultimately, better treatment of individuals with intellectual developmental disorders.

Estimates show that approximately 1 percent of the world's population has intellectual disability, but the prevalence is higher in low-income countries (1.64 percent) than in countries classified as middle income (1.59 percent) or high income (1.54 percent). The highest prevalence occurs in urban slums or mixed rural-urban settings. Studies on children and adolescents also report higher prevalence rates than studies on adults. The costs to the economy associated with the care of these individuals can be burdensome, with lifetime estimates as high as $51.2 billion in the United States alone. Offsetting these costs are efforts to improve maternal and child health and interventions aimed at teaching adaptive skills to children with these disorders so they can live at higher functional levels (Maulik, Mascarenhas, Mathers, Dua, & Saxena, 2011).

Causes of Intellectual Disability

Down syndrome
A form of mental retardation caused by abnormal chromosomal formation during conception.

Genetic Abnormalities First and foremost, genetic abnormalities are a significant cause of intellectual disability. The three most important genetic causes are **Down syndrome,** phenylketonuria, and fragile X syndrome. Epigenetics also appears to play an important role in increasing an individual's risk of developing an intellectual disability. Lifestyle, diet, living conditions, and age can affect the expression of the genes passed down from mother to child through mutations, deletions, or altered positions of genes on the chromosomes (Franklin & Mansuy, 2011).

Most people with Down syndrome have inherited an extra copy of chromosome 21, and therefore have 47 chromosomes instead of the typical 46. In this form of Down syndrome, called trisomy 21, the extra chromosome interferes with the normal development of the body and brain. The symptoms of Down syndrome range from mild to severe and can vary from person to person. Down syndrome is the most common cause of birth defects in humans, and almost always is associated with intellectual disability as well as a range of physical signs.

The face of an individual with Down syndrome is relatively easy to recognize and includes a head that is smaller than normal and unusually shaped compared to the average age-matched person. Characteristic features of people with Down syndrome include a flattened nose, small ears, small mouth, upward slanting eyes, excess skin at the nape of the neck, and white spots on the colored part of the eye.

The physical signs of individuals with Down syndrome include short stature as they never reach full adult height. Apart from size, people with Down syndrome are prone to suffering from a variety of physical ailments including heart defects, eye cataracts, hearing loss, hip problems, digestive distress, sleep apnea, underactive thyroid, and teeth that appear later than normal and in locations that can lead to problems with chewing.

Behaviorally, in addition to lower IQ scores, individuals with Down syndrome are more likely to show impulsive behavior, poor judgment, short attention span, and a tendency to become frustrated and angry over their limitations. They are much more likely than other individuals to develop Alzheimer's disease, and to do so at a far earlier age than would be expected (PubMedHealth, 2011b). The high levels of life stressors that they face make them potentially vulnerable to developing depressive disorders (Walker, Dosen, Buitelaar, & Janzing, 2011).

phenylketonuria (PKU)
Condition in which children are born missing an enzyme called phenylalanine hydroxase.

Tay-Sachs disease
An inherited disease that produces defects in intellectual functioning due to a lack of hexosaminidase A, an enzyme that helps break down an otherwise toxic chemical in nervous tissue called ganglioside.

Infants born with **phenylketonuria (PKU)** are missing an enzyme called phenylalanine hydroxase, which breaks down phenylalanine, an amino acid found in foods that contain protein. As phenylalanine builds up in the body, it causes damage to the central nervous system. Untreated, PKU leads to developmental delays, a smaller than normal head size, hyperactivity, jerking arm and leg movements, seizures, skin rashes, and tremors. Fortunately, administering a simple blood test to all babies shortly after birth can diagnose PKU.

If they test positive, infants with PKU must then be placed on a diet that is low in phenylalanine, particularly early in life. However, such a diet means that the individual must avoid milk, eggs, and other common foods high in protein, as well as the artificial sweetener aspartame. In contrast, the child can benefit from a diet that is high in fish oil, iron, and carnitine (a food additive that promotes energy production in the cell). There is no cure for PKU, so individuals with this disorder must maintain a strict diet throughout life. If they do not, they may develop attention-deficit/hyperactivity disorder (PubMedHealth, 2011d). They may also show cognitive abnormalities on certain tasks even if they received proper care when they were first diagnosed (Banerjee, Grange, Steiner, & White, 2011).

In children born with **Tay-Sachs disease,** deficits in intellectual functioning occur due to a lack of hexosaminidase A, an enzyme that helps break down an otherwise toxic chemical in nervous tissue called ganglioside. The cause of Tay-Sachs disease is a defective gene on chromosome 15. In order to develop the disease, both of the child's parents must have this genetic defect. If only one parent has this defect, the child becomes a carrier and could transmit the disease to his or her offspring if the other parent also has the defective gene. The disease is most common among the Ashkenazi Jews, who are of Eastern European descent.

The symptoms of Tay-Sachs disease, in addition to developmental delays, include deafness, blindness, loss of muscle tone and

Children with Down syndrome suffer from a genetic abnormality that can lead to moderate to severe intellectual disability.

What's in the *DSM-5*

Neurodevelopmental Disorders

Many changes occurred in the organization of disorders of childhood when *DSM-5* was finalized. Perhaps the most significant was the relabeling of a large group of conditions with the term "neurodevelopmental." Critics of *DSM-5* argue that this term presumes a theoretical model by attributing many of the disorders to biological causes that in the past clinicians viewed as reflecting multiple factors. Specifically, putting ADHD into this category suggests that the appropriate treatment would, in turn, focus on changing the individual's biology through medication.

The more generic category "specific learning disorder" replaced what were separate disorders, such as mathematical skills disorder. The more generally accepted term "intellectual disability" replaced the term "mental retardation." "Autistic spectrum disorder" replaced autistic disorder, and the term "Asperger's disorder" was completely eliminated. People who received the diagnosis of Asperger's disorder are now included in the autistic spectrum.

There were other major category shifts in the move to *DSM-5*. Separation anxiety disorder was included in disorders originating in childhood and is now included in the category of anxiety disorders. Oppositional defiant and conduct disorders moved to "disruptive, impulse control, and conduct disorders," a category that we will discuss in the chapter "Personality Disorders". Pica, rumination disorder, and feeding disorder of infancy and early childhood moved to the category of "feeding and eating disorders."

By moving many of these childhood disorders to new or other existing categories, the *DSM-5* authors acknowledge the continuity of behavior from infancy through adulthood, a position that would be consistent with life-span developmental principles. However, children may be more likely than was true in *DSM-IV-TR* to receive diagnoses that clinicians previously considered appropriate only for adults.

motor skills, dementia, delayed reflexes, listlessness, paralysis, seizures, and slow growth. Although a milder form of Tay-Sachs disease can develop later in life, most individuals have the form that appears within the first 3 to 10 months after birth. The disease progresses rapidly, and most children with it do not live past the age of 4 or 5 years. There is no treatment for Tay-Sachs; however, prospective parents can receive genetic testing that may help prepare them for aspects of the disease before the child is born (PubMedHealth, 2011e).

The most common form of intellectual disability in males is **fragile X syndrome,** a genetic disorder caused by a change in the gene FMRI. A small part of the gene's code is repeated on a "fragile" area of the X chromosome, and the more the number of repeats, the greater the deficit. Because males have only one X chromosome, this genetic defect is more likely to occur in this gender.

Children with fragile X syndrome may for the most part appear normal, but they do show some physical abnormalities, including a large head circumference and subtle abnormalities of facial appearance such as a large forehead and long face, flat feet, large body size, and large testicles after they start puberty. Parents notice delays in achieving benchmarks such as crawling or walking, hyperactive or impulsive behavior, hand clapping or biting, speech and language delay, and a tendency to avoid eye contact. Girls with this disorder may show no symptoms other than premature menopause or difficulty conceiving a child (PubMedHealth, 2011c).

fragile X syndrome
A genetic disorder caused by a change in a gene called FMRI.

Ethan Fishman, 20, left, of Highland Park, hugs his mother Rebecca Fishman as they walk Wednesday, June 12, 2013 to the office of Ethan's tutor in Winnetka, Illinois. Ethan suffers from fragile X syndrome, a genetic disorder.

Clinicians also associate fragile X syndrome with hyperactivity and poor attention as well as other neurodevelopmental disorders, including autism spectrum disorder. A survey of over a thousand families who had at least one child with fragile X syndrome revealed that over half experienced significant financial burden as a direct result of the disorder, and nearly 60 percent had to stop or significantly change their work hours (Ouyang, Grosse, Raspa, & Bailey, 2010).

Environmental Hazards

Environmental hazards that mothers experience while pregnant are the second category of causes of intellectual disability. These hazards, called **teratogens,** include drugs or toxic chemicals, maternal malnutrition, and infections in the mother during critical phases of fetal development. Mothers who become infected with rubella (German measles) during the first 3 months of pregnancy are likely to give birth to a child with intellectual disability. Infections, oxygen deprivation during birth ("anoxia"), premature birth, and brain injury during delivery can also lead to brain damage and associated intellectual deficits in the child. Diseases, head injuries caused by accidents or child abuse, and exposure to toxic substances such as lead or carbon monoxide can also lead older children to suffer loss of intellectual capacity.

A mother who consumes alcohol during pregnancy increases the risk that her child will be born with **fetal alcohol syndrome (FAS),** a set of abnormalities in facial appearance, slower than average growth patterns, and most importantly, nervous system delays that result in intellectual deficits. Current guidelines recommend complete abstinence from alcohol during pregnancy. Should the mother drink, however, the more alcohol she consumes the greater the effects on the child. Children who have some exposure to alcohol prenatally may also develop a lesser form of FAS known as a **fetal alcohol spectrum disorder (FASD).**

Clinicians diagnose individuals with FAS if they meet the criteria listed in Table 1. These guidelines are helpful in providing clinicians with more precise diagnoses, facilitating both treatment and research (Bertrand et al., 2004).

Fetal alcohol syndrome causes children to be born with severe developmental and intellectual disabilities.

TABLE 1 Diagnostic Criteria for Fetal Alcohol Syndrome (FAS)

Area of Functioning	Criteria
Facial appearance	Smooth ridge between nose and lip, thin edge around the lip, and small separation between upper and lower eyelids (based on racial norms)
Growth problems	Height, weight, or both at or below the 10th percentile (adjusted for age, sex, and race or ethnicity)
Central nervous system abnormalities	Smaller head circumference and brain abnormalities visible on imaging
	Neurological problems not due to injury or fever
	Performance on functional measures substantially below that expected for an individual's age, schooling, or circumstances
Maternal alcohol exposure	Confirmed prenatal alcohol exposure; if this information is not available, children who meet all three of the above criteria would be referred for further testing

Bertrand, J., Floyd, R. L., Weber, M. K., O'Connor, M., Riley, E. P., Johnson, K. A., & Cohen, D. E. (2004). National Task Force on FAS/FAE. *Fetal alcohol syndrome: Guidelines for referral and diagnosis*. Atlanta, GA.

teratogens
Environmental hazards during the prenatal period that affect the developing child.

fetal alcohol syndrome (FAS)
A condition associated with intellectual disability in a child whose mother consumed large amounts of alcohol on a regular basis while pregnant.

fetal alcohol spectrum disorder (FASD)
A lesser form of fetal alcohol syndrome developed in children who have some exposure to alcohol prenatally.

The cognitive deficits of children with FAS seem particularly pronounced in the area of executive functioning. Thus, they find it difficult to perform tasks that require them to regulate their attentional control and perform mental manipulations (Kodituwakku, 2009). Although alcohol exposure affects the entire brain, children with FAS experience reduced brain volume and malformations of the corpus callosum, the tissue that connects the brain's two hemispheres (Lebel, Roussotte, & Sowell, 2011).

Epidemiologists estimate the prevalence of FAS at approximately 30 of every 1,000 children born per year in the United States (Centers for Disease Control and Prevention, 2015). Using these estimates, this means that among the approximately 4 million infants born in the United States each year, as many as 1,200 will have FAS, although these rates vary tremendously within particular subgroups of the population—economically disadvantaged groups, Native Americans, and other minorities have rates that are as high as 3 to 5 out of every 1,000 births.

Children with FAS are at risk for developing a variety of negative outcomes as they mature, including dropping out of school, committing criminal acts, and developing diagnoses of other mental health problems including substance use disorders. Their adaptive abilities are challenged further by the tendency to engage in inappropriate sexual behavior, and they have difficulty living independently and staying employed (Bertrand et al., 2004).

Treatment of Intellectual Disability

mainstreaming
A governmental policy to integrate fully into society people with cognitive and physical disabilities.

People with intellectual disability can benefit from early intervention aimed at providing them with training in motor coordination, language use, and social skills. Educators can combine **mainstreaming,** which integrates these children into ordinary school classrooms, with special education that provides them with assistance geared to their particular needs.

Moving outside the classroom and into daily life, individuals with intellectual disability experience limitations in their ability to carry out activities of daily living as well as their understanding of social situations. Therefore, treatment for these individuals often takes the form of behavioral or social interventions that train them to cope with such demands. Some of the services they can benefit from include coordinated care that integrates behavioral treatment, outreach, and multidisciplinary assessment. It may also be helpful to provide them with treatment of related conditions, including depression, anxiety disorder, bipolar disorder, or an autism spectrum disorder (Richings, Cook, & Roy, 2011).

Of course, to the extent that it is possible, prevention rather than treatment is preferable to reduce the risk of intellectual disabilities. In the case of FAS, education and counseling would seem to have the greatest potential value. Unfortunately, there is limited evidence to show that such programs actually reduce alcohol consumption in pregnant women or, more importantly, produce beneficial effects on children (Stade et al., 2009).

Once they are born, children identified as having FAS can benefit from several protective factors that reduce the impact of their disorder on their later adaptation and development. Early diagnosis can help educators place children in appropriate classes and receive the social services that can help them and their families. Involvement in special education focused specifically on their needs and learning styles can be particularly beneficial. They can also benefit from learning appropriate ways to prevent expressing their anger or frustration so they do not become involved in youth violence (Centers for Disease Control and Prevention, 2011).

Friendship training is one behavioral intervention that can help children with FAS learn how to interact appropriately with other children so they can make and keep friends. This type of training involves a combination of social skills such as how to play with other children, arrange and handle play dates in the home, and work out or avoid conflicts (O'Connor et al., 2006). Cognitive interventions that focus on taking into account the specific executive function deficits of children with FAS can help

improve their school performance. These methods include using concrete examples, repeating information, and breaking a problem down into parts (Kodituwakku & Kodituwakku, 2011). Parents also need to learn how to better manage their children's behaviors, which ultimately reduces their distress and therefore leads to a less stressful home environment.

5.2 Autism Spectrum Disorder

autism spectrum disorder
A neurodevelopmental disorder involving impairments in the domains of social communication and performance of restricted, repetitive behaviors.

The neurodevelopmental disorder commonly called "autism" is titled **autism spectrum disorder** in *DSM-5*. This disorder incorporates a range of serious disturbances in the ways that individuals interact with and communicate with others. Within the autism spectrum are also certain patterns of interests and activities. The constellation of diagnostic criteria associated with this disorder can persist for an individual's entire life, but, depending on its severity, the individual can receive help to function satisfactorily with treatment.

The *DSM-5* diagnosis replaces the *DSM-IV-TR* category of autistic disorder. The main reason for changing the term was to provide a more reliable and valid distinction between children who clearly show "typical development" and those who demonstrate a range of deficits in communication and social behaviors. The term *autism spectrum disorder* reflects a consensus among the scientists writing the *DSM-5* that four disorders previously considered to be separate are a single condition with differing levels of severity. These four disorders were autistic disorder, Asperger's disorder, childhood disintegrative disorder, and pervasive developmental disorder not otherwise specified.

To diagnose autism spectrum disorder, clinicians evaluate children along two core domains. The first domain includes social and communication disturbances. The second domain includes a restricted range of interests and performance of repetitive behaviors and activities. Within each domain, clinicians specify one of three severity levels: requiring support, requiring substantial support, and requiring very substantial support.

In the area of communication, children with autism spectrum disorder may show developmental delays in the use of language, but this particular aspect of the diagnosis is not unique to autism spectrum disorder. More typical of autism spectrum disorder are deficits in the social aspects of communication. Individuals with this disorder may avoid eye contact, and their facial expressions, gestures, and even posture may strike others as odd or unusual. For example, they may find it difficult to understand the body language of other people, and their own body language may strike others as odd.

MINI CASE

Autism Spectrum Disorder

Jeong is a 6-year-old child currently receiving treatment at a residential school for intellectually disabled children. As an infant, Jeong did not respond well to his parents' efforts to play with and hold him. His mother noticed that his whole body seemed to stiffen when she picked him up out of his crib. No matter how much she tried, she could not entice Jeong to smile. When she tried to play games by tickling his toes or touching his nose, he averted his eyes and looked out the window. Not until Jeong was 18 months old did his mother first realize that his behavior reflected more than just a quiet temperament—that he, in fact, was developing abnormally. Jeong never did develop an attachment to people; instead, he clung to a small piece of wood he carried with him everywhere. His mother often found Jeong rocking his body in a corner, clinging to his piece of wood. Jeong's language, though, finally indicated serious disturbance. At an age when most children start to put together short sentences, Jeong was still babbling incoherently. His babbling did not sound like that of a normal infant. He said the same syllable over and over again—usually the last syllable of something that had just been said to him—in a high-pitched, monotone voice. Perhaps the most bizarre feature of Jeong's speech was that he did not direct it to the listener. Jeong seemed to be communicating in a world of his own.

Hodan Hassan is shown at her Minneapolis home with her six-year-old daughter Geni who has autism. Health officials struggling to contain a measles outbreak that's hit hard in Minneapolis' large Somali community are running into resistance from parents who fear the vaccine could give their children autism.

The friendship patterns of children with autism spectrum disorder are unique, because these children do not seem to enjoy playing with others, sharing experiences, or engaging in the usual give-and-take of social interactions. In extreme cases, they may completely avoid social interactions, or at least not attempt to initiate interactions with other people. Imaginative play, an essential component of normal development, presents these children with particular challenges. They may be unable to engage in the type of imitative play patterns that characterize the ordinary social interactions of young children.

Separate from the deficient communication and social patterns of people with autism spectrum disorder are disturbances in motor behavior in which they engage in restricted or repetitive behaviors, such as tapping their hands or fingers or twisting their bodies. The repetitive behaviors can also take the form of **echolalia,** which is repeating the same sounds again and again. Repeating the same routines without any changes may be another manifestation of their disorder. If anyone tries to change the order in which they do something, such as eat, they can become extremely distressed.

echolalia
Repeating the same sounds over and over.

Particularly distressing to families are the disturbances that some individuals with autism spectrum disorder show in altered sensitivity to sensory stimuli. They may seem almost impervious to pain, heat, or cold, and as a result can easily place themselves at risk of significant injury. On the other hand, their sensory abnormalities may take the form of hypersensitivity to sound, light, or smell.

The unusual characteristics of autism spectrum disorder become more prominent from childhood onward. The particular areas affected and the severity of symptoms may be different across age groups. In one large cross-sectional study comparing these three age groups, the ability to interact with others was less impaired among the adolescents than among the adults, and the adults were less impaired in the area of repetitive, restricted behaviors (Seltzer et al., 2003).

An unusual variant of this disorder, called autistic savant syndrome, occurs in people with autism spectrum disorder who possess an extraordinary skill, such as the ability to perform extremely complicated numerical operations—for example, correctly naming the day of the week on which a date thousands of years away would fall (Thioux, Stark, Klaiman, & Schultz, 2006). The autistic savant syndrome typically appears at an early age, when a young child with the disorder appears to have exceptional musical skills, artistic talent, or the ability to solve extremely challenging puzzles. It is possible that their tendency to focus intensely on the physical attributes of objects gives them this

uncanny set of abilities. Memory for areas outside of their own areas of expertise appears to be no better than that of people with autism spectrum disorder who do not have these special memory skills (Neumann et al., 2010). Individuals with autism spectrum disorder may also develop extremely narrow and specifically focused interests beyond the typical games or amusements of other people.

In 2007, the Centers for Disease Control and Prevention (CDC) reported an estimated prevalence rate in the United States of 0.66 percent or approximately 1 of every 150 children, which itself was a large increase from previously reported rates. Over subsequent years, however, the prevalence estimates have continued to increase, reaching among the children born in 2002 an estimated 1 in 68 children (Centers for Disease Control and Prevention, 2015). The reasons for this increase are not clear, though one set of Danish researchers attribute the rise at least in their country to changes in reporting practices (Hansen, Schendel, & Parner, 2015).

Part of the issue in estimating prevalence is that standards for diagnosis vary considerably across studies, as do the sources of information used for establishing a diagnosis. The question is whether children are actually interviewed or the researchers use clinical case summaries, in which the ratings are made from the child's records. To establish better diagnostic precision, researchers recommend using standardized instruments based on interview and observation of the child rather than relying on case records (Wiggins et al., 2015).

Autistic savants often excel in one specific skill, such as playing an entire song on the piano from memory after hearing it only one time.

Theories and Treatment of Autism Spectrum Disorder

Evidence pointing to patterns of familial inheritance supports the theory that autism spectrum disorder is biologically based. Researchers estimate the heritability of the disorder to be high, at approximately 90 percent, and associated with genetic abnormalities suspected to exist on chromosomes 7, 2, and 15.

Advances in brain scanning techniques, coupled with a movement to share data among international researchers, are helping to clarify possible neurological abnormalities in people with autism spectrum disorder. Some evidence suggests altered connectivity involving neural circuits in brain activity when the brain is awake but at rest. Individuals with this disorder may be less able to share information from the two hemispheres of the brain. These findings are promising but, as the researchers involved are the first to admit, do not necessarily explain the behavioral abnormalities associated with autism spectrum disorder (Rane et al., 2015).

Even as research on neurological abnormalities in individuals with autism spectrum disorder is advancing, the behavioral perspective remains the most realistic approach to treatment. Clinicians treating children with this disorder from a behavioral perspective base their methods on the early intervention programs devised by UCLA psychologist Ivar Lovaas in the late 1980s (Lovaas, 1987). In the original report on the program, Lovaas and his associates randomly assigned 38 children ages 3 to 4 diagnosed with autism spectrum disorder to two treatment groups. One group received intervention for at least 40 hours per week for 2 or more years. Children in the second group received treatment with the same intervention for less than 10 hours per week. Another group of children received treatment outside of the Lovaas clinic. Using IQ scores as dependent variables, nearly half (9) of the 19 children who received intensive treatment increased by over 20 points; by age 13, 8 of the children had maintained their IQ gains. By contrast, only 1 child in the less intensive treatment showed these IQ improvements. The Lovaas studies, as impressive as they were, received criticism from other researchers because the study never assessed the intervention's effects on social and communication skills.

With early therapeutic intervention, children who are diagnosed with autism spectrum disorder can experience significant symptom improvement.

Photo courtesy of the Mary Black Foundation and Carroll Foster

The Lovaas treatment rests on principles of operant conditioning, practiced both by student therapists and parents. The behavioral aspects of the intervention consisted of ignoring the child's aggressive and self-stimulatory behaviors, using time-outs when children were disruptive, and positively attending to the children only when they engaged in socially appropriate behavior, using shaping to increase the performance of the targeted behaviors. As a last resort, when children engaged in undesirable behavior, they were given a loud "no" or a slap on the thigh.

In the first year, the treatment focused on reducing self-stimulatory and aggressive behaviors, shaping the children to comply with simple verbal requests, using imitation learning, establishing the beginnings of play with toys, and extending the treatment into the family home. In the second year of the intervention, the children learned how to use language in an expressive and abstract manner. They also learned how to play interactively with their peers. In the third year, the children learned how to express emotions appropriately, academic tasks to prepare them for school, and observational learning in which they learned by watching other children learn. The clinicians attempted to place the children in mainstream classes rather than special education classes with the idea that others would not label them as "autistic" or as a "difficult child." Children who did not recover received an additional 6 years of training. The others remained in contact with the project team for occasional consultation.

In the years following the Lovaas study, a number of researchers attempted to replicate his findings. Reviewing 14 of the best controlled of these studies, Makrygianni and Reed (2010) concluded that the weight of evidence supports the use of behavioral early-intervention projects. These programs are effective in improving the intellectual, linguistic, communication, and social abilities. The evidence also supports the effectiveness of these programs. The more intensive the program, and the longer it lasts, the stronger the impact on the children. However, intensive programs of 25 hours per week were sufficient to provide a beneficial effect, rather than the 40 hours per week of the Lovaas program. In addition, as we would expect, children who are younger and those who are higher functioning at the outset improve more through treatment. Programs are also more successful if they involve parents.

Children with autism spectrum disorder will show a decrease in disruptive and self-stimulatory behaviors if they receive reinforcement for appropriate behaviors, such as asking for help or feedback. Such reinforcement can make them less likely to engage in self-injurious or aggressive behaviors. In this type of treatment, clinicians find it more

useful to focus on changing pivotal behaviors, with the secondary goal of bringing about improvements in other behaviors, rather than focusing on changing isolated behavioral disturbances. The therapist may also help the child develop new learning skills that will give him or her some experiences of success in problem solving. For example, the therapist might teach the child to break down a large problem, such as getting dressed, into smaller tasks that the child can accomplish. As a result the child feels less frustrated and is therefore less likely to regress to problem behaviors, such as rocking and head banging. Clinicians also focus on the need to motivate the child to communicate more effectively. The child will then be more motivated to respond to social and environmental stimuli, which is the key to treatment (Koegel, Koegel, & McNerney, 2001). Over time the children will be more motivated to regulate and initiate behaviors on their own. Even simple changes can have this impact, such as having children choose the materials, toys, and activities for the intervention rather than having the clinician choose.

Another approach to intervention is to have peers rather than adults interact with the child. This situation approximates a more normal type of social environment, in which children typically serve a powerful role in modifying a peer's behavior. In contrast to interventions in which adults provide the reinforcement, peer-mediated interventions have the advantage of allowing children to carry on with their ordinary activities without adult interruption. The most effective of these interventions involve younger boys whose older male siblings provide the intervention, use peer modeling, attempt to generalize across situations, and involve collaboration among family members and with school staff (Zhang & Wheeler, 2011).

Other behavioral strategies include self-control procedures, such as self-monitoring, relaxation training, and covert conditioning. Children can also learn to touch an icon of a "frowny" face to indicate their displeasure rather than act out aggressively when they are upset or unhappy (Martin, Drasgow, Halle, & Brucker, 2005). Token economies are another approach involving behavioral interventions that may produce value for some children (Fiske et al., 2015).

Reinforcement may also be used by clinicians to help advance additional clinical goals. As adults, individuals with autism spectrum disorder do not spontaneously choose to exercise. There is evidence supporting the use of reinforcers to help instill better exercise habits (LaLonde, MacNeill, Eversole, Ragotzy, & Poling, 2014). Such an approach can benefit their health and may have the added plus of improving their overall well-being.

Rett syndrome
A condition in which the child develops normally early in life (up to age 4) and then begins to show neurological and cognitive impairments including deceleration of head growth and some of the symptoms of autism spectrum disorder.

Rett Syndrome

In **Rett syndrome,** the child develops normally early in life (up to age 4) and then begins to show neurological and cognitive impairments including deceleration of head growth and some of the symptoms of autism spectrum disorder. The syndrome occurs almost exclusively in females.

Although not a separate diagnosis in *DSM-5,* Rett syndrome was a topic of clinical and research focus after its introduction in the *DSM-IV-TR*.

Clinicians who would have diagnosed children as having Rett syndrome prior to *DSM-5*'s elimination of this diagnosis now use the autism spectrum diagnosis. However, by specifying that the children have a known genetic or medical condition, they are able to indicate that the symptoms are related to Rett syndrome.

Researchers identified the gene for Rett syndrome in 1999. Mutations in this gene, which is named MECP2, lead to abnormalities in the production of a

The symptoms of Rett syndrome begin to appear after about 5 months of age.
Megan Sorel Photography

REAL STORIES

Daniel Tammet: Autism Spectrum Disorder

In many ways, Daniel Tammet's developmental journey followed a path typical to most children, although several aspects of his childhood set him apart from the others. Daniel was 26 years old when he wrote his autobiography, *Born on a Blue Day,* which describes in vivid detail his experiences, which are both common to any child's development and unique to Daniel.

Daniel was the first child born to a couple living in poverty that would go on to have eight more children after him. As an infant, Daniel cried inconsolably except when eating or sleeping. The doctors believed it was simply a case of colic, and the crying was a phase that would quickly end. In the book, Daniel reflects on this time in his life: "My parents tell me I was a loner, not mixing with the other children, and described by the supervisors as being absorbed in my own world. The contrast between my earliest years and that time must have been vivid for my parents, evolving as I did from a screaming, crying, head-banging baby to a quiet, self-absorbed, aloof toddler. With hindsight, they realize now that the change was not necessarily the sign of improvement they took it to be at the time. I became almost too good–too quiet and too undemanding."

When Daniel was a child, the scientific world knew little about developmental disorders, and his parents could not understand what their son was experiencing. In the book, he describes how they did their best to provide him with a normal childhood, possibly based on their own fears of what it meant to have a child with a developmental disorder. When friends or neighbors would question his parents, they would tell them that Daniel was just sensitive or shy.

At the age of 4, Daniel began having seizures, and doctors eventually diagnosed him with temporal lobe epilepsy. The condition caused major problems with his sleeping, and he took medication for about 3 years until the seizures subsided. His doctors now believe that these seizures led to savant syndrome, a rare condition from which Daniel suffers. Daniel describes that his synesthesia (a neurologically based condition in which sensory or cognitive pathway stimulation leads to automatic, involuntary experiences in a second sensory or cognitive pathway) causes a blurring of his senses and emotions when someone presents him with numbers or words. He writes, "The word *ladder,* for example, is blue and shiny, while *hoop* is a soft, white word."

In *Born on a Blue Day,* Daniel Tammet describes his childhood experiences with autism spectrum disorder and savant syndrome, at a time when scientists knew very little about either condition.

Much like those with savant syndrome, Daniel also has a diagnosis of autism spectrum disorder and throughout the book he describes having many experiences during his childhood that are consistent with the diagnosis. He recalls that as a child he took comfort in the daily routines at school, and would become highly anxious should the routines be upset in any way. While in school, many of his classmates teased him for his unusual quirks, such as uncontrollably flapping his arms. When he was feeling particularly anxious, he would bang his head against a wall, or run home to his parents' house when he felt overwhelmed during school. Looking back, Daniel wonders, "What must the other children have made of me? I don't know, because I have no memory of them at all. To me they were the background to my visual and tactile experiences."

Daniel had an especially difficult time connecting with other children at school, and describes that he spent most of his childhood in isolation, while he learned to comfort himself by making up games, thinking about numbers, or fanatically collecting small items such as chestnuts or coins. Although his parents tried hard to get him to socialize outside of the home with his siblings and other children, Daniel found it difficult to be away from home comforts. He made friends with children whom others regarded as outsiders in the classroom, but generally he preferred to keep to himself. As Daniel transitioned to high school, he continued to find it difficult to relate to others and maintained an almost obsessive interest in his studies, particularly in history. He also struggled in some subjects, especially those that required interaction with others.

As his body was adjusting to adulthood, Daniel recalls feeling the typical rush of hormones and increased interest in relationships, although his social skills made peer relationships excessively awkward and hard to sustain. Making social interactions more difficult was Daniel's inability to understand his emotions and the catalysts that led to certain emotional reactions. As he recalls, "All I knew is that I wanted to be close to someone, and not understanding closeness

as being primarily emotional, I would walk up to some of the other students in the playground and stand very close to them until I could feel the warmth of their body heat against my skin. I still had no concept of personal space, that what I was doing made other people feel uncomfortable around me." During adolescence, Daniel became unquestionably aware that he was attracted to other boys, and even recalls having his first crush and subsequent disappointing attempt at dating.

After finishing high school, Daniel decided not to attend college and instead took a job for Voluntary Services Overseas, a charity focused on international development. As part of the job, he lived in Lithuania for a year and found the experience to be a crucial part of his development into adulthood. Of what he learned from his time in Lithuania he writes, "For one thing, I had learned a great deal about myself. I could see more clearly than ever before how my 'differences' affected my day-to-day life, especially my interactions with other people. I had eventually come to understand that friendship was a delicate, gradual process that mustn't be rushed or seized upon, but allowed and encouraged to take its course over time."

Daniel writes about struggling to find a job after returning home to England due to his difficulties functioning not only in social settings, but also in job interviews that required him to think about abstract, theoretical situations. As Daniel explains, he does not easily adjust to novel situations. Eventually, Daniel started an online program that teaches different languages, which has become successful over the years.

Around the time he returned home to England from Lithuania, Daniel met the man who would become his life partner, Neil. They met in an online chat group and exchanged emails for many months before finally meeting in person. Daniel explains that it was much easier for him to communicate electronically with Neil while they got to know each other, as it did not require complex social skills.

Through their relationship, Daniel writes that he has learned to be more open with others, and that Neil's support has been a source of immense strength that has helped him learn to cope with autism. Daniel's savant syndrome grants him the ability to see letters and numbers as colors and textures, and has led to some remarkable lifetime achievements. For example, Daniel has taught himself to speak at least 10 languages, including Icelandic, which he learned in just 4 days for his part in a documentary film. In 2005, Daniel set the British and European records for reciting 22,514 digits of pi in just over 5 hours. Although he has gained considerable media attention for his extraordinary abilities, Daniel enjoys a quiet life, which he spends mostly at home where he takes pleasure in his daily routines. He has also found strength through attending church, and especially enjoys the ritual aspect of it. From time to time he gives talks for the National Autistic Society and the National Society for Epilepsy, and writes that he hopes to continue contributing to an understanding and acceptance of developmental disorders. Daniel has gone on to write another book, *Embracing the Wide Sky*, in addition to many other articles and public appearances.

Tammet, Daniel. "Born on a Blue Day: Inside the Extraordinary Mind of an Autistic Savant," *Free Press*, October 2007.

specific protein that is important in the normal functioning of neurons. Researchers do not yet know how these mutations link to the child's symptoms; however, there are promising signs that people with this condition may benefit from receiving stem cell treatments soon after birth that promote healthy brain development (Matsuishi, Yamashita, Takahashi, & Nagamitsu, 2011).

Some children with autism spectrum disorder appear to develop normally for the first 2 years but, at some point before age 10, start to lose language and motor skills as well as other adaptive functions, including bowel and bladder control. This rare condition was formerly called **childhood disintegrative disorder,** but the diagnosis was eliminated from *DSM-5* and is now incorporated into autism spectrum disorder.

childhood disintegrative disorder
A disorder in *DSM-IV-TR* in which the child develops normally for the first 2 years and then starts to lose language, social, and motor skills, as well as other adaptive functions, including bowel and bladder control.

High-Functioning Autism Spectrum Disorder, Formerly Called Asperger's Disorder

We cover the diagnosis of **Asperger's disorder** even though it is not in the *DSM-5*. *DSM-IV-TR* differentiated autistic and Asperger's disorders on the basis of whether the child shows delays in language and intellectual development. It is worth covering here because its symptoms continue to define the high-functioning end of the autism spectrum.

Asperger's disorder
A term once used to describe individuals with high-functioning autism spectrum disorder.

The term Asperger's disorder is named after Hans Asperger, a Viennese physician who, during World War II, described a group of boys who possessed rather good language and cognitive skills, but had marked social problems because they acted like pompous "little professors" and were physically awkward. Indeed, high-functioning

people on the autism spectrum have less severe and more focused impairments than their lower functioning counterparts, perhaps showing their symptoms after they reach preschool age. At that point, when most children develop social and interactive skills, these children have difficulty reading the social cues of others, taking turns talking, and are unable to interpret language subtleties. Early in their lives, they tend to become preoccupied with a narrow set of interests about which they may talk extensively, not realizing that such one-sided conversations are not socially appropriate. However, they are more likely than children at the lower functioning end of the autism spectrum to try to make friends.

In one fascinating case described in the literature (Volkmar, Klin, Schultz, Rubin, & Bronen, 2000), an 11-year-old boy, Robert, had the verbal abilities of a 17-year-old, but the social skills of a 3-year-old. Although Robert had a remarkable knowledge about the stars, planets, and time, his exclusive intellectual devotion to these subjects kept him from acquiring other kinds of knowledge. Peers rejected him because of his one-sided and naive overtures. His case highlights the complex nature of autism spectrum disorder for individuals at the high-functioning end of the continuum. In the early years of life, parents are more likely to view their child as especially gifted rather than suffering from a serious impairment. As they get older, their problems become more prominent and it is then that parents and educators may seek to intervene.

With support in developing their adaptive skills, individuals at the high end of the autism spectrum can develop ways to cope with their symptoms and may even become highly successful in their chosen field, particularly in areas such as technology and engineering. In addition, as adults they may be able to gain considerable self-insight into their strengths and weaknesses as they also learn to acquire social skills.

5.3 Learning and Communication Disorders

Specific Learning Disorder

specific learning disorder
A delay or deficit in an academic skill that is evident when an individual's achievement and skills are substantially below what would be expected for others of comparable age, education, and level of intelligence.

Children who have a **specific learning disorder** experience a delay or deficit in their ability to acquire a basic academic skill. These difficulties become evident when their achievement and skills are substantially below the level of performance based on their age, education, and measured intelligence. Within this general category, clinicians also specify which academic domain the disorder involves and its level of severity (mild, moderate, or severe).

In the United States, researchers estimate that approximately 8 percent of children have a diagnosed learning disorder (Centers for Disease Control and Prevention, 2015). The factors that appear to increase the child's risk of developing a learning disorder include a number of sociocultural factors: lower socioeconomic status, growing up in a two-parent stepfamily, being adopted, and being raised in the presence of a smoker. Other psychosocial family risk factors include having parents who experience more difficulty in parenting, failing to share ideas with children, and not discussing openly disagreements in the home (Altarac & Saroha, 2007).

specific learning disorder with impairment in mathematics
A learning disorder in which the individual has difficulty with mathematical tasks and concepts.

dyscalculia
A pattern of difficulties in number sense, ability to learn arithmetic facts, and performing accurate calculations.

Individuals with **specific learning disorder with impairment in mathematics** have difficulty with mathematical tasks and concepts. They may be unable to understand mathematical terms, symbols, or concepts. Individuals with specific learning disorder with impairment in mathematics may have **dyscalculia,** which refers to a pattern of difficulties in number sense, ability to learn arithmetic facts, and performing accurate calculations. A school-age child with this disorder may have problems completing homework. An adult with this disorder may be unable to balance a checkbook because of difficulty performing simple mathematical calculations.

There are serious long-term consequences of having a specific learning disorder with impairment in mathematics. In a large-scale longitudinal study of over 17,000 individuals followed from birth through adulthood, people with poorer mathematical skills had lower rates of full-time employment and the jobs they did have were in lower wage, manual positions. Without intervention, individuals with this disorder risk serious long-term consequences that can affect their quality of life.

In the **specific learning disorder with impairment in written expression,** individuals have difficulty spelling, properly using grammatical or punctuation errors, and organizing paragraphs. Such challenges lead children to have serious problems in many academic subjects. For adults, the disorder of written expression can create numerous interpersonal and practical problems. Fewer job opportunities will be open to them, particularly if their symptoms place them in the severe level of functioning.

specific learning disorder with impairment in written expression
A learning disorder in which the individual's writing is characterized by poor spelling, grammatical or punctuation errors, and disorganization of paragraphs.

Individuals with **specific learning disorder with impairment in reading** (commonly called **dyslexia**) omit, distort, or substitute words when they read. Consequently, they read in a slow, halting fashion. Their disorder can cause children to fail to show adequate progress in a variety of school subjects. As with the disorder of written expression, adults with dyslexia face restrictions in the type of employment for which they may qualify. Epidemiological studies show prevalence rates of 5 to 10 percent of the population (PubMedHealth, 2011a).

specific learning disorder with impairment in reading (dyslexia)
A learning disorder in which the individual omits, distorts, or substitutes words when reading and reads in a slow, halting fashion.

Adolescence is the peak time during which people with learning disorders are particularly susceptible to behavioral and emotional problems and are at risk of dropping out of school before finishing high school. Even outside the school context, though, many people with learning disorders have low self-esteem and feelings of incompetence and shame. The accompanying difficulties experienced by people with learning disorders can place them at risk for abusing substances including tobacco, methamphetamine, inhalants, cocaine, ecstasy, and cannabis. These individuals are also more likely to experience sleep difficulties (Fakier & Wild, 2011).

The core features of these disorders seem to involve deficits in the planning and programming of behavior, not with difficulties in motor execution, motor control across brain hemispheres, or any visual or visual perceptual disorders (Vaivre-Douret et al., 2011b). Practitioners believe the best approach to identifying children with learning disorders uses the Response to Intervention (RTI) approach in which they institute a set of evidence-based procedures that follow a series of steps. First, practitioners use screening criteria to identify at-risk children. Next, the children identified as being at risk receive a well-established intervention for a specific period of time. Those children who do not benefit from this intervention receive an even more intensive intervention. At this point, the children who do not benefit from the treatment would be those the practitioners classify as having learning disorders. To aid in diagnosis, at this point the child would also undergo a comprehensive evaluation using information from multiple sources, including standardized tests (Büttner & Shamir, 2011).

For the majority of children with specific developmental disorders, schools are the primary intervention site (Table 2). An interdisciplinary team consisting of various professionals—for example, a school psychologist, a special education teacher, the classroom teacher, a speech language therapist, and possibly a neurologist—design a treatment plan. Typically, children with these disorders require more structure, fewer distractions, and a presentation of new material that uses more than one sensory modality at a time. For example, the instructor may teach math concepts by using oral presentation combined with hands-on manipulation of objects. Teaching children through the use of heuristics can also be beneficial, in which the child learns a general strategy for approaching a problem, not just the way to solve specific problems (Geary, 2011). Perhaps most important is building on the child's strengths, so that he or she can feel a sense of accomplishment and increased self-esteem.

TABLE 2 Recommendations for Treating Children with Specific Learning Disorder with Impairment in Mathematics

Checklist for carrying out the recommendations

Recommendation 1. Screen all students to identify those at risk for potential mathematics difficulties and provide interventions to students identified as at risk.

- ☐ As a district or school sets up a screening system, have a team evaluate potential screening measures. The team should select measures that are efficient and reasonably reliable and that demonstrate predictive validity. Screening should occur in the beginning and middle of the year.
- ☐ Select screening measures based on the content they cover, with an emphasis on critical instructional objectives for each grade.
- ☐ In grades 4 through 8, use screening data in combination with state testing results.
- ☐ Use the same screening tool across a district to enable analyzing results across schools.

Recommendation 2. Instructional materials for students receiving interventions should focus intensely on in-depth treatment of whole numbers in kindergarten through grade 5 and on rational numbers in grades 4 through 8. These materials should be selected by committee.

- ☐ For students in kindergarten through grade 5, tier 2 and tier 3 interventions should focus almost exclusively on properties of whole numbers and operations. Some older students struggling with whole numbers and operations would also benefit from in-depth coverage of these topics.
- ☐ For tier 2 and tier 3 students in grades 4 through 8, interventions should focus on in-depth coverage of rational numbers as well as advanced topics in whole number arithmetic (such as long division).
- ☐ Districts should appoint committees, including experts in mathematics instruction and mathematicians with knowledge of elementary and middle school mathematics curricula, to ensure that specific criteria are covered in-depth in the curriculum they adopt.

Recommendation 3. Instruction during the intervention should be explicit and systematic. This includes providing models of proficient problem solving, verbalization of thought processes, guided practice, corrective feedback, and frequent cumulative review.

- ☐ Ensure that instructional materials are systematic and explicit. In particular, they should include numerous clear models of easy and difficult problems, with accompanying teacher think-alouds.
- ☐ Provide students with opportunities to solve problems in a group and communicate problem-solving strategies.
- ☐ Ensure that instructional materials include cumulative review in each session.

Recommendation 4. Interventions should include instruction on solving word problems that is based on common underlying structures.

- ☐ Teach students about the structure of various problem types, how to categorize problems based on structure, and how to determine appropriate solutions for each problem type.
- ☐ Teach students to recognize the common underlying structure between familiar and unfamiliar problems and to transfer known solution methods from familiar to unfamiliar problems.

Recommendation 5. Intervention materials should include opportunities for students to work with visual representations of mathematical ideas and interventionists should be proficient in the use of visual representations of mathematical ideas.

- ☐ Use visual representations such as number lines, arrays, and strip diagrams.
- ☐ If visuals are not sufficient for developing accurate abstract thought and answers, use concrete manipulatives first. Although this can also be done with students in upper elementary and middle school grades, use of manipulatives with older students should be expeditious because the goal is to move toward understanding of—and facility with—visual representations, and finally, to the abstract.

Recommendation 6. Interventions at all grade levels should devote about 10 minutes in each session to building fluent retrieval of basic arithmetic facts.

- ☐ Provide about 10 minutes per session of instruction to build quick retrieval of basic arithmetic facts. Consider using technology, flash cards, and other materials for extensive practice to facilitate automatic retrieval.
- ☐ For students in kindergarten through grade 2, explicitly teach strategies for efficient counting to improve the retrieval of mathematics facts.
- ☐ Teach students in grades 2 through 8 how to use their knowledge of properties, such as commutative, associative, and distributive law, to derive facts in their heads.

TABLE 2 **Recommendations for Treating Children with Specific Learning Disorder with Impairment in Mathematics (*continued*)**

Recommendation 7. Monitor the progress of students receiving supplemental instruction and other students who are at risk.

- ☐ Monitor the progress of tier 2, tier 3, and borderline tier 1 students at least once a month using grade-appropriate general outcome measures.
- ☐ Use curriculum-embedded assessments in interventions to determine whether students are learning from the intervention. These measures can be used as often as every day or as infrequently as once every other week.
- ☐ Use progress monitoring data to regroup students when necessary.

Recommendation 8. Include motivational strategies in tier 2 and tier 3 interventions.

- ☐ Reinforce or praise students for their effort and for attending to and being engaged in the lesson.
- ☐ Consider rewarding student accomplishments.
- ☐ Allow students to chart their progress and to set goals for improvement.

Gersten, R., Beckman, S., Clarke, B., Foegen, A., Marsh, L., Star, J. R., & Witzel, B. (2009). Assisting students struggling with mathematics: Response to intervention (TR1) for elementary and middle schools (NCEE 2009-4060). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education.

Communication Disorders

Communication disorders are conditions characterized by impairment in language, speech, and communication. Children with **language disorder** do not have the ability to express themselves in ways appropriate to their age and developmental level. They use limited and faulty vocabulary and speak in short sentences with simplified grammatical structures, omitting critical words or phrases. They may also put words together into sentences in peculiar order. A person with this disorder may, for example, always use the present tense, saying, "I have a good time yesterday" instead of "I had." Developmental delays may cause expressive language disorders, but similar symptoms can arise from a medical illness or head injury.

The expressive difficulties of some people are characterized not by their inability to understand or express language, but by difficulties specific to speech. A person with **speech sound disorder** substitutes, omits, or incorrectly articulates speech sounds. For example, a child may use a *t* sound for the letter *k*, saying "tiss" rather than "kiss." People often regard the mispronunciations of children as cute; however, these childhood speech patterns are likely to cause academic problems as the child grows older and becomes ridiculed by other children in school.

Children who experience **childhood-onset fluency disorder (stuttering)** are unable to produce fluent speech. They may emit verbalizations such as sound repetitions and prolongations, broken words, the blocking out of sounds, word substitutions to avoid problematic words, and words expressed with an excess of tension. Although it is difficult to determine cause and effect, a team of Australian researchers demonstrated a strong negative correlation between stuttering severity and educational attainment. It is possible that this relationship reflects, at least in part, the long-term consequences faced by children whose speech problems create negative experiences in their early school years (O'Brian, Jones, Packman, Menzies, & Onslow, 2011).

Children who have **social (pragmatic) communication disorder** have deficits in the social use of verbal and nonverbal communication. They have problems adjusting their behavior to the social context, such as knowing how to greet people or interpret the way they are greeted. In addition, they are unable to match their communication with the needs of the listener, such as talking differently to children and adults. In a conversation, they have difficulties following the ordinary conventions of taking turns when speaking. Finally, they have trouble understanding implicit or ambiguous meanings such as those used in humor and metaphors. These deficits can make it difficult not only for individuals to communicate effectively, but also to perform on the job and participate in ordinary social interactions.

communication disorders
Conditions involving impairment in language, speech, and communication.

language disorder
A communication disorder characterized by having a limited and faulty vocabulary, speaking in short sentences with simplified grammatical structures, omitting critical words or phrases, or putting words together in peculiar order.

speech sound disorder
A communication disorder in which the individual substitutes, omits, or misarticulates speech sounds.

childhood-onset fluency disorder (stuttering)
A communication disorder also known as stuttering that involves a disturbance in the normal fluency and patterning of speech characterized by such verbalizations as sound repetitions or prolongations, broken words, the blocking out of sounds, word substitutions to avoid problematic words, or words expressed with an excess of tension.

social (pragmatic) communication disorder
Disorder involving deficits in the social use of verbal and nonverbal communication.

5.4 Attention-Deficit/Hyperactivity Disorder (ADHD)

attention-deficit/hyperactivity disorder (ADHD)
A neurodevelopmental disorder involving a persistent pattern of inattention and/or hyperactivity.

One of the most commonly recognized psychological disorders in terms of popular attention is **attention-deficit/hyperactivity disorder (ADHD),** a neurodevelopmental disorder involving a persistent pattern of inattention and/or hyperactivity. The diagnostic criteria and the name of the disorder have changed significantly over the past few decades. Also changing is knowledge concerning its prevalence, causes, course, and treatment.

In all likelihood, you have heard the term "ADHD" in its common sense. As is true for autism spectrum disorder, ADHD now has a broad meaning that many people use to describe a child or adult whose symptoms are readily apparent in a variety of social and educational settings. Sensitized to the disorder by media coverage of ADHD in both children and adults, parents, teachers, and friends may view children who disrupt the classroom or home environment as either having or being at risk for this disorder because they show signs of hyperarousal and distractibility. The question of what behaviors constitute a diagnosable condition, however, is not entirely clear.

Characteristics of ADHD

Individuals who fulfill the *DSM-5* diagnostic criteria for ADHD have, to an extreme degree, behavior patterns in which they are inattentive and hyperactive/impulsive. The disorder's two components are defined in terms of a set of specific behavioral criteria.

The first set of criteria involve attention, and include at least 6 of a set of behaviors including failing to pay close attention to details or making careless mistakes, difficulty staying focused on tasks at school or play, seeming failure to listen when others are speaking, failure to follow through on projects, disorganization in approaching tasks, distractability, forgetfulness, tendency to lose things, and reluctance to engage in tasks requiring sustained mental effort.

The second set of ADHD criteria include at least 6 behaviors involving hyperactivity including fidgeting, inability to sit in one place, restlessness, inability to engage in quiet activities, excessive talking or motor behavior, difficulty waiting for a turn when speaking or engaging in group activities, and frequent interruptions of other people.

Clinicians can also diagnose children with ADHD "combined type" if they meet both sets of criteria for at least 6 months. They can also diagnose them with ADHD "predominantly inattentive" type if they meet the criteria for inattentiveness, but not hyperactivity-impulsivity for the past 6 months. Alternatively, clinicians may diagnose them as "predominantly hyperactive-impulsive" if they meet the second set of criteria, but have not shown inattentiveness for the previous 6 months.

Researchers estimate the mean prevalence of ADHD around the world at 5.29 percent, but the ranges of ADHD's prevalence rates vary widely by country and region of the world (Figure 1) (Polanczyk, de Lima, Horta, Biederman, & Rohde, 2007).

These wide prevalence variations show us that researchers and clinicians have not yet arrived at a consistent view of the core symptoms of ADHD. Are the presence of both inattentiveness and hyperactivity-impulsivity required or should only one set of symptoms serve as a sufficient basis for a clinician assigning the diagnosis to a particular child? The matter is very much under debate.

Moving on to understanding the clinical picture of ADHD, it is clear that children who experience this disorder can face many challenges. During the grade school years, they may receive lower grades, show repeated discipline problems, and require placement in special education classes (Wilens, Faraone, & Biederman, 2004). As they reach early adulthood, they are more likely to develop substance use disorders (Wilens et al., 2011).

Although researchers and clinicians once thought that ADHD symptoms subside by adolescence, there is more and more evidence showing that people with ADHD continue to experience them during adolescence and adulthood. The symptom picture does change

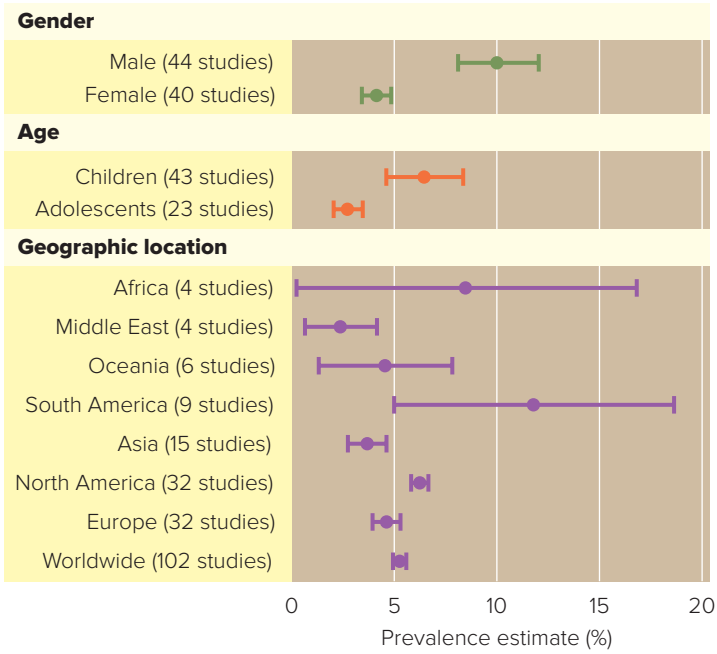


FIGURE 1 Worldwide Prevalence of ADHD

Polanczyk, et al. The Worldwide Prevalence of ADHD: A Systematic Review and Metaregression Analysis, *American Journal of Psychiatry,* 2007. Copyright © 2007 by American Psychiatric Association

from childhood to adolescence, such that the hyperactivity so evident during preschool and early childhood years declines by adolescence. Even so, the individual continues to have difficulty with maintaining attentional focus.

Adults with ADHD are more likely to have deficits in working memory, sustained attention, verbal fluency, and processing speed, problems that resulted in their having lower academic achievement than adults without ADHD (Biederman et al., 2006). Also affected in adults with ADHD are executive functions in tasks such as self-reflection, self-control, planning, forethought, delay of gratification, affect regulation, and resistance to distraction (Wasserstein, 2005).

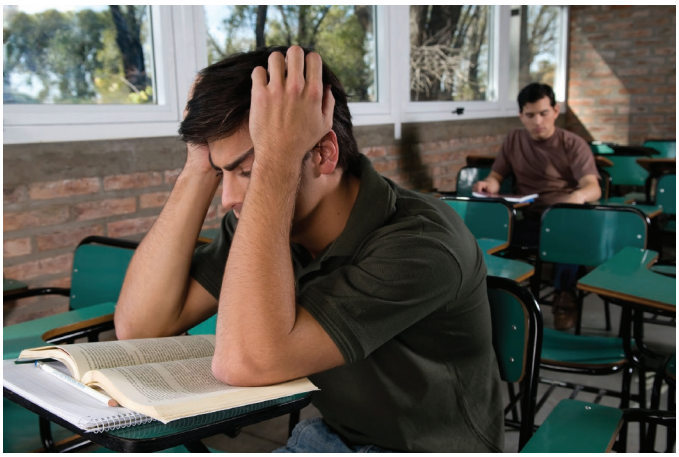
Teenagers with ADHD can have a wide range of behavioral, academic, and interpersonal problems that create serious difficulties for them and problems in their relationships with family, friends, and educators. They tend to be less mature than others their own age, more likely than other teens to engage in conflict with their parents, have strikingly poor social skills, and engage in more high-risk activities such as substance abuse, unprotected sex, and reckless driving (Resnick, 2005).

Educators and clinicians are likely to miss a diagnosis of ADHD in girls, whose symptoms tend to be less overt than the symptoms of boys. In girls, ADHD may

MINI CASE

Attention-Deficit/Hyperactivity Disorder

Zaman's mother has just had a conference with her son's teacher, who related that Zaman, age 7, has been extremely restless and distractible in class. Every few minutes, he is up from his desk, exploring something on a bookshelf or looking out the window. When he is in his seat, he kicks his feet back and forth, drums his fingers on the table, shifts around, and generally keeps up a constant high level of movement. He may ask to go to the bathroom three times in an hour. He speaks very quickly, and his ideas are poorly organized. During recess, Zaman is aggressive and violates many of the playground rules. Zaman's mother corroborates the teacher's description of Zaman with similar stories about his behavior at home. Although Zaman is of normal intelligence, he is unable to sustain concentrated attention on any one activity for more than a few minutes.



Children and adolescents who suffer from ADHD experience significant difficulties in keeping up with their schoolwork due to symptoms such as inattention and extreme restlessness. Many researchers believe that the diagnosis is influenced by environmental and sociocultural factors.

include symptoms such as unusual forgetfulness, disorganization, low self-esteem, and demoralization. Unlike boys, girls with ADHD tend to externalize their symptoms and become anxious, depressed, and socially withdrawn (Quinn, 2005). Girls who show these symptoms of ADHD may, therefore, be seen as having a depressive or anxiety disorder and therefore not receive appropriate treatment.

ADHD in Adults

Once regarded as a disorder restricted to childhood, clinicians and researchers now view ADHD as having the potential to continue into adulthood. Perhaps as many as 4 percent of American adults meet the diagnostic criteria for this disorder, with nearly equal numbers of men and women having this condition (Kessler, Adler, et al., 2006). It is unlikely that ADHD shows up for the first time in people of adult age, but rather that it was improperly diagnosed earlier. This might be especially true for individuals who, as children, had inattentive but not disruptive symptoms.

The symptoms of ADHD appear in different forms in adults compared to children. Whereas children may show greater evidence of restlessness and impulsivity, adult ADHD involves difficulties in maintaining attentional focus (Kessler et al., 2010). Reflecting abnormalities in executive functioning, people with adult ADHD are more likely to have difficulty organizing tasks, make careless mistakes, lose things, and perform more poorly on tasks that involve prioritizing activities on the basis of importance.

In their daily lives, then, adults with ADHD have trouble devising routines, are haphazard in their management of time and money, and find it difficult to complete academic work or follow through on job tasks. Throughout adulthood, men in particular are at higher risk of having vehicular accidents and receive moving vehicle citations (Cox, Cox, & Cox, 2011).

A small percentage of adults with ADHD are able to channel their excessive energy and restlessness into creative endeavors, such as entrepreneurial ventures (Weiss & Murray, 2003), although their inability to sustain attention and commitment to a project may limit the likelihood of their succeeding for any extended period of time.

Women with ADHD are less likely to show the high-risk behaviors seen in men. Instead, they are more likely to experience dysphoria, organization problems, impulsivity, and inattention, characteristics that are of particular concern if they interfere with consistent parenting (Quinn, 2005).

The symptoms of ADHD can lead adults with the disorder to typically have serious problems in relationships, whether the relationship is with an intimate partner, a coworker, an acquaintance, or even a stranger. Because they become easily bored, adults with ADHD seek excitement by starting arguments with the people close to them. They find it difficult to listen to others, they may hear only parts of a conversation, they are prone to interrupting, and they speak while others are trying to speak. Moody and high-strung, they irritate their intimate partners by their impulsivity, poor decision making, and inept money management. Other problems ensue in their relationships due to their disorganization, forgetfulness, chronic lateness, repeated misplacement of objects around the house, and overall lack of dependability (Robbins, 2005).

Even more serious are the possible effects of ADHD on the individual's tendency to engage in deviant or antisocial behavior (Barkley & Murphy, 2011). ADHD may also make people prone to developing substance use disorders as well as higher rates of cigarette smoking (Wilens, 2011).

As you can see, adult ADHD is more than a theoretical construct. It is a highly disabling condition that can prevent individuals from achieving their life goals.

Theories and Treatment of ADHD

The biological determination of ADHD is well established, as indicated by family, twin, adoption, and molecular genetic studies. Researchers estimate ADHD heritability as high as 76 percent (Faraone et al., 2005) and is among the highest rates of all psychiatric disorders. Studies of individuals with ADHD have found evidence for the involvement of several genes related to dopamine, suggesting that deficits in reward patterns may contribute to the symptoms of this disorder (Volkow et al., 2009).

Researchers have also found structural brain abnormalities in people with ADHD, and believe that a network of interrelated brain areas is involved in the impairment of attentional-executive functions of these individuals. For example, the MRIs of children with ADHD in one recent study revealed that, on average, they had 9 percent less volume in the cortex and disruptions in circuits involved in regulating motor control (Qiu et al., 2011).

Although there are functional and structural abnormalities found in the brains of people with ADHD, most researchers believe that the disorder emerges out of an interaction between genetic vulnerability and exposure to environmental stressors. These stressors include birth complications, acquired brain damage, exposure to toxic substances, infectious diseases, and even marital stress of parents (Martel, Nikolas, Jernigan, Friderici, Waldman, & Nigg, 2011).

Depending on comorbidity with other disorders, there may be subtypes of ADHD, such as mood or anxiety disorders, learning disabilities, or conduct or oppositional defiant disorder (Adler, Barkley, Wilens, & Ginsberg, 2006). Each of these subtypes may have a different pattern of family inheritance, risk factors, neurobiology, and responses to medications (Biederman, Mick, Faraone, & Burback, 2001).

Tying together biological abnormalities and behavioral problems in ADHD, Barkley (1997) in his theory of ADHD proposes that the core impairment is inability to inhibit responses due to abnormalities in the prefrontal cortex and how it communicates with other parts of the brain. This impairment of response inhibition manifests itself in four areas of the individual's functioning: (1) working memory, (2) internalization of self-directed speech, (3) self-regulation of affect, motivation, and level of arousal, and (4) reconstitution—the ability to break down observed behaviors into component parts that can recombine into new behaviors directed toward a goal. In addition, according to Barkley, children with ADHD fail to develop a future orientation and sense of the self across time.

Consider how each of these impairments is expressed in a child's behavior. Problems with working memory cause the child to have difficulty keeping track of time or remembering such things as deadlines and commitments. Having an impaired internalization of self-directed speech means that these children fail to keep their thoughts to themselves or engage in private self-questioning or self-guidance. Their impaired self-regulation of mood and motivation causes them to display all their emotions outwardly without censorship, while being unable to self-regulate their drive and motivation. Their impaired ability to reconstitute causes these children to be less able to solve problems, because they are unable to analyze behaviors and synthesize new behaviors.

Barkley's theory continues to receive support. Most recently, he has devised a scale to measure executive functioning in adults that assesses self-management with regard to time, self-organization and problem solving, self-discipline, self-motivation, and self-activation/concentration. Adults with ADHD show impairment not only on these ratings, but also on their scores related to measures of deviant behavior in daily life including antisocial acts, diversity of crimes, and traffic offenses committed while driving (Barkley & Murphy, 2011). Sample items from the adult executive functioning scale are shown in Table 3.

In addition to biological and psychological factors, sociocultural influences play a role in the aggravation of the ADHD symptom picture. Many children with ADHD have grown up in a chaotic or disorganized family environment and have had failure experiences in school. Additionally, the child's disruptive behavior may contribute further to family and school problems. Raising a child with ADHD is more difficult than raising a non-ADHD child, and this stress on the family could lead to family disturbances. Similarly, the child's experiences of failure in school may be the result, rather than the cause, of attentional disturbances.

TABLE 3 Sample Items from the Adult ADHD Executive Functioning Rating Scale

Each item is rated on a 1–4 Likert scale (1 = Rarely or not at all; 2 = Sometimes; 3 = Often; 4 = Very Often).

Scale	Sample Items
Self-Management to Time	Procrastinate or put off doing things until the last minute
	Late for work or scheduled appointments
Self-Organization and Problem-Solving	Often at a loss for words when I want to explain something to others
	Unable to "think on my feet" or respond as effectively as others to unexpected events
Self-Discipline	Make impulsive comments to others
	Trouble following the rules in a situation
Self-Motivation	Likely to take short cuts in my work and not do all that I am supposed to do
	Others tell me I am lazy or unmotivated
Self-Activation/Concentration	Easily distracted by irrelevant thoughts when I must concentrate on something
	Have trouble staying alert or awake in boring situations

Gersten, R., Beckman, S., Clarke, B., Foegen, A., Marsh, L., Star, J. R., & Witzel, B. (2009). *Assisting students struggling with mathematics: Response to intervention (TR1) for elementary and middle schools* (NCEE 2009–4060). Washington, D.C.: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education.

By the time that individuals with ADHD reach adulthood, they have experienced so many frustrations in life, particularly in relationships, that they become caught in a vicious trap of dysfunction. The very nature of their disorder causes them to have difficulty relating to others, even those to whom they are closest. Partners become exasperated and may give up on the relationship, causing the individual with ADHD to become even more depressed and more inclined to seek self-energizing behaviors that ultimately prove to be counterproductive.

Individuals with ADHD treated from the biological perspective receive medications intended to control their symptoms. Although there are more than a dozen brand names under which such prescriptions are written, most medications are based on methylphenidate (Ritalin).

Over the past few decades, pharmaceutical companies have made significant advances in developing effective medications for ADHD, such that more recently produced medications, in extended-release formulations, are longer lasting. The first class of stimulant medications, which included methylphenidate, was effective for brief durations (3 to 5 hours) and required multiple, well-timed doses throughout the day.

The extended-release formulations work in one of two ways: back-loaded delivery systems that work later in the dosage interval, and beaded 50-50 delivery systems that divide delivery up equally early and late. One advantage to long-acting medications is that they are less likely to be abused (Mao, Babcock, & Brams, 2011). Additionally, the individual is less likely to forget to take the medication because it has a longer time frame between doses.

Concerta is a back-loaded product: 22 percent of the dose is in the immediate release overcoat, and 78 percent of the dose is delivered approximately 4 hours after ingestion. Adderall XR is a 50-50 beaded delivery product and mimics the patient taking two equal doses. The duration of action is 7 to 9 hours in adults (Dodson, 2005).

You Be the Judge

Prescribing Psychiatric Medications to Children

Research on human participants of any age requires that investigators adhere strictly to the APA Ethical Principles of Psychologists and Code of Conduct. In the case of children, however, the issues shift considerably given that they are "vulnerable populations." This means that they may be at increased risk for abuse and exploitation. Consequently, for decades, researchers avoided conducting studies to test the efficacy of psychotherapeutic medications on children to avoid exposing them to unnecessary harm during research trials. With no conclusive data about effectiveness, safety, and pharmacological action on which to base treatment recommendations, psychiatrists treated their pediatric patients using so-called "off-label" prescriptions that had not received U.S. Food and Drug Administration (FDA) approval.

The practice of prescribing these off-label medications for disorders is widespread in the United States, but because of the problems of conducting research on children, these prescriptions are often targeted toward this population. The FDA has no authority to regulate the way in which physicians practice medicine, so they must make their own decisions about whether or not to prescribe an off-label medication to a child. In the process, physicians must balance the potential benefits with the risks of the medication. With few studies of the safety and efficacy of the medications, physicians must rely on their own experience (Spetie & Arnold, 2007).

Children may therefore be at greater risk of side effects than other populations about whom extensive data exists. The situation was brought to light in a dramatic manner in 2003 when the FDA received reports showing an association between SSRI use in adolescents and a heightened risk of self-harm and suicidal thoughts. By 2007, these medications received "black box" warnings from the FDA: warnings that appear on the package insert for certain prescription drugs to call attention to serious risks. These new warnings applied not only to children and adolescents, but also to young adults. Because the FDA did not have extensive data on the use of these medications for young people, they used the information they had at their disposal to make this ruling. There is now considerably more information about these medications present, suggesting that antidepressants may, in fact, reduce suicide risks in this population, a risk that decreases steadily with length of treatment (Dudley, Goldney, & Hadzi-Pavlovic, 2010).

Q: *You be the judge:* Should researchers conduct more studies on psychotherapeutic medication with children? Do the risks of side effects that may occur during this research justify these investigations? Furthermore, if researchers discover that a medication has harmful side effects, how should prescribing health professionals weigh these against possible benefits?

As an alternative to methylphenidate, antidepressant medications are sometimes prescribed for people with ADHD. These include bupropion (Wellbutrin SR), pemoline (Cylert), atomoxetine (Strattera), and imipramine (Tofranil). Clinicians use these medications to treat mild to moderate ADHD, with some effects starting to appear as soon as 2 to 3 days after beginning treatment. Clinicians typically use this group of medications for individuals with mild ADHD symptoms and coexisting symptoms (such as anxiety or depression), medical conditions that contraindicate stimulant use, tic disorder or Tourette's disorder (discussed later in this chapter), and drug abuse histories (Dodson, 2005).

Parents are understandably concerned about the side effects that occur with stimulant use by their children requiring ADHD treatment. Some children on the medication have trouble sleeping and have a reduced appetite. More serious side effects occur when the child develops uncontrollable bodily twitches and verbalization. The child's growth may also be temporarily suppressed.

Critics contend that clinicians overprescribe stimulant medications for ADHD and that they use medication as the primary, and often only, intervention for dealing with

behavior problems. Moreover, based on animal models, long-term use of stimulants such as Ritalin may provoke persistent neurobehavioral consequences that actually exacerbate ADHD symptoms (Marco, Adriani, Ruocco, Canese, Sadile, & Laviola, 2011).

In the nonpharmacological realm, a number of interventions are effective in reducing ADHD symptoms and helping individuals with this condition function better interpersonally and feel better about themselves. Murphy (2005) enumerates a multipronged approach to psychosocial treatment. Although he focuses on the treatment of teens and adults with ADHD, we can apply some of the strategies in families of children with ADHD. The eight strategies are as follows:

psychoeducation
Professionally delivered treatment that integrates psychotherapeutic with educational interventions.

1. **Psychoeducation** is the starting point, because the more people with ADHD know about their condition and how it affects them, the better they will be able to understand the impact of this disorder on their daily functioning and to develop coping strategies. Psychoeducation instills hope and optimism as the individual frames the condition as treatable and begins to expect that life will become better once he or she begins making changes.
2. Psychological therapies, such as individual therapy, provide a context in which clinicians and their clients can set treatment goals, resolve conflicts, solve problems, manage life transitions, and treat coexisting problems such as depression and anxiety. Specific techniques, such as cognitive-behavioral strategies, can help clients change maladaptive behavior and thought patterns that interfere with daily functioning. Maladaptive thought patterns have commonly become entrenched as the result of recurrent negative messages from teachers, parents, and peers.
3. Compensatory behavioral and self-management training provides the opportunity to build skills by incorporating more structure and routine into one's life. Simple strategies can make day-to-day tasks and responsibilities more manageable. These include making to-do lists, using appointment books, keeping notepads in useful locations, and having multiple sets of keys.
4. Other psychological therapies, such as marital counseling, family therapy, career counseling, group therapy, and college planning also provide opportunities to assess the various ways in which ADHD symptoms affect life choices and the people with whom the individual is involved.
5. Coaching, a more recently developed intervention, involves consulting with a professional who can assist the individual with ADHD to focus on the practical implementation of goals. In other words, the coach helps the person find ways to accomplish things through a pragmatic, behavioral, results-oriented approach.
6. Technology (e.g., computer programs or personal digital assistants [PDAs]) can help individuals with ADHD access tools and devices that assist them to communicate more effectively, write, spell, stay organized, remember information, stay on schedule, and keep track of time.
7. School and workplace accommodations can facilitate productivity and minimize distraction. Students or employees with ADHD usually work better in quiet, nondistracting environments. They are also more likely to succeed when they receive more frequent performance reviews to help shape their performance and establish priorities. It is important to restructure tasks in ways that capitalize on their strengths and talents.
8. Advocacy, particularly in the form of advocating for oneself, is especially important in attaining success. Although it is difficult for most people to disclose the disabling aspects of ADHD to others, they may find that explaining their condition to others improves the situation for everyone involved.

This multipronged approach is obviously most appropriate for teens and adults who can take more managerial responsibility for their lives. Clinicians, parents, and teachers

This child suffers from a developmental coordination disorder, making it difficult for him to learn to put objects in order at a normative developmental rate.

treating children with ADHD can, nevertheless, adapt some of these strategies. These behavioral strategies can also be combined with stimulants as part of an integrated intervention (Breggin & Barkley, 2005).

Implicit in the behavioral approach is the notion that the family must learn to use behavioral methods and directly involve themselves in helping the child reduce disruptive behaviors. Coordinating these efforts with comparable intervention by classroom teachers improves the odds for helping the child gain better self-control.

5.5 Motor Disorders

Developmental Coordination Disorder

developmental coordination disorder
A motor disorder characterized by marked impairment in the development of motor coordination.

The primary form of motor disorder is **developmental coordination disorder.** Children with this disorder experience marked impairment in their abilities to coordinate the movements of their hands and feet. Surprisingly common, affecting as many as 6 percent of children, this disorder can lead children to encounter problems in their academic achievement and ability to engage in ordinary tasks of daily life (Nass & Ross, 2008). There may be subtypes of developmental coordination disorder with one subtype involving hand-eye coordination and the other visual-spatial difficulties (Vaivre-Douret et al., 2011a).

In infancy and early childhood, children with developmental coordination disorder have trouble crawling, walking, and sitting. As they develop, their performance on other age-related tasks also is below average. They may be unable to tie their shoelaces, play ball, complete a puzzle, or even write legibly. Consequently, they may experience problems of low self-esteem. In addition, their lack of coordination may also lead them to be less able to participate in sports and exercise programs, leading them to become overweight.

Given the complexity of their symptoms, children with motor disorder seem to benefit from an integrated approach that identifies the needs of clients and their families in the early stages when symptoms first begin to emerge. An integrated approach to assessment can then proceed in which children, families, and professionals share their perspectives on the child's symptoms and start to formulate therapeutic goals. Next, professionals, parents, and children plan how intervention will proceed, taking advantage of community resources. Here again, all must collaborate in setting goals for the child. They should base their planned interventions on evidence-supported treatments. Finally, the intervention team should plan strategies that will continue to support the children

and their families as they transition to self-management within the home, school, and communities (Forsyth, Maciver, Howden, Owen, & Shepherd, 2008).

Tic Disorders

tic
A rapid, recurring, involuntary movement or vocalization.

Tourette's disorder
A disorder involving a combination of chronic movement and vocal tics.

A **tic** is a rapid, recurring involuntary movement or vocalization. There are several kinds of tic disorders involving bodily movements or vocalizations. Examples of motor tics include eye blinking, facial twitches, and shoulder shrugging. Vocal tics include coughing, grunting, snorting, coprolalia (the uttering of obscenities), and tongue clicking.

Tourette's disorder is perhaps the most well known of the tic disorders, affecting approximately 1 percent of children. People with this disorder experience a combination of chronic movement and vocal tics. The majority of individuals with Tourette's disorder are males. Their disorder begins gradually, often with a single tic, such as eye blinking, which over time grows into more complex behaviors. The tics can include uncontrollable movements of the head and sometimes parts of the upper body. In some cases, individuals engage in complex bodily movements involving touching, squatting, twirling, or retracing steps. At the same time, they utter vocalizations that sound odd to others; for example, an individual may have a complex tic behavior in which he rolls his head around his neck while making sniffing and barking noises. In only a small percentage of cases do people with Tourette's disorder utter obscenities.

This is not a passing condition, but one that can be lifelong, with onset in childhood or adolescence. Individuals with this disorder also have other psychological symptoms, the most common of which are obsessive-compulsive symptoms, speech difficulties, and attentional problems. Deficits in brain inhibitory mechanisms in the prefrontal cortex may be involved in Tourette's disorder, a feature that is shared with obsessive-compulsive disorder and ADHD (Aliane, Pérez, Bohren, Deniau, & Kemel, 2011). The condition may resolve itself by adulthood, as the brain structures involved in inhibiting the tics mature.

Children with Tourette's can benefit from educational interventions that help bolster the child's self-esteem and provide supportive counseling. However, if the tics are painful, self-injurious (such as scratching), and cause significant disability, clinicians need to intervene more systematically. These individuals can benefit from a form of cognitive-behavioral therapy using habit reversal. In this approach, the profession trains clients to monitor their tics and sensations that precede the tics and respond to them with a voluntary behavior that is physically incompatible with the tics.

If the individual does not have access to cognitive-behavioral treatment, which can be time consuming and is unproven, the clinician may place the client on pharmacological therapy, which can include SSRIs, atypical antipsychotic agents, and, in extreme cases, deep brain stimulation. Unfortunately, each of these approaches carries risks. The only medications for Tourette's disorder that the Food and Drug Administration has approved are the classic antipsychotic agents haloperidol and pimozide, which block D2 dopamine receptors (Kurlan, 2010).

Stereotypic Movement Disorder

stereotypic movement disorder
A disorder in which the individual voluntarily repeats nonfunctional behaviors, such as rocking or head banging, that can be damaging to his or her physical well-being.

Children with **stereotypic movement disorder** engage in repetitive, seemingly driven behaviors, such as waving, body rocking, head banging, self-biting, and picking at their bodies. These behaviors can interfere with their normal functioning and cause bodily injury. As many as 60 percent of children between the ages of 2 and 5 engage in these repetitive behaviors, so they are common, but they only receive a diagnosis when they create significant impairment. Subgroups of children are particularly likely to engage in stereotyped motor disorders, including children who are blind and those who have developmental delays. Because repetitive behaviors may be so common, and may even serve a developmental purpose, the child may not require intervention. For children who are truly impaired, or who risk serious injury as a result of their behavior, behavior modification appears to be the most efficacious to help them stop engaging in the behavior.

If the behavior does not lead to physical harm, however, children may benefit from learning to cease engaging in the behavior publicly (such as in the classroom) even while they may continue engaging in the behavior privately (Freeman, Soltanifar, & Baer, 2010).

5.6 Neurodevelopmental Disorders: The Biopsychosocial Perspective

The disorders that we have covered in this chapter include a range of conditions that reflect, to differing degrees, combinations of biological, psychological, and sociocultural influences. Genetic influences on many of these disorders are clearly evident, but even so, interactions with social context play an important role. Moreover, because these disorders begin early in life, they have the potential to exert profound psychological effects on an individual's life. Family factors also play a critical role given the importance of early parenting experiences as contributors to psychological outcomes.

Just as the disorders reflect multiple influences, so do treatments. In providing interventions to children, clinicians are becoming justifiably concerned about the use of medication. Treatment from the behavioral perspective seems to have a number of advantages, because their symptoms may be particularly amenable to treatments that focus on principles of reinforcement.

The tremendous growth of interest in the conditions that can affect children within the past few decades means that there is considerably more information available on causes and interventions than was true even a few years ago. Although interventions can be efficacious on people of any age, targeting children as soon as possible can help individuals achieve favorable outcomes that can influence their lives for decades to follow.

Return to the Case: Jason Newman

Jason was started on a stimulant medication, and both his parents and Mrs. Brownstein noted an improvement in his ability to pay attention and to sit still for longer periods of time. Though he continued to feel restless, Jason's behavioral work with a therapist at the clinic began to help decrease his disruptive behavior at school. The therapist also worked with Pam and John to create a consistent system of rewards and punishment for Jason's behavior. Together they realized that due to their differing opinions on how strict to be with Jason, Pam and John had been sending diverging reinforcement messages to Jason. In order to facilitate an agreement on how to punish or reward Jason accordingly, they worked on creating a set system of reinforcement that they shared with Jason so that he was better informed about what to expect should he misbehave. After several months of medication and therapy, and with his parents' improved ability to discipline him, Jason became less hyperactive while in school and his grades began to improve. Jason started getting along better with his classmates and joined a basketball league, which allowed him to make friends and channel his energy appropriately.

Dr. Tobin's reflections: It can be difficult to differentiate normal overactivity in young children from more severe symptomatology that is indicative of ADHD. Dr. Brownstein made careful consideration of this when diagnosing Jason, based on Pam's description of his behavior over the years. It was clear that Jason's behavioral problems were severely interfering with his ability to lead a normal childhood and attain an education. Especially compared with his brother Nicholas, it was clear that Jason was struggling with symptoms that went beyond that of normative childhood behavior.

ADHD is typically diagnosed during the elementary school years, and though the disorder can last through adolescence, with appropriate treatment such as the kind Jason is receiving, the symptoms can begin to diminish toward adulthood. It can be a difficult ethical decision to place children on stimulant medication, though in Jason's case it was important in helping to decrease his hyperactive symptoms that were causing him problems at school and that would further make behavior therapy difficult to conduct. Hopefully, with continued therapy and behavioral strategies implemented by his parents, he will be able to discontinue medication in the near future.

SUMMARY

- Neurodevelopmental disorders include disorders that strike children early in life and appear to affect their behavioral functioning by creating brain abnormalities.
- Intellectual disability refers to intellectual and adaptive deficits that are first evident in childhood. Genetic abnormalities are a significant cause. The three most important genetic causes are Down syndrome, phenylketonuria, and fragile X syndrome. Another genetic disorder is Tay-Sachs disease.
- Environmental hazards during prenatal development are the second category of causes of intellectual disability. These hazards, called "teratogens," include drugs or toxic chemicals, maternal malnutrition, and infections in the mother during critical phases of fetal development. Consumption of alcohol during pregnancy can lead to fetal alcohol syndrome (FAS).
- People with intellectual disability can benefit from early intervention aimed at providing them with training in motor coordination, language use, and social skills. Educators can combine mainstreaming, which integrates them into ordinary school classrooms, with special education that provides them with assistance geared to their particular needs.
- The *DSM-5* authors created the category of autism spectrum disorder to provide a more reliable and valid distinction between children who clearly show "typical development" and those who demonstrate the range of deficits in communication and social behavior that *DSM-IV-TR* attempted to differentiate. The new spectrum format for this category underscores the commonalities between disorders previously considered discrete. Disorders listed in DSM-IV-TR such as Asperger's, autism, Rett syndrome, childhood disintegrative disorder, and pervasive developmental disorder are included in autism spectrum disorder in the *DSM-5*. Symptoms that formerly differentiated these disorders from one another now are indicated by diagnostic specifiers.
- Evidence pointing to patterns of familial inheritance supports the theory that autism spectrum disorder is biologically caused. Although it is evident that neurological differences exist between people with and without this autism spectrum disorder, the basis for these differences and their implications are not clear.
- Although there is strong evidence favoring neurobiological abnormalities in individuals with autism spectrum disorder, the behavioral perspective is the most relevant to treatment, particularly interventions that rest on principles of operant conditioning practiced by student therapists and parents. Disruptive and self-stimulatory behaviors will decrease if children with autism spectrum disorder receive reinforcement for appropriate behaviors, such as asking for help or feedback. In such instances, they are less likely to engage in self-injurious or aggressive behaviors.
- The specific learning disorders include impairment in mathematics, written expression, reading, and communication. Communciation disorders include speech sound disorder, childhood-onset fluency disorder, and social communication disorder.
- Practitioners believe that the best approach to identifying children with learning disorders uses the Response to Intervention (RTI) approach in which they institute a set of evidence-based procedures that follow a series of steps.
- Attention-deficit/hyperactivity disorder (ADHD) involves inattentiveness or hyperactivity and impulsivity. There are many theories about the cause of this disorder, but familial heritability rates may be as high as 76 percent. Although researchers have found fundamental and structural abnormalities in the brains of people with ADHD, most agree that genetic vulnerability interacts with environmental exposure. Treatment involves a multipronged approach.
- Developmental coordination disorders involve tics, recurring involuntary movements or vocalizations.These disorders include Tourette's and stereotypic movement disorder.
- The disorders covered in this chapter include a range of conditions that reflect, to differing degrees, combinations of biological, psychological, and sociocultural influences. Genetic influences on the development of many of these disorders are clearly evident, but even so, interactions with social context play an important role. Moreover, because these disorders begin early in life, they have the potential to exert profound psychological effects on an individual's life.

KEY TERMS

Asperger's disorder
Attention-deficit/hyperactivity disorder (ADHD)
Autism spectrum disorder
Childhood disintegrative disorder
Childhood-onset fluency disorder (stuttering)
Communication disorders
Developmental coordination disorder
Down syndrome
Dyscalculia
Echolalia
Fetal alcohol spectrum disorder (FASD)
Fetal alcohol syndrome (FAS)
Fragile X syndrome
Intellectual disability (intellectual developmental disorder)
Language disorder
Mainstreaming
Mental retardation
Neurodevelopmental disorders
Phenylketonuria (PKU)
Psychoeducation
Rett syndrome
Social (pragmatic) communication disorder
Specific learning disorder
Specific learning disorder with impairment in mathematics
Specific learning disorder with impairment in reading (dyslexia)
Specific learning disorder with impairment in written expression
Speech sound disorder
Stereotypic movement disorder
Tay-Sachs disease
Teratogens
Tic
Tourette's disorder

Schizophrenia Spectrum and Other Psychotic Disorders

OUTLINE

Case Report: David Marshall
Schizophrenia
What's in the *DSM-5*: Schizophrenia Subtypes and Dimensional Ratings
Course of Schizophrenia
You Be the Judge: Schizophrenia Diagnosis
Brief Psychotic Disorder
Schizophreniform Disorder
Schizoaffective Disorder
Delusional Disorders
Theories and Treatment of Schizophrenia
Biological Perspectives
Theories
Real Stories: Elyn Saks: Schizophrenia
Treatments
Psychological Perspectives
Theories
Treatments
Sociocultural Perspectives
Theories
Treatments
Schizophrenia: The Biopsychosocial Perspective
Return to the Case: David Marshall
Summary
Key Terms

Learning Objectives

6.1 Explain the characteristics of schizophrenia.
6.2 Describe the key features of other psychotic disorders.
6.3 Identify the theories and treatments of schizophrenia.
6.4 Analyze the biopsychosocial model of schizophrenia.

CHAPTER 6

Case Report: David Marshall

Demographic information: 19-year-old Asian American male.

Presenting problem: David was evaluated at an inpatient psychiatric facility following his second psychotic episode within a 1-year period. He was brought to the hospital by his mother, Ann, who had noticed that David's behavior had become increasingly bizarre over the past 7 months. David's mother was the main source of information during the interview, as David was unable to give an accurate personal history.

David is a college sophomore, attending a university in his hometown. Though he lived at home with Ann during his first year (she had raised David after getting a divorce when David was 5), she and David decided it would be beneficial for him to move into the dormitories in order to gain a sense of independence. Ann reported that David was doing well for the first 2 weeks of living in the dormitories. Ann and David typically spoke on the phone a few times per week, and David had been coming home for dinner on Sunday evenings. One Sunday evening in mid-October, Ann reported that David failed to show up for dinner as he had been planning to. She called David's best friend Mark who had not heard from him for a few days and was himself worried about David. Mark has known David since high school and lives in the same town. He noted to Ann that David didn't "quite seem to be himself lately," as he had been acting particularly aloof. Mark had been concerned that he hadn't heard from David and so he went to search for him in different parts of town where he knew David liked to spend time, and eventually found him outside of a coffee shop. When Mark approached David, David stated that he wished to be referred to as "Joey." Mark noted that David appeared particularly unkempt, which was unusual as he normally took very good care of himself. Upon approaching David, Mark also noticed that he was smiling and laughing to himself. Mark assumed that he was doing so because he was in a particularly good mood, though David's tone became more serious when he offered to drive David back to his dorm room. David refused, stating, "I have a lot of writing to do. My poems are going to be published and they want me to write 20 more so they can publish a book of my poems." Writing had always been one of David's hobbies, and he and Mark often discussed their respective creative endeavors. Mark was alerted when he looked down at David's notebook, which was open in his lap while they were talking, and noticed only illegible scribbling. Mark noticed that throughout their conversation, David's left arm repeatedly and seemingly involuntarily extended with a jerking motion every few minutes. Mark was unable to convince David to go back to campus with him, and Mark hesitantly left the coffee shop. Upon hearing this story, Ann was shocked about her son's behavior, remarking that she had never seen David acting so oddly. Unsure of what to do, Ann decided to wait until she heard from David.

David eventually returned to his dorm room and called Ann around 3 A.M., stating, "I can't stay here because there are no poets here. They need me there. Meeting, meeting, bus, poems. I need poems for a money to go to meet. A meeting. I have to get there. I have got there. I have to go there." He repeated this last part several times. Confused, Ann asked David what he meant, at which point David hung up the phone. After that, Ann reported she didn't hear from David for about a week.

David was returned to Ann's house by the police, who had found him on campus causing a disturbance by yelling at some other students who were waiting for a bus nearby. Ann was unsure if David had actually gone to New York or if he had

Case Report *continued*

been on campus the whole time. She was able to extract that he had not been attending his classes. She decided to write to David's professors, asking for an incomplete grade as it was clear that David was unable to successfully complete his classes in his current state. David stayed with Ann for the next 3 weeks, during which time he continued to display bizarre behavior. Ann had hoped that he was going to recover at any given time, but it was becoming clear that he was not improving. When Ann would return home from work, she would find dirty laundry, dishes, pizza boxes, and cigarette ashes all around the house. Often David would stay in his room all day long, coming out only to use the bathroom or eat a meal. When Ann did see him she noticed that he appeared rather sad and withdrawn, barely speaking to her. Normally they had a very close relationship and enjoyed spending time together around the house. Though she worried about her son, she wasn't sure what she could do to help him.

By the time the next school year was about to start, Ann felt that David seemed to have made a great improvement—he was engaging more with her at home and was less messy and the content of his speech was less bizarre. He did seem much more withdrawn in general than he once had been, and was engaging in a minimal amount of activities. He was able to hold a part-time job for about a month in the spring at a gas station, but was fired due to excessively showing up late for work. Otherwise, he mostly stayed in his room listening to music and writing. He spent time with Mark occasionally, though David often cancelled their plans stating that he simply didn't feel like being around people.

David and Ann decided that he should re-enroll at the university, and at David's urging, he was sent to once again live in the dormitories. Two weeks later, David again disappeared. Ann again got a phone call one evening from David, who said he was in Manhattan. She reported that David said he had owed his landlord some money for needing a new set of keys. Ann had been unaware that David even went to New York or that he was living there. David asked for her credit card information over the phone and said that if he didn't come up with the money the landlord was threatening violence against him. When Ann asked where he was exactly, David hung up the phone, and Ann did not hear from him until he showed up at her house 3 days later, completely disheveled and visibly filthy. He told Ann that he was afraid his roommate was going to burn all of his belongings. While he was telling the story he was laughing. It appeared to Ann that David was once again acting bizarrely and after the previous experience she knew that this time something had to be done. Unsure of where to turn, Ann brought David to the closest general hospital, where he was admitted to the behavioral health inpatient program.

Relevant history: David has no previous history of psychiatric treatment. His mother reported that he had experienced some mild depression earlier in his teenage years. She recalled that David had always been "somewhat different" from his peers, noting that he had only a few close friends throughout his childhood and adolescence.

In terms of family history, Ann reported that David's paternal grandfather had been diagnosed with schizophrenia though there was no other noted family history of mental illness.

Case formulation: It was clear from the presenting story that David had experienced two psychotic episodes over the past few months. His first psychotic break occurred after a major stressor—moving away from home for the first time. This is a typical stressor that occurs around the developmental period when psychotic symptoms may first begin to fully emerge, due to the high base rate of major life events that occur during this time. By Ann's report, David had perhaps displayed some prodromal symptoms as an adolescent, which is also typical in the case of individuals with schizophrenia. David meets diagnostic criteria for schizophrenia as his symptoms lasted for longer than 6 months, and included over a month of active symptoms. Further, his general level of functioning was greatly reduced following the first psychotic episode; he was unable to hold a job and remained withdrawn from his interpersonal relationships.

Treatment plan: David will be stabilized on antipsychotic medication while in the hospital, and his psychiatrists will aim to find a suitable maintenance dose for once he is discharged back home. He will be set up with an outpatient psychiatric facility to provide him medication and weekly psychotherapy. It is also recommended that David attain a case manager to help him with vocational activities and to decide whether continuing to pursue a higher educational degree is a possibility, given his past vulnerabilities when enrolled in college.

Sarah Tobin, PhD

6.1 Schizophrenia

The broad category of **schizophrenia** includes a set of disorders in which individuals experience distorted perception of reality and impairment in thinking, behavior, affect, and motivation. Schizophrenia is a serious mental illness, given its potentially broad impact on an individual's ability to live a productive and fulfilling life. Although a significant number of people with schizophrenia eventually manage to live symptom-free lives, in some ways, all must adapt their lives to the reality of the illness. In economic terms, schizophrenia also exacts a heavy burden, with an annual estimated cost in the United States (in 2013 dollars) of $23 billion per year, which includes direct costs of care and indirect costs of lost productivity (Desai, Lawson, Barner, & Rascati, 2013).

schizophrenia
A disorder with a range of symptoms involving disturbances in content of thought, form of thought, perception, affect, sense of self, motivation, behavior, and interpersonal functioning.

One important symptom of schizophrenia is **delusion,** a deeply entrenched false belief not consistent with the client's intelligence or cultural background. For example, a delusion of persecution is the false belief that someone or something is out to harm you when in fact there is no basis for such a belief. More examples of delusion are described in Table 1.

delusion
Deeply entrenched false belief not consistent with the client's intelligence or cultural background.

TABLE 1 Types and Examples of Delusions

Grandeur A grossly exaggerated conception of the individual's own importance. Such delusions range from beliefs that the person has an important role in society to the belief that the person is actually Christ, Napoleon, or Hitler.
Control The feeling that one is being controlled by others, or even by machines or appliances. For example, a man may believe that his actions are being controlled by the radio, which is "forcing" him to perform certain actions against his will.
Reference The belief that the behavior of others or certain objects or events are personally referring to oneself. For example, a woman believes that a soap opera is really telling the story of her life, or a man believes that the sale items at a local food market are targeted at his own particular dietary deficiencies.
Persecution The belief that another person or persons are trying to inflict harm on the individual or on that individual's family or social group. For example, a woman feels that an organized group of politically liberal individuals is attempting to destroy the right-wing political organization to which she belongs.
Self-blame Feelings of remorse without justification. A man holds himself responsible for a famine in Africa because of certain unkind or sinful actions that he believes he has committed.
Somatic Inappropriate concerns about one's body, typically related to a disease. For example, without any justification, a woman believes she has brain cancer. Adding an even more bizarre note, she believes that ants have invaded her head and are eating away at her brain.
Infidelity A false belief usually associated with pathological jealousy involving the notion that one's lover is being unfaithful. A man lashes out in violent rage at his wife, insisting that she is having an affair with the mailman because of her eagerness for the mail to arrive each day.
Thought broadcasting The idea that one's thoughts are being broadcast to others. A man believes that everyone else in the room can hear what he is thinking, or possibly that his thoughts are actually being carried over the airwaves on television or radio.
Thought insertion The belief that outside forces are inserting thoughts into one's mind. For example, a woman concludes that her thoughts are not her own, but that they are being placed there to control her or upset her.

MINI CASE

Catatonia, Unspecified

Maria is a 21-year-old college junior who has been psychiatrically hospitalized for a month. The resident assistant in Maria's dormitory brought her to the hospital in December, because she had grown increasingly concerned about Maria's deteriorating behavior over the course of the semester. When Maria returned to college in September, her roommate told others, including the resident assistant, that Maria was acting oddly. For example, she had a habit of repeating other people's words, she stared listlessly out the window, and she ignored her personal hygiene. As the semester's end approached, Maria retreated more and more into her own world, until her behavior reached a point such that she was completely unresponsive to others. In the hospital, she maintains rigid posturing of her body, while staring at the ceiling and spending most of the day in a trancelike state that seems impenetrable. The staff members treating her are in a quandary about what intervention to use for Maria because of her hypersensitivity to most medications. At present, the clinicians are attempting to determine if Maria has another medical condition or a psychological disorder, but because they cannot identify any, for the moment they have diagnosed her as having unspecified catatonia.

hallucination
A false perception not corresponding to the objective stimuli present in the environment.

paranoia
The irrational belief or perception that others wish to cause you harm.

disorganized speech
Language that is incomprehensible and incoherent.

loosening of associations
Flow of thoughts that is vague, unfocused, and illogical.

neologisms
Invented ("new") words.

inappropriate affect
The extent to which a person's emotional expressiveness fails to correspond to the content of what is being discussed.

active phase
A period in the course of schizophrenia in which psychotic symptoms are present.

positive symptoms
The symptoms of schizophrenia, including delusions, hallucinations, disturbed speech, and disturbed behavior, that are exaggerations or distortions of normal thoughts, emotions, and behavior.

negative symptoms
The symptoms of schizophrenia, including affective flattening, alogia, avolition, and anhedonia, that involve functioning below the level of normal behavior.

A second major symptom of schizophrenia is **hallucination,** a false perception not corresponding to the objective stimuli present in the environment. People may suffer from hallucinations in several sensory modalities, including vision, hearing, smell, and touch.

Associated with delusions or auditory hallucinations related to a theme of persecution may be **paranoia,** the irrational belief or perception that others wish to cause you harm. People who experience paranoia become unable to trust others, feeling convinced that they will be mistreated or even threatened with bodily injury.

Language that is incomprehensible and incoherent is referred to as **disorganized speech.** The thought process underlying this type of speech reflects **loosening of associations**—that is, a flow of thoughts that is vague, unfocused, and illogical. The speech of individuals with schizophrenia may contain **neologisms,** which are words not contained in language. Unlike words that eventually may become accepted words in a particular language (such as "google"), these words have highly idiosyncratic meanings that are used only by the individual.

Another characteristic symptom that people with schizophrenia may show is **inappropriate affect,** meaning that the person's emotional response does not match the social cues present in a situation. The individual, for example, may burst into laughter during a sad situation or when hearing someone express discontent or unhappiness.

Table 2 contains the six criteria associated with a diagnosis of schizophrenia. The symptoms in Criterion A refer to the **active phase** of the disorder, that is, the period during which the individual's symptoms are most prominent. The symptoms the individual experiences during the active phase fall into two categories: positive symptoms and negative symptoms. **Positive symptoms** are exaggerations or distortions of normal thoughts, emotions, and behavior. Referring to Table 2, the disturbances numbered 1 through 4 under Criterion A fit into the category of positive symptoms.

The symptoms in Criterion A-5 are **negative symptoms,** a term used to capture the meaning that they all involve functioning below the normal level of behavior or feeling. **Restricted affect** refers to a narrowing of the range of outward expressions of emotions. **Avolition** is a lack of initiative, either not wanting to take any action or lacking the energy and will to take action. **Asociality** refers to a lack of interest in social relationships, including an inability to empathize and form close relationships with others.

Criterion B is consistent with other *DSM* criteria for psychological disorders in general in that it stipulates that there must be significant impairment. Perhaps more so for schizophrenia, though, the degree of impairment implies a particularly serious and

TABLE 2 Diagnostic Features of Schizophrenia

For an individual to be diagnosed with schizophrenia, he or she must meet all of the criteria listed in A–F.

A. Two (or more) of the following symptoms must be present for a significant portion of time during a 1-month period (although this can be less if the individual is successfully treated). At least one symptom must be from the first three categories.
   1. Delusions
   2. Hallucinations
   3. Disorganized speech
   4. Grossly disorganized or catatonic behavior
   5. Negative symptoms such as restricted affect, avolition, and asociality

B. Occupational dysfunction

   For a significant portion of the time since the onset of the disturbance, one or more major areas of functioning such as work, interpersonal relations, or self-care are markedly below the level achieved prior to the onset (or when the onset is in childhood or adolescence, the person fails to achieve expected level of interpersonal, academic, or occupational achievement).

C. Duration of at least 6 months

   Continuous signs of the disturbance must persist for at least 6 months. During at least one of these 6 months, the person must show the active-phase symptoms from Criterion A (or less if the person was successfully treated). The 6 months may include periods during which the individual had symptoms leading up to (prodromal) or following (residual) an active phase. During these periods, the person must show only negative symptoms or two or more of the active-phase symptoms but in attenuated form.

D. No evidence of schizoaffective, depressive, or bipolar disorder

E. Symptoms are not due to substance use disorder or general medical condition

F. If there is a history of autism spectrum disorder or a communication disorder of childhood onset, the additional diagnosis of schizophrenia is made only if prominent delusions or hallucinations are also present for at least a month (or less if successfully treated).

far-reaching impact in the individual's life. Criterion C, indicating the period of disturbance, is also carefully delineated to ensure that individuals receive this diagnosis only if they show a substantial duration of symptoms.

Criteria D and E refer to other disorders that should not be present in people diagnosed with schizophrenia. It is particularly important for clinicians to rule out Criterion D, schizoaffective disorder, when making their diagnosis. We will discuss this disorder in more detail later in the chapter. Similarly, in the interests of differentiating schizophrenia from other disorders, Criterion F makes it clear that the symptoms of schizophrenia involving, for example, communication, must not overlap with symptoms due to an autism spectrum disorder.

Prior to the *DSM-5,* the diagnostic criteria for schizophrenia included five subtypes based on which symptoms were most prominent in the individual. These subtypes were labeled catatonic, disorganized, paranoid, undifferentiated, and residual. Ultimately dropped in *DSM-5,* researchers studying schizophrenia believed that the subtypes involve fine-grained distinctions not supported by empirical evidence. However, the terms may still be in use today by mental health professionals who believe they capture qualitatively important diagnostic entities.

Once a subtype of schizophrenia, there is now a separate disorder known in *DSM-5* as **catatonia,** a condition in which the individual shows behavior characterized by marked psychomotor disturbances. These disturbances may consist of decreased, excessive, or peculiar motor activity that is not in response to what is occurring in the individual's environment. For example, with no apparent provocation, the individual may hold odd, rigid poses for long periods of time as well as an inability to speak or move.

restricted affect
Narrowing of the range of outward expressions of emotions.

avolition
A lack of initiative, either not wanting to take any action or lacking the energy and will to take action.

asociality
Lack of interest in social relationships.

catatonia
A condition in which the individual shows marked psychomotor disturbances.

MINI CASE

Schizophrenia, Continuous

Joshua is a 43-year-old man who stands daily near the steps of a local bank on a busy street corner. Every day, he wears a Red Sox baseball cap, a yellow T-shirt, worn-out hiking shorts, and orange sneakers. Rain or shine, day in and day out, Joshua maintains his post at the bank. Sometimes he is conversing with imaginary people. Without provocation, he sobs miserably. Sometimes he explodes in shrieks of laughter. Police and social workers keep taking him to shelters for the homeless, but Joshua manages to get back on the street before he can receive treatment. He has repeatedly insisted that these people have no right to keep bothering him.

Individuals with schizophrenia present with a wide range of symptoms. For example, they may maintain paranoid delusions that they are in danger.

Catatonia may be diagnosed in association with another psychological disorder, a medical condition, or due to a cause that the clinician cannot determine.

Schizophrenia has a long and fascinating history. French physician Benedict Morel (1809–1873) first identified schizophrenia as a disease, which he coined *démence precocé* (brain dementia of the young). The next major point in schizophrenia's history is associated with the German psychiatrist Emil Kraepelin (1856–1926), who used Latin to refer to the condition, which then became known as *dementia praecox*. At the root of its symptoms, Kraepelin believed, was one underlying progressively degenerating disease process in schizophrenia that caused, in his terms, the "weakening" of mental processes.

Swiss psychologist Eugen Bleuler (1857–1939), in 1911, revised once again the concept of schizophrenia, to reflect his belief that the disorder was actually a set of diseases. He coined the term *schizophrenia* to reflect the idea that the underlying cause was a splitting of ("schiz") among the functions of the mind. Unlike Kraepelin, Bleuler thought it was possible for people with schizophrenia to recover from the disorder.

Reflecting the importance of Bleuler's contributions, clinicians still refer to fundamental features of the disorder he identified as Bleuler's "Four A's." The four A's can be summarized briefly as:

1. *Association*—thought disorder, as might be evident through rambling and incoherent speech
2. *Affect*—disorder of the experience and expression of emotion
3. *Ambivalence*—inability to make or follow through on decisions
4. *Autism*—withdrawal from reality

Note that Bleuler did not intend for the "splitting" to be of personalities, as is often misinterpreted. Instead, as in the Affect realm, the individual's experience of an emotion becomes split from the way that the emotion is expressed.

In the decades following Bleuler's work, clinicians in Europe and the United States proposed further distinctions within the schizophrenia grouping. One notable contributor to the debate was the German psychiatrist Kurt Schneider (1887–1967), who believed that clinicians should only diagnose schizophrenia when an individual displays what he called a certain **first-rank symptom (FRS).** These are the symptoms that are truly key, or defining, of schizophrenia. They include audible thoughts (voices heard arguing), the experience of outside influences on the body, the belief that others are taking thoughts out of one's head, and diffuse or vague thoughts, delusions, and acts or behaviors seen

first-rank symptom (FRS)
Symptom that is truly defining, or key, in the diagnosis of schizophrenia.

as reflecting the influence of other people on the individual.

First-rank symptoms retain a special meaning even up to the present (Nordgaard, Arnfred, Handest, & Parnas, 2008). *DSM-III* and the ICD-10 included the first-rank symptoms as an advance on the less precise set of diagnostic criteria present in the earlier manuals. However, researchers disagree on whether FRS represent valid criteria, given that using them may lead clinicians to diagnose, falsely, as many as nearly as one in five individuals (Soares-Weiser et al., 2015).

As debate continues on the FRS, researchers are also rethinking whether schizophrenia is best thought of as a "spectrum" rather than a single disease entity. The **schizophrenia spectrum,** then, refers to a range of disorders, including schizophrenia as well as affective and personality disorders, that reflect a similar underlying disease process. Toward this end, Section 3 of the *DSM-5* includes a set of symptom severity ratings (see Table 3). These can inform the diagnostic process and allow clinicians to track changes in a client's symptoms across time and over the course of treatment.

What's in the *DSM-5*

Schizophrenia Subtypes and Dimensional Ratings

The *DSM-5* authors implemented major changes in their approach to diagnosing schizophrenia. As we mentioned at the beginning of the chapter, they eliminated the subtypes of schizophrenia. Instead, using a scale that is in Section 3 of the *DSM-5,* clinicians assign a diagnosis of schizophrenia to which they can add a rating of the individual's symptoms along a set of dimensions, as Table 3 shows.

By eliminating the subtypes of schizophrenia, the *DSM-5* authors sought to improve both the diagnostic reliability and validity of the system. They also sought to have a more quantifiable basis for research on the disorder's causes as well as for treatment planning. For example, a clinician evaluating the results of cognitive-behavioral therapy could use the ratings of hallucination and delusion severity to determine whether the intervention is reducing the specific symptoms toward which they are targeting treatment.

The *DSM-5* authors also decided to include cognitive impairment as a dimension in the Section 3 severity ratings, given the importance of cognitive deficits in current understandings of the individual's ability to carry out social and occupational activities and to carry out the tasks involved in everyday living. In this regard, a neuropsychological assessment can help to inform the diagnostic process (Reichenberg, 2010).

The current system in the *DSM-5* represents a step in moving away from the old categorization system and toward the dimensional approach. By including severity ratings rather than subtypes in Section 3, they are making it possible for clinicians and researchers to track individuals over time in a quantifiable fashion.

In this regard, the *DSM-5* authors considered, but decided not to, eliminate schizoaffective disorder as a separate entity. Although not there yet, the *DSM-5* authors believe that clinicians will eventually diagnose schizophrenia as a "spectrum" disorder. This would mean, potentially, that even diagnoses long in use in psychiatry would disappear, including schizophreniform disorder, schizoaffective disorder, and two of the personality disorders associated with schizophrenic-like symptoms, which you will read about in the chapter "Personality Disorders".

Along with the changing conceptualizations of schizophrenia, researchers and clinicians are beginning to examine possible correlates of positive and negative symptoms. For example, the positive symptoms of delusions and hallucinations may reflect activated dopamine levels in the nervous system; by contrast, negative symptoms reflect abnormalities in brain structure (Jablensky, 2010). Abnormal patterns of brain activity may also underlie at least some of the cognitive symptoms (Pittman-Polletta, Kocsis, Vijayan, Whittington, & Kopell, 2015).

schizophrenia spectrum
Range of disorders, including schizophrenia as well as affective and personality disorders, that reflect a similar underlying disease process.

Estimates from the United States place the lifetime prevalence of schizophrenia at 1 percent (National Institute of Mental Health, 2015). Men and women are equally likely, over the course of their lifetimes, to develop schizophrenia, although women typically develop the disorder later in life (Falkenburg & Tracy, 2014).

People with schizophrenia are two to three times more likely to die compared to others within their age group, leading to a reduction in life expectancy of 15 to 20 years. This higher mortality reflects a combination of factors, ranging from medication to the economic and social challenges these individuals face.

MINI CASE

Schizophrenia, Multiple Episodes, Currently in Full Remission

Esther is a 36-year-old unmarried woman who lives with her mother. For the past 10 years, she has worked as a clerical assistant in an insurance company, and no longer shows the delusions, disorganized speech, and lack of emotional expression that originally led to her two prior hospitalizations within a 2-year period. At the moment, however, she is able to hold onto her job and maintain a relationship with her mother and a few friends.

TABLE 3 **Dimensions of Psychosis Symptom Severity in Section 3 of *DSM-5***

	0	1	2	3	4
Hallucinations	Not Present	Equivocal (severity or duration not sufficient to be considered psychosis)	Present, but mild (little pressure to act upon voices, not very bothered by voices)	Present and moderate (some pressure to respond to voices, or is somewhat bothered by voices)	Present and severe (severe pressure to respond to voices, or is very bothered by voices)
Delusions	Not Present	Equivocal (severity or duration not sufficient to be considered psychosis)	Present, but mild (delusions are not bizarre, or little pressure to act upon delusional beliefs, not very bothered by beliefs)	Present and moderate (some pressure to act upon beliefs, or is somewhat bothered by beliefs)	Present and severe (severe pressure to act upon beliefs, or is very bothered by beliefs)
Disorganized speech	Not Present	Equivocal (severity or duration not sufficient to be considered disorganization)	Present, but mild (some difficulty following speech and/or occasional bizarre behavior)	Present and moderate (speech often difficult to follow and/or frequent bizarre behavior)	Present and severe (speech almost impossible to follow and/or behavior almost always bizarre)
Abnormal psychomotor behavior	Not Present	Equivocal (severity or duration not sufficient to be considered abnormal psychomotor behavior)	Present, but mild (occasional abnormal motor behavior)	Present and moderate (frequent abnormal motor behavior)	Present and severe (abnormal motor behavior almost constant)
Negative symptoms (restricted emotional expression or avolition)	Not Present	Equivocal decrease in facial expressivity, prosody, gestures, or self-initiated behavior	Present, but mild decrease in facial expressivity, prosody, gestures, or self-initiated behavior.	Present and moderate decrease in facial expressivity, prosody, gestures, or self-initiated behavior.	Present and severe decrease in facial expressivity, prosody, gestures, or self-initiated behavior
Impaired cognition	Not Present	Equivocal (cognitive function not clearly outside the range expected for age or SES, i.e., within 0.5 SD of mean)	Present, but mild (some reduction in cognitive function below expected for age and SES, 0.5-1 SD from mean)	Present and moderate (clear reduction in cognitive function below expected for age and SES, 1-2 SD from mean)	Present and severe (severe reduction in cognitive function below expected for age and SES, > 2 SD from mean)
Depression	Not Present	Equivocal (some depressed mood, but insufficient symptoms, duration, or severity to meet diagnostic criteria)	Present, but mild (meets criteria for Major Depression, with minimum number of symptoms, duration, and severity)	Present and moderate (meets criteria for Major Depression with somewhat more than the minimum number of symptoms, duration, and/or severity)	Present and severe (meets criteria for Major Depression with many more than the minimum number of symptoms and/or severity)
Mania	Not Present	Equivocal (some inflated or irritable mood, but insufficient symptoms, duration, or severity to meet diagnostic criteria)	Present, but mild (meets criteria for Mania with minimum number of symptoms, duration, and severity)	Present and moderate (meets criteria for Mania with somewhat more than the minimum number of symptoms, duration, and/or severity)	Present and severe (meets criteria for Mania with many more than the minimum number of symptoms and/or severity)

Note: SD = standard deviation; SES = socioeconomic status

Although the prevalence of schizophrenia is relatively low compared to other psychological disorders, a surprisingly high percentage of adults report experiencing minor psychotic symptoms. Reviewing a large number of studies on psychotic symptoms, one group of researchers estimate the lifetime prevalence as about 5 percent and the prevalence at any one time as about 3 percent (van Os, Linscott, Myin-Germeys, Delespaul, & Krabbendam, 2009).

Course of Schizophrenia

The course of schizophrenia, as mentioned, was once thought to be lifelong. This situation began to change during the 1970s as researchers and clinicians developed a better diagnostic system and understanding of the nature of psychotic disorders. We now know that schizophrenia may take one of several courses. Even so, compared to

You Be the Judge

Schizophrenia Diagnosis

As we discussed in the chapter, the outcome of schizophrenia is not necessarily positive. Although many people do achieve recovery, particularly if they were treated early in the course of the disorder, people with schizophrenia nevertheless face substantial risks of relapse over the rest of their lives. Therefore, when a mental health professional provides a diagnosis to an individual with schizophrenia, this is serious news that could lead the individual to experience great distress, much as a person with cancer might feel at receiving that diagnosis.

There are other ethical issues that practitioners face when working with people diagnosed with schizophrenia (Howe, 2008). Not only must mental health professionals attempt to determine whether to provide a diagnosis of this serious disorder, but they also face specific questions relevant to the individual's particular symptoms. For example, the clinician may consider it more acceptable to inform clients with delusional disorder that they are receiving medication for anxiety, stress, or dysphoria rather than for having delusions. To inform the client about the actual nature of his or her symptoms might interfere with the ability to form a therapeutic alliance, which could interfere with the ultimate success of the treatment.

To overcome this obstacle, a clinician may decide to share a "partial" truth. Specifically, the clinician may reframe a client's symptoms as strengths. Rather than seeing a client's attachments to inanimate objects as a symptom, for example, the clinician may reframe the behavior as proving the client's exceptional capacity for caring.

A second ethical dilemma involves balancing a client's desire to succeed in life with the reality that due to the disorder, he or she may be unable to realize these ambitions. The stress of, for example, a competitive career might push the client over the edge into a relapse. Should the clinician try to protect the client from undertaking this venture or respect the client's autonomy to make his or her own decisions?

As if these two challenges were not enough, consider the situation in which a clinician wishes to involve the client's family in treatment. As we observed in the chapter, overinvolved and critical family members can exacerbate a client's symptoms. Should the clinician try to persuade the client to make the family part of treatment, knowing that this could potentially be helpful to the client's overall chances of recovery? Or would such persuasion be unethical, again, violating the client's autonomy?

Finally, given that people with a family history of schizophrenia have increased risk of developing the disorder, how much should clinicians warn high-risk adolescents or young adults? On the one hand, telling people who are asymptomatic that they may develop this serious illness could in and of itself provoke an episode. On the other hand, by not telling those at genetic risk about the possibility of their developing schizophrenia may mean that they don't take preventive steps.

Howe (2008) suggests that mental health professionals can navigate these ethical dilemmas by using an "ethical sliding scale." They can base their ethical decisions by taking into account the client's ability to achieve insight, the strength of their relationship with the client, and the nature and strength of the client's relationship with family. Although respecting the client's autonomy should be the primary guiding principle, clinicians should balance this principle against the client's decision-making abilities.

Q: *You be the judge:* Do you agree with the idea of using an "ethical sliding scale"?

other psychological disorders, the course and outcome are poorer for people with schizophrenia (Jobe & Harrow, 2010).

Researchers who follow people with schizophrenia for extended periods of time propose a model in which 25 to 35 percent show chronic psychotic symptoms. Some people with schizophrenia can even show complete recovery for the remainder of their lives;

40 percent show significant improvement if they receive current treatment during their acute phase. However, even when they are symptom free, these individuals may still be impaired in their functioning and adjustment.

The factors that contribute to poorer prognosis include deficits in cognitive functioning, a longer period of time without treatment, substance abuse, a poorer course of early development, higher vulnerability to anxiety, and negative life events. In addition, overinvolvement of family members in the individual's life, as we discuss later in the chapter, also predicts poorer outcome (Jobe & Harrow, 2010).

Single men seem to be at particularly high risk if they possess these additional characteristics (Gómez-de-Regil, Kwapil, Blanqué, Vainer, Montoro, & Barrantes-Vidal, 2010). Men also are more likely to experience negative symptoms, to have poorer social support networks, and to have poorer functioning over time than women (Willhite, Niendam, Bearden, Zinberg, O'Brien, & Cannon, 2008). Perhaps surprisingly, given better resources for treating affected individuals, the prognosis for individuals from developing (agricultural-based) countries is better than that for individuals from developed (industrial) nations (Hopper, Harrison, Janca, & Sartorius, 2007).

brief psychotic disorder
A disorder characterized by the sudden onset of psychotic symptoms that are limited to a period of less than a month.

6.2 Brief Psychotic Disorder

A brief psychotic episode can last anywhere between 1 day and 1 month.

As the term implies, **brief psychotic disorder** is a diagnosis that clinicians use when an individual develops symptoms of psychosis that do not persist past a short period of time. To receive this diagnosis, an individual must experience one of four symptoms, which include delusions, hallucinations, disorganized speech, and grossly disorganized or catatonic behavior. The diagnosis requires that the individual experience symptoms for more than a day, but recover in less than a month.

Clinicians assigning this particular diagnosis need to take particular care to consider the context in which individuals display the symptoms of this disorder. Has the client experienced a recent stressor, such as a natural disaster, the loss of a close relative, or an accident? Another possibility is that a woman develops this disorder soon after giving birth. Such circumstances might affect the clinician's decision-making process in making a diagnosis of brief psychotic disorder.

MINI CASE

Brief Psychotic Disorder, with Marked Stressors

Anthony is a 22-year-old senior at a prestigious small college. His family has traditionally held high standards for Anthony, and his father had every expectation that his son would go on to enroll at Harvard Law School. Anthony felt intensely pressured as he worked day and night to maintain a high grade-point average, while diligently preparing for the national examination for admission to law school. His social life became devoid of any meaningful contact. He even began skipping meals, because he did not want to take time away from studying. When Anthony received his scores for the law school admission exam, he was devastated, because he knew that they were too low to allow him to get into any of the better law schools. He began crying uncontrollably, wandering around the dormitory hallways, screaming obscenities, and telling people that there was a plot on the part of the college dean to keep him from getting into law school. After 2 days of this behavior, Anthony's resident adviser convinced him to go to the infirmary, where clinicians diagnosed and treated his condition. After a week of rest and some medication, Anthony returned to normal functioning and was able to assess his academic situation more rationally.

MINI CASE

Schizophreniform Disorder, with Good Prognostic Features

When Deion developed a psychological disorder, he was 26 years old and worked for a convenience store chain. Although family and friends always regarded Deion as unusual, he had not experienced psychotic symptoms. This all changed as he grew more and more disturbed over the course of several months. His mother thought that he was just "stressed out" because of his financial problems, but Deion did not seem concerned about such matters. He gradually developed paranoid delusions and became preoccupied with reading the Bible. What brought his disturbance to the attention of his supervisors was the fact that he had submitted an order to the district office for 6,000 loaves of bread. He had scribbled at the bottom of the order form, "Jesus will multiply the loaves." When his supervisors questioned this inappropriate order, Deion became enraged and insisted that they were plotting to prevent him from fighting world hunger. Paranoid themes and bizarre behaviors also surfaced in Deion's dealings with his wife and children. Following 2 months of increasingly disturbed behavior, Deion's boss urged him to see a psychiatrist. With rest and relatively low doses of antipsychotic medication, Deion returned to normal functioning after a few weeks of hospitalization.

6.3 Schizophreniform Disorder

People receive a diagnosis of **schizophreniform disorder** if they experience symptoms of schizophrenia for a period of from 1 to 6 months. If a client's symptoms persisted for longer than 6 months, then the clinician would conduct an evaluation to determine whether a diagnosis of schizophrenia is appropriate. Those clients who show a rapid development of symptoms (within a span of 4 weeks), seem confused or perplexed while in the peak of the episode, and have otherwise good social and personal functioning prior to the episode have a better chance of not developing schizophrenia. They are also likely to have a good prognosis if they do not show the negative symptoms of apathy, withdrawal, and asociality.

schizophreniform disorder
A disorder characterized by psychotic symptoms that are essentially the same as those found in schizophrenia, except for the duration of the symptoms; specifically, symptoms usually last from 1 to 6 months.

6.4 Schizoaffective Disorder

In **schizoaffective disorder,** individuals with depressive or bipolar disorder also experience delusions and/or hallucinations. The diagnosis can only be made, however, if clients have a 2-week period in which they have psychotic, but no mood disorder, symptoms. For the majority of the duration of their illness, though, they must have a major mood episode (depressive or manic) as well as symptoms of schizophrenia. In other words, they must have both a mood episode and a psychotic disorder, and at least 2 weeks during which their delusions and/or hallucinations are the only symptoms that they show.

schizoaffective disorder
A disorder involving the experience of a major depressive episode, a manic episode, or a mixed episode while also meeting the diagnostic criteria for schizophrenia.

MINI CASE

Schizoaffective Disorder, Bipolar Type

At the time of her admission to a psychiatric hospital, Hazel was a 52-year-old mother of three children. She had a 20-year history of schizophrenia-like symptoms, and she experienced periodic episodes of mania. Her schizophrenia-like symptoms included delusions, hallucinations, and thought disorder. These symptoms were fairly well controlled by antipsychotic medications, which she received by injection every 2 weeks. She was also treated with lithium to control her manic episodes; however, she often skipped her daily dose because she liked "feeling high." On several occasions following extended periods of abstinence from the lithium, Hazel became manic. Accelerated speech and bodily activity, sleepless nights, and erratic behavior characterized these episodes. At the insistence of her husband and her therapist, Hazel would resume taking her lithium, and shortly thereafter her manic symptoms would subside, although her schizophrenia-like symptoms were still somewhat evident.

delusional disorder
Disorder in which the only symptoms are delusions that have lasted for at least 1 month.

erotomanic type of delusional disorder
Delusional disorder in which individuals falsely believe that another person is in love with them.

grandiose type of delusional disorder
An exaggerated view of oneself as possessing special and extremely favorable personal qualities and abilities.

jealous type of delusional disorder
Delusional disorder in which individuals falsely believe that their romantic partner is unfaithful to them.

persecutory type of delusional disorder
Delusional disorder in which individuals falsely believe that someone or someone close to them is treating them in a malevolent manner.

somatic type of delusional disorder
Delusional disorder in which individuals falsely believe that they have a medical condition.

6.5 Delusional Disorders

People with **delusional disorders** have delusions that have lasted for at least 1 month as their only symptom. Furthermore, they must have no other symptoms of schizophrenia and have never met the criteria for schizophrenia. In fact, these individuals can function very well and they do not seem odd to others except when they talk about their particular delusion.

Based on which delusional theme is prominent, clinicians diagnose individuals with delusional disorders into one of five major types, along with mixed or unspecified types that include people who have no one prominent delusion or none of the five major types. People with the **erotomanic type of delusional disorder** falsely believe that another person is in love with them. The target of their delusion is usually a person of higher status than they are. For example, a woman may be certain that a famous singer is in love with her and that he communicates secret love messages to her in his songs. The conviction that they are extremely important characterizes people who have the **grandiose type of delusional disorder.** A man may believe that he is the Messiah waiting for a sign from heaven to begin his active ministry. In the **jealous type of delusional disorder,** individuals are certain that their romantic partner is unfaithful to them. They may even construct a plan to entrap their partner to prove the partner's infidelity. People with the **persecutory type of delusional disorder** believe that someone or someone close to them is treating them in a malevolent manner. They may, for example, become convinced that their neighbors are deliberately poisoning their water. People with the **somatic type of delusional disorder** believe that they have a medical condition that causes an abnormal bodily reaction that does not, in reality, exist.

The *DSM-IV* listed as a separate disorder the diagnosis of **shared psychotic disorder** for clinicians to use in cases when one or more people develop a delusional system as a result of a close relationship with a psychotic person who is delusional. This is more familiarly referred to as *folieà deux* (folly of two) when two people are involved.

MINI CASE

Delusional Disorder, Jealous Type

Paul is a 32-year-old man who has recently experienced tremendous stress at his job. Although he has avoided dwelling on his job problems, he has begun to develop irrational beliefs about his lover, Elizabeth. Despite Elizabeth's repeated vows that she is consistently faithful in the relationship, Paul has become obsessed with the belief that Elizabeth is sexually involved with another person. Paul is suspicious of everyone with whom Elizabeth interacts, questioning her about every insignificant encounter. He searches her closet and drawers for mysterious items, looks for unexplained charges on the charge card bills, listens in on Elizabeth's phone calls, and has contacted a private investigator to follow Elizabeth. Paul is now insisting that they move to another state.

MINI CASE

Delusional Disorder, Persecutory Type

Julio met Ernesto in the company cafeteria of the accounting firm where they both work. After a brief and very casual conversation, Julio began to develop the belief that Ernesto was secretly trying to break into his workstation to plant faulty reports. Soon Julio became convinced that Ernesto was conspiring with three others in their unit to make it appear that Julio was incompetent. Julio requested a reassignment so he would no longer have his job, in his opinion, jeopardized by the behavior of his co-workers.

Occasionally, three or more people or the members of an entire family could have been involved.

Shared psychotic disorder appears in the *DSM-5* in the section on other specified schizophrenic spectrum and other psychotic disorders, as "delusional symptoms in partner of individual with delusional disorder" (American Psychiatric Association, 2013) (p. 122). Although rare, shared psychotic disorder is occasionally found in forensic cases, both criminal and civil (Parker, 2014).

People with persecutory type of delusional disorder believe, incorrectly, that someone is plotting or planning against them.

6.6 Theories and Treatment of Schizophrenia

Schizophrenia reflects the complex interplay of biological, psychological, and sociocultural forces (McGuffin, 2004). As a result, researchers are well aware of the need to approach the disorder from an interactive perspective.

A key concept in understanding schizophrenia's causes is that of **vulnerability,** the idea that individuals have a biologically determined predisposition to developing schizophrenia, but that the disorder develops only when certain environmental conditions are in place. As we look at each of the contributions to a vulnerability model, keep in mind that no single theory contains the entire explanation.

Biological Perspectives

Theories Biological explanations of schizophrenia have their origins in the writings of Kraepelin who thought of schizophrenia as a disease caused by a degeneration of brain tissue. Kraepelin's ideas paved the way for the later investigations of the role of genetics as contributing to an individual's biological vulnerability to schizophrenia by causing changes in brain structure and function.

Although scientists first became interested in possible brain abnormalities in people with schizophrenia in the nineteenth century, the technology was not up to the task of conducting the kind of research needed to identify those abnormalities. We are now far better able to connect behavior with brain abnormalities through the use of neuroimaging technology.

One of the earliest discoveries to emerge from these neuroimaging methods was the enlarged spaces holding cerebral spinal fluid in the brains of individuals with schizophrenia. This condition, called ventricular enlargement, occurs along with cortical atrophy, a wasting away of brain tissue. Over the course of the illness, the cortex shows pronounced thinning throughout the brain, but particularly in two areas. One is the prefrontal lobes, the areas of the brain responsible for planning as well as for inhibiting thoughts and behaviors (Molina, Sanz, Sarramea, Benito, & Palomo, 2005). The second area of atrophy is the temporal lobes, the parts of the brain that process auditory information (van Haren et al., 2011). Interestingly, this wasting of cortical tissue seems to correspond to the notion of early brain deterioration proposed by Morel and Kraepelin as lying at the heart of the disorder.

More recently, neuroimaging studies using CT scans, fMRIs, and PET scans show widespread, though subtle, changes in brain structures that may affect the individual's thinking by interfering with the integration of neural and cognitive functioning (Shenton, Whitford, & Kubicki, 2010). Specifically, as shown in fMRI studies, people with schizophrenia have a wide range of deficits, including poor performance on motor tasks, difficulties in working memory, poorer attention, reduced word fluency, deficient processing of emotional information, and impaired decision making (Gur & Gur, 2010).

shared psychotic disorder
Delusional disorder in which one or more people develop a delusional system as a result of a close relationship with a psychotic person who is delusional.

vulnerability
The idea that individuals have a biologically determined predisposition to developing schizophrenia but that the disorder develops only when certain environmental conditions are in place.

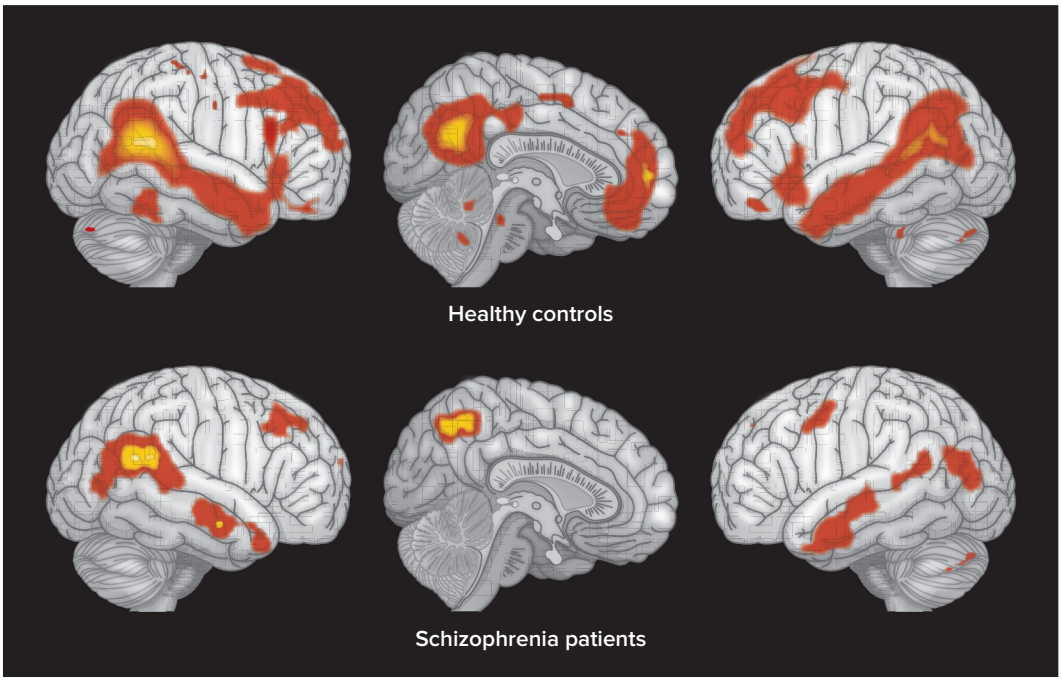


FIGURE 1 These fMRI scans comparing healthy controls with schizophrenia patients show reduced activation in areas of the frontal and temporal lobes involved in social judgment.

Walter, H., et al. (2009) Dysfunction of the social brain in schizophrenia is modulated by intention type: An fMRI study. *Social Cognitive and Affective Neuroscience, 4* (2): 166–176. Oxford University.

Decreased activity in the frontal lobe also has been shown to be linked to poorer social functioning (Watanabe, Urakami, Hongo, & Ohtsubo, 2015). Figure 1 shows the fMRI scans averaged across the brains of people with schizophrenia compared with those of normal controls on one type of social task in which participants tried to infer the intentions of fictional characters depicted in comic strips. As shown in this figure, participants with schizophrenia showed decreased activation of areas of the frontal and temporal lobes involved in social judgments (Walter et al., 2009).

The idea that parts of the brain communicate less well among each other in people with schizophrenia is another option that is gaining support from studies that use DTI scans. These scans measure the connectivity among different regions of the brain by indicating the diffusion of water molecules in the brain along tracks of nerve fibers. In the brain of a person with schizophrenia, the water molecules do not diffuse along what appear to be well-connected tracks, supporting the idea that there is reduced connectivity in the brains of people with schizophrenia (Ellison-Wright et al., 2014). This reduced ability of the brain regions to communicate with each other seems particularly to affect working memory and the ability to control cognitive operations by reducing links between the thalamus and the frontal lobe of the cortex (Wagner et al., 2015).

Structural changes alone, as important as they may be, cannot entirely explain what happens to the brain to increase the individual's vulnerability to developing schizophrenia, however. In the mid-twentieth century, based on the observation that a drug to relax surgical patients seemed to have calming effects, French physicians began to experiment with its use on patients with psychotic disorders. Physicians believed that the drug chlorpromazine had its effect by blocking dopamine receptors, giving rise to the dopamine hypothesis of schizophrenia (Carlsson, 1988). Researchers now believe one of these dopamine receptors, known as D2, is involved in schizophrenia (Hirvonen et al., 2005).

Gamma-aminobutyric acid (GABA), an inhibitory neurotransmitter, also appears to play a role in schizophrenia due to changes the disorder may produce in the N-methyl-D-aspartate (NMDA) receptors. Evidence supporting this idea is based on the fact that the drug ketamine reduces the activity of NMDA receptors. Individuals who otherwise show no symptoms but are given ketamine can experience schizophrenia-like symptoms.

Additionally, NMDA dysfunction may be related to changes in the neurons that make them less capable of supporting memory and learning. Although schizophrenia is not a cognitive disorder per se, cognitive deficits due to such neurotransmitter changes add to the symptom picture, making it more difficult for individuals with the disorder to plan and exert control over their thoughts (Coyle, Balu, Benneyworth, Basu, & Roseman, 2010).

Research on patterns of family inheritance supports the idea that schizophrenia is, at least in part, a genetically caused disorder, with heritability estimates ranging from 64 to 81 percent (Lichtenstein et al., 2009; Sullivan, Kendler, & Neale, 2003). Having established that there is a high heritability to schizophrenia, researchers have since moved on to attempting to locate the specific genes involved and to understanding the factors that increase the genetically vulnerable person's chances of actually developing the disorder. The combination of neuroimaging and genomics shows, further, that siblings show fMRI abnormalities less severe than those that appear in the brains of affected individuals (Gur & Gur, 2010).

At present, researchers have identified at least 19 possible genes dispersed over chromosomes 1, 2, 5, 6, 8, 11, 13, 14, 19, and 22. Some of the functions served by these genes involve the neurotransmitters we've already discussed, including dopamine and GABA, as well as serotonin and glutamate. These genetic abnormalities could also affect brain development, synaptic transmission, immune functioning, and the manufacturing of important proteins involved in neurotransmission (Tiwari, Zai, Muller, & Kennedy, 2010). For example, some individuals with schizophrenia have a particular allele in the gene for the enzyme catechol-O-methyltransferase (COMT) that could be responsible for decreased activity in the prefrontal area of the cortex. People who have inherited this allele from both of their parents are less likely to engage the prefrontal cortex and hippocampus when performing memory tasks in the lab (Gur & Gur, 2010).

Researchers are also searching for abnormalities in the genetics of immune functioning among individuals with schizophrenia (Crisafulli, Drago, Calabrò, Spina, & Serretti, 2015). Such abnormalities might, researchers believe, predate the apparent onset of the illness, reflecting neurodevelopmental changes much earlier in life.

Indeed, according to the **neurodevelopmental hypothesis** (Andreasen, 2010), schizophrenia is a disorder of development that arises during the years of adolescence or early adulthood due to alterations in the genetic control of brain maturation. The genetic vulnerability these individuals inherit becomes evident if they are exposed to certain risks during early brain development. These risks can occur during the prenatal period in the form of viral infections, malnutrition, or exposure to toxins. They may also occur during or shortly after birth if they are exposed to injuries or viral infections, or if their mothers suffer birth complications.

neurodevelopmental hypothesis
Theory proposing that schizophrenia is a disorder of development that arises during the years of adolescence or early adulthood due to alterations in the genetic control of brain maturation.

The harm to the developing brains of individuals who ultimately become diagnosed with schizophrenia may show up early in life in the form of decreased head size, motor impairments, and impairments in cognition and social functioning.

Support for the neurodevelopmental hypothesis also comes from the fact that individuals having their first psychotic episodes have a number of inexplicable brain abnormalities as the result of the illness. As their illness proceeds, they may show continued deleterious changes through a process of neuroprogression in which the effects of schizophrenia interact with brain changes caused by normal aging.

Somewhat related to the neurodevelopmental hypothesis is the idea that cognitive deficits of people with schizophrenia reflect a loss of **neuroplasticity,** adaptive changes in the brain in response to experience. According to this view, people with schizophrenia form too many associations when attempting to learn and remember new material, in contrast to the normal way that people trim out or prune information they do not need to retain (McCullumsmith, 2015). Their cognitive functioning suffers because they essentially remember "too much," including information that they never actually encountered, perhaps leading to the characteristic psychological symptoms of delusions and hallucinations.

neuroplasticity
Adaptive changes in the brain in response to experience.

REAL STORIES

Elyn Saks: Schizophrenia

In her memoir, *The Center Cannot Hold: My Journey through Madness*, UCLA professor Elyn Saks tells the moving story of her lifelong struggle with schizophrenia. Her story provides a unique perspective on one of the most debilitating psychological disorders, and offers a first-hand account of the experience of psychosis. Elyn begins the book by describing the first signs of her illness as a child growing up in an upper-middle-class family in Miami, Florida. These included idiosyncratic behaviors involving organizing and lining up her possessions in her room, as well as frightening dissociative experiences. Only 8 years old at the time, Elyn recalls feeling fearful of these experiences partially because she was unable to express what was happening to her with her family who were otherwise supportive and caring.

Elyn Saks has enjoyed a successful law career despite suffering from schizophrenia.
Courtesy of the John D. & Catherine T. MacArthur Foundation

Throughout her formative years, Elyn continued to experience what she now recognizes as prodromal symptoms of schizophrenia. At the time her experiences caused her to feel paranoid around others, afraid that they would find out her secret. She attended college at Vanderbilt University, and at first greatly enjoyed her newfound independence. However, within the first 2 weeks of school, away from the protective clutches of her family and all the comforts that came along with being taken care of, as she puts it "everything slowly began to unravel." Her inability to perform self-care activities such as bathing signaled the start of her illness, and Elyn had several brief psychotic episodes, which resolved without intervention. In the book, she describes the insidious nature of her illness when it began to manifest itself.

After returning home from her freshman year of college, Elyn continued to experience paranoia and occasional hallucinations. In addition to those symptoms she was feeling depressed and lethargic. Her parents took her to see a psychiatrist whose only insight to her condition was that she "needed help." Once Elyn returned to Vanderbilt for her sophomore year, her symptoms subsided as she found comfort in her studies and with a close-knit group of friends. With strong social support, Elyn was able to remain in a relatively stable condition for the rest of her time in college. However, that comfort quickly turned to fear as graduation approached and she felt the fragile structure that kept her content was about to be shaken.

Elyn won a highly prestigious Marshall scholarship to study philosophy at Oxford University in England. She was terrified of living in a new country, so far away from everything she knew, and particularly of being away from her routine and friends at college. Indeed, after just a few weeks at Oxford, Elyn's still unnamed illness again began to take hold, and her fear of her illness turned into suicidal ideation. At the urging of a friend, she saw a psychiatrist and admitted that she had thoughts of ending her life. She entered a day treatment program at a psychiatric hospital though she had no idea just how ill she was. Her perspective on her symptoms at the time was, it was simply a problem that needed to be solved and could be easily fixed, a view that grossly underestimated the complexity of her illness.

During her hospitalization, Elyn received intensive psychotherapy and spent the rest of her time working on her studies. Her academic program did not require her to attend classes, and so she was able to isolate herself in her apartment while she worked, which made it difficult for her to realize the extent of her psychological difficulties. She was not taking any medication at the time, and her ability to attain a firm grasp on reality slowly deteriorated. When she reported to her psychiatrist that her suicidal ideation had worsened, she was urged to become a full-time patient at the hospital where she remained for 2 weeks. After beginning a course of psychotherapeutic medication, Elyn eventually felt well enough to return to her studies, although she soon began to decompensate. She returned to the hospital where she languished in psychosis and depression for several months. Once she was stabilized, her psychiatrist recommended that she enter psychoanalysis. Determined to finish her degree at Oxford, Elyn continued her studies while seeing a psychoanalyst 5 days a week. Even after finishing her studies, which ended up taking 4 years instead of 2, Elyn felt that her relationship with her analyst was helping her so much that she decided to stay in England to continue their work together for 2 more years. In the book, Elyn describes her experience of living with her illness during this time in her life. "Completely delusional, I still understood essential aspects of how the world worked. For example, I was getting my schoolwork done, and I vaguely understood the rule that in a social setting, even with the people I most trusted, I could not ramble on about my psychotic thoughts. To talk about killing children, or burning whole worlds, or being able to destroy cities with my mind was not part

of polite conversation . . . At times, though, I was so psychotic that I could barely contain myself. The delusions expanded into full-blown hallucinations, in which I could clearly hear people whispering. I could hear my name being called when no one was physically around–in a corner of the library, or late at night, in my bedroom where I slept alone. Sometimes, the noise I heard was so overwhelming it drowned out almost all other sound."

After leaving England, Elyn decided to attend law school at Yale University, where she continued to struggle with psychotic episodes that resulted in several lengthy hospitalizations, although she was eventually able to finish her degree. She had discovered a passion for helping psychiatric patients after working in a mental health law clinic, fueled by her intimate understanding of the experience of herself being a psychiatric patient. Throughout her career she has worked toward creating a high legal standard of care for psychiatric patients in the United States.

Elyn eventually took a position at the law school at UCLA where she continues to work as a tenured faculty member. Over the years she has worked hard to keep her psychotic symptoms at bay with help from a combination of talk therapy, medication, and social support from her husband and close friends. Though Elyn struggled for many years to accept the reality of her illness, she now accepts her diagnosis and all that it entails. At the end of the book, Elyn writes that she feels grateful to be one of the lucky few able to successfully live with schizophrenia. She dispels the idea that she has had a better life because of schizophrenia, but instead states that she has been able to live her life despite it. Often throughout her career in discussing legal aspects of mental health treatment she noticed others stigmatizing those with mental illness, not believing that they could lead normal lives or even be trusted to not be violent. When explaining why she decided to write the book and "out" herself as mentally ill, she describes that she decided to write the book because "I want to bring hope to those who suffer from schizophrenia, and understanding to those who do not."

Treatments The primary biological treatment for schizophrenia is antipsychotic medication, or neuroleptics. As we discussed in the chapter "Theoretical Perspectives", psychiatrists prescribe two categories of neuroleptics: the so-called typical or first generation antipsychotics and the atypical or second generation antipsychotics.

Chlorpromazine (Thorazine) and haloperidol (Haldol) are two of the typical antipsychotic medications. They seem to have their effect on reducing symptoms primarily by acting on the dopamine receptor system in areas of the brain associated with delusions, hallucinations, and other positive symptoms.

In addition to being highly sedating, causing a person to feel fatigued and listless, the typical antipsychotics also have serious undesirable consequences. These include **extrapyramidal symptoms (EPS),** which are motor disorders involving rigid muscles, tremors, shuffling movement, restlessness, and muscle spasms affecting their posture. After several years, people being treated with the typical antipsychotics can also develop **tardive dyskinesia,** another motor disorder, which consists of involuntary movements of the mouth, arms, and trunk of the body.

extrapyramidal symptoms (EPS)
Motor disorders involving rigid muscles, tremors, shuffling movement, restlessness, and muscle spasms affecting their posture.

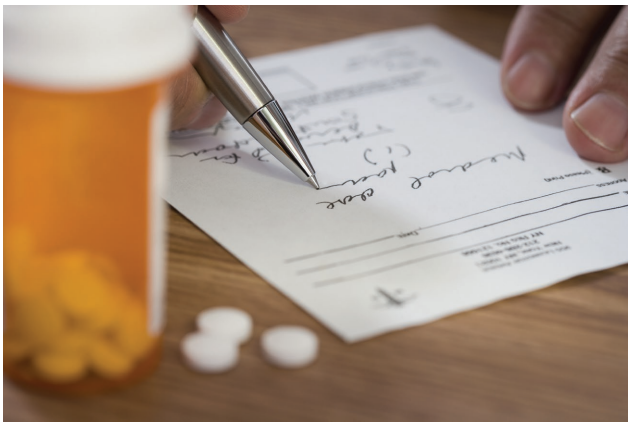
tardive dyskinesia
Motor disorder that consists of involuntary movements of the mouth, arms, and trunk of the body.

The distressing side effects and failure of typical antipsychotics to treat negative symptoms of schizophrenia led psychiatric researchers on a search to alternatives that would both be more effective and not cause tardive dyskinesia. These would become the medications we now refer to as atypical antipsychotics. Such medications operate on both serotonin and dopamine neurotransmitters and, hence, are also called serotonin-dopamine antagonists.

Clinicians initially hoped that the atypical antipsychotic medications would result in fewer side effects as well as treating negative symptoms. However, one of the first atypical antipsychotics, clozapine (Clozaril), soon turned out to cause potentially lethal side effects by leading to agranulocytosis, a condition that affects the functioning of the white blood cells. Now, patients receive the atypical medications only under very controlled conditions and only when other medications do not work. Instead, clinicians can now prescribe one of a number of safer atypical antipsychotics, including risperidone (Risperdal), olanzapine (Zyprexa), and quetiapine (Seroquel).

Unfortunately, even medications in the newer group of atypical antipsychotics are not without potentially serious side effects. They can cause metabolic disturbances, particularly weight gain, increases in blood cholesterol, and greater insulin resistance, placing them at greater risk of diabetes and cardiovascular disease (Ringen, Engh, Birkenaes, Dieset, & Andreassen, 2014).

Dementia often causes secondary physical problems when those who suffer from it are unable to take the correct dosages of their medication.



Psychiatrists strive to find an appropriate regimen of medication in order to prevent individuals with psychotic disorders from experiencing highly disruptive psychotic symptoms.

Because of the many complexities in the biological treatment of individuals with schizophrenia, researchers and clinicians increasingly recognize the need to take the individual's medical and psychiatric profile into account. For treatment-resistant clients, clozapine is the only approach that has empirical support. In other instances, clinicians may attempt to find either a combination of antipsychotics or a combination of antipsychotics with other classes of medications. The next question becomes one of determining how long to maintain a client on medications balancing the value of continued treatment against the risk of relapse and possible health hazards that occur with their use over time (Kane & Correll, 2010).

Psychological Perspectives

Theories Although evidence continues to accumulate regarding the role of genetics in schizophrenia, researchers nevertheless believe that psychological theories can provide important insights. Furthermore, researchers who continue to explore the cognitive functions affected by schizophrenia are increasingly seeing these as potentially fundamental to understanding the disorder's central features.

The cognitive correlates of schizophrenia, as shown by the summary of neuropsychological performance in Figure 2, range from general intellectual ability to deficits in attention, declarative memory (long-term recall of information), and processing speed. Overall, estimates of how many people with schizophrenia are cognitively impaired vary from 55 to between 70 and 80 percent (Reichenberg, 2010).

It is important to keep in mind, however, that factors extraneous to the disease can also cause these abnormalities. Such factors include age, educational background, use of medication, and severity or length of illness. If they are not controlled for, then the cognitive impairment that people with schizophrenia show may be due to these extraneous factors, and not the disorder itself.

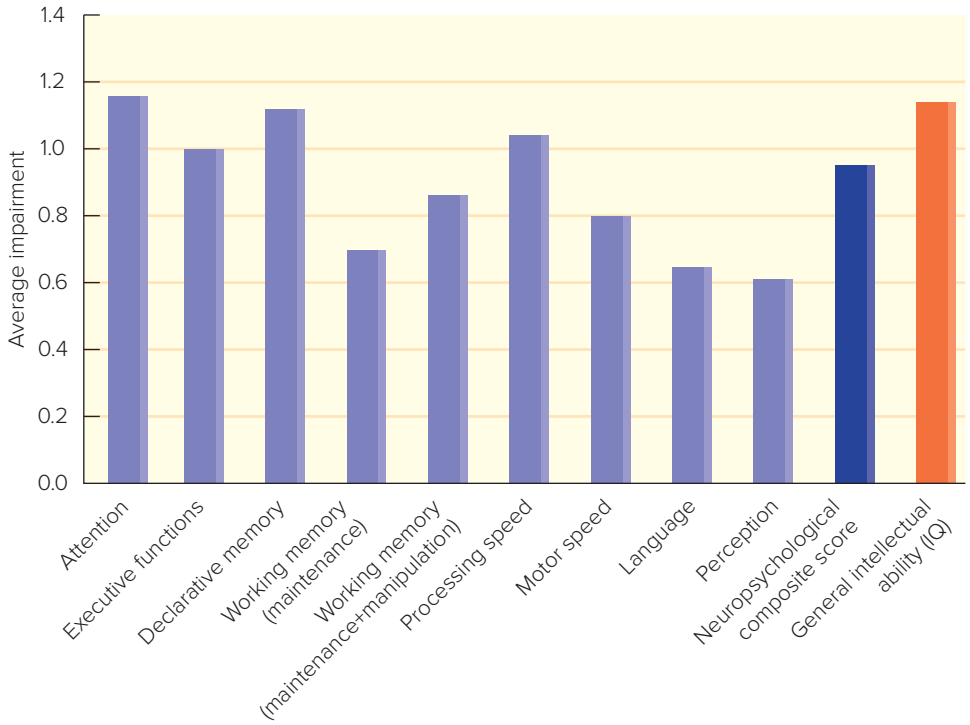


FIGURE 2 Neuropsychological Performance Profile of Schizophrenia (note, the dark blue and orange bars at the right indicate summary scores).

Reichenberg, A. (2010). The assessment of neuropsycholgical functioning in schizophrenia. *Dialogues in Clinical Neuroscience, 12*(3), 383–392. Les Laboratoires Servier, Neuilly-sur-Seine, France.

In this regard, people who use cannabis (marijuana) also show an elevated risk of developing schizophrenia. Although researchers were long aware of the cannabis-schizophrenia link, they believed that people with schizophrenia used the drug to alleviate their symptoms. Long-term follow-up studies show, instead, that people develop the disorder after continued use of cannabis. The more they use the drug, the greater their chances of having schizophrenia (McGrath et al., 2010).

People with schizophrenia also show deficits in the area of social cognition, meaning that they have difficulty perceiving the emotions of others. This deficit in social cognition is particularly problematic when they are given the task of recognizing certain emotions such as, for example, the negative emotions of fear, anger, and disgust. People with schizophrenia are, however, better at identifying mild happiness in the facial expressions of other people. Not surprisingly, the nonverbal communicative abilities of people with schizophrenia also appear to be impaired (Walther et al., 2015).

These impairments in cognitive functioning can set up a vicious cycle that leads to a worsening of the individual's situation. Problems in memory, planning, and processing speed, for example, interfere with the ability to hold down mentally challenging jobs. The limitations people with schizophrenia have in social cognition and communication make it difficult for them to work in people-oriented jobs.

Unable to maintain consistent employment, people with schizophrenia can slip into poverty, which further stresses their abilities to lead productive lives. Living in high-poverty areas in turn places them at risk for becoming involved in substance abuse, which can contribute to the symptoms they experience as a result of their disorder.

Treatments

For many years, the most common psychological interventions for people with schizophrenia involved behavioral treatments intended to lower the frequency of an individual's maladaptive behaviors that interfere with social adjustment and functioning. These interventions typically employed the token economy method of contingency management (see the chapter "Theoretical Perspectives") in which institutionalized individuals received rewards for acting in socially appropriate ways. The expectation was that, over time, the new behaviors would become habitual and the person would not depend on reinforcement by tokens in order to engage in that behavior.

However, the token economy as a form of intervention is no longer practical given that most individuals with schizophrenia receive treatment in the community. In addition, there is little data on its effectiveness, and with clinicians focusing on evidence-based treatment, the profession cannot justify its use (Dickerson, Tenhula, & Green-Paden, 2005).

More promising is cognitive-behavioral therapy when administered as an adjunct to pharmacological treatments (Wykes, Steel, Everitt, & Tarrier, 2008). Clinicians using **cognitive-behavioral therapy for psychosis (CBTp)** do not try to change their delusions or eliminate their hallucinations, but instead try to reduce their distress and preoccupation with these symptoms.

cognitive-behavioral therapy for psychosis (CBTp)
Method of treating symptoms of psychosis in which clinicians do not try to change their delusions or eliminate their hallucinations, but instead try to reduce their distress and preoccupation with these symptoms.

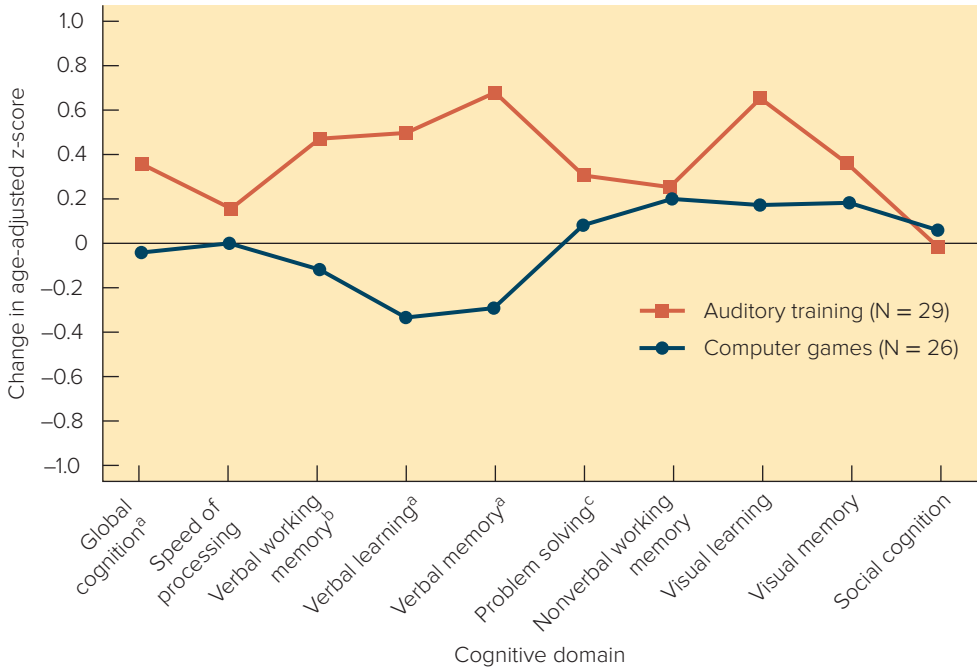
In addition, clinicians using CBTp attempt to teach their clients coping skills so that they can improve their ability to live independently. Clinicians might assign homework of having their clients keep a diary of their experiences of hearing voices or a "reality check" of their delusional beliefs.

CBTp was initially developed in the United Kingdom, perhaps because service providers were more interested in developing nonmedical approaches to treating the symptoms of psychosis than is true in the United States. However, the method is gaining more widespread acceptance in the United States, based on studies showing its effectiveness, particularly in conjunction with atypical antipsychotics (Li et al., 2015).

Researchers are also developing interventions to help address the cognitive deficits of individuals with schizophrenia, particularly those who suffer from primarily negative symptoms. Like physical fitness training, people with schizophrenia can receive individualized cognitive training that builds on their current level of functioning to restore or enhance their performance. Cognitive training is guided by the findings from neuroscience showing that people with schizophrenia have deficits in memory and sensory processing.

FIGURE 3 Change in Cognitive Performance in Patients with Schizophrenia after 50 Hours of Computerized Auditory Training

Fisher, M., Holland, C., Merzenich, M. M., & Vinogradov, S. (2009). Using neuroplasticity-based auditory training to improve verbal memory in schizophrenia. *The American Journal of Psychiatry, 166*, 805–811. doi:10.1176/appi.ajp.2009.08050757



[a]Significant difference between groups ($P < 0.01$, repeated-measure ANOVA)
[b]Significant difference between groups ($P < 0.05$, repeated-measure ANOVA)
[c]Nonsignificant difference between groups ($P = 0.10$, repeated-measure ANOVA)

In one promising approach, computers present individuals with a series of auditory training trials in which participants must respond rapidly in order to receive a reward. To test the effectiveness of this method, researchers compare the effects of computer games versus auditory training (Figure 3). Participants with schizophrenia who received auditory training improved in several areas of cognitive functioning known to be affected by the disorder. These results are also being replicated on laptops, making them even more transportable to a variety of settings (Fisher et al., 2015). As they improve their memory and sensory skills, individuals with schizophrenia can then become better able to take advantage of other psychologically based interventions, including more successful participation in vocational rehabilitation programs.

Sociocultural Perspectives

Theories

In some of the earliest formulations about the causes of schizophrenia, psychological theorists proposed that disturbed patterns of communication in a child's family environment could precipitate the development of the disorder. In studies on modes of communication and behavior within families with a schizophrenic member, researchers attempted to document deviant patterns of communication and inappropriate ways that parents interacted with their children. Clinicians thought that these disturbances in family relationships led to the development of defective emotional responsiveness and cognitive distortions fundamental to the psychological symptoms of schizophrenia.

Contemporary researchers have approached the issue by trying to predict outcome or recovery in adults hospitalized for schizophrenia. Instead of regarding a disturbed family as the cause of schizophrenia, these researchers view the family as a potential source of stress in the environment of the person who is trying to recover from a schizophrenic episode. The stress that family members create is referred to as **expressed emotion (EE)** and includes interactions with the individual that reflect criticism, hostile feelings, and emotional overinvolvement or overconcern.

expressed emotion (EE)
Family interactions with the individual that reflect criticism, hostile feelings, and emotional overinvolvement or overconcern.

Supporting the concept of EE as a source of stress, researchers find that people living in families high in EE are more likely to suffer a relapse, particularly if they are exposed

to high levels of criticism (Marom, Munitz, Jones, Weizman, & Hermesh, 2005). When in treatment, these individuals may also develop less trust in their therapists (von Polier et al., 2014).

EE may also affect the way that people with schizophrenia process social information. Researchers found higher activation in brain regions involved in self-reflection and sensitivity to social situations when exposing schizophrenic patients to speech high in EE compared to neutral speech (Rylands, McKie, Elliott, Deakin, & Tarrier, 2011).

It goes without saying that research on EE could never employ an experimental design, and this has been a criticism of the research. Even EE critics, however, recognize that the presence of an individual with schizophrenia creates stress within the family, even if the family member is not living at home. The individual's disorder can impact parents, siblings, and even grandparents, particularly when the symptoms first begin to emerge in an individual's early adult years.

Moving beyond the family environment, researchers have also studied broader social factors, such as social class and income, in relationship to schizophrenia. In perhaps the first epidemiological study of mental illness in the United States, Hollingshead and Redlich (1958) observed that schizophrenia was far more prevalent in the lowest socioeconomic classes.

A number of researchers have since replicated the finding that more individuals with schizophrenia live in the poorer sections of urban areas in the United States and Europe. One possible interpretation of this finding is that people with schizophrenia experience **downward drift,** meaning that their disorder drives them into poverty, which interferes with their ability to work and earn a living. The other possibility is that the stress of living in isolation and poverty in urban areas contributes to the risk of developing schizophrenia. The rates of schizophrenia are higher in individuals who were born or raised in urban areas, not just those who moved there as adults (Stilo & Murray, 2010).

downward drift
A progression observed in people with schizophrenia in which their disorder drives them into poverty, which interferes with their ability to work and earn a living.

People who were born in a country other than the one in which they are currently living (i.e., those who have "migrant" status) also have higher rates of schizophrenia. The individuals most at risk for schizophrenia are those who migrate to lower status jobs and urban areas, where they are more likely to suffer from exposure to environmental pollutants, stress, and overcrowding (McGrath, Saha, Chant, & Welham, 2008). However, as the rates of ethnic minorities in a neighborhood increase, the rates of schizophrenia are lower, suggesting that these individuals benefit from less exposure to discrimination and more opportunities for social support in their immediate environments (Veling, Selten, Susser, Laan, Mackenbach, & Hoek, 2007).

Other risk factors for schizophrenia, or at least symptoms of psychosis, related to an individual's sociocultural background include adversity in childhood including parental loss or separation, abuse, and a target of bullying. In adulthood, individuals more vulnerable to first or subsequent episodes of psychosis include people who have experienced severely stressful life events, including being a victim of assault (Stilo & Murray, 2010). Individuals with high genetic risk who are exposed to environmental stressors are more likely than others who experience mild psychotic symptoms to develop a full-blown disorder (van Os, Linscott, Myin-Germeys, Delespaul, & Krabbendam, 2009).

Recognizing that the causes of schizophrenia are multifaceted and develop over time, Stilo and Murray (2010) proposed a **developmental cascade hypothesis** that integrates genetic vulnerabilities, damage occurring in the prenatal and early childhood periods, adversity, and drug abuse as leading, ultimately, to changes in dopamine expressed in psychosis. In Figure 4, the specific genes that are affected by schizophrenia are shown as developmental genes, or those that play a role in brain development, and neurotransmitter genes, which play a more direct role in neural activity.

developmental cascade hypothesis
A proposal for the cause of schizophrenia that integrates genetic vulnerabilities, damage occurring in the prenatal and early childhood periods, adversity, and drug abuse as causes of changes in dopamine expressed in psychosis.

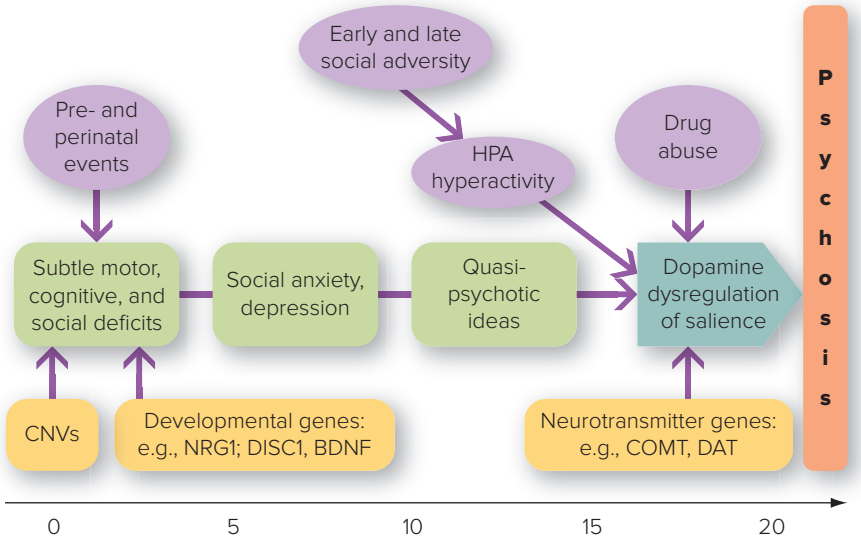
Treatments

The coordination of services is especially important in programs geared toward helping people with schizophrenia. One approach to integrating various services is **Assertive Community Treatment (ACT),** in which an interprofessional team representing psychiatry, psychology, nursing, and social work reach out to clients in their homes and workplaces. ACT's focus is on engendering empowerment and self-determination

Assertive Community Treatment (ACT)
Where a team of professionals from psychiatry, psychology, nursing, and social work reach out to clients in their homes and workplaces.

FIGURE 4 Developmental Cascade Toward Schizophrenia

Stilo, S. A., & Murray, R. M. (2010). The epidemiology of schizophrenia: replacing dogma with knowledge. *Dialogue in Clinical Neuroscience, 12* (3), 305–315. Les Laboratoires Servier, Neuilly-sur-Seine, France.



on its "consumers," the term they use to refer to their clients. Typically, a team of about a dozen professionals work together to help approximately 100 consumers with issues such as complying with medical recommendations, managing their finances, obtaining adequate health care, and dealing with crises when they arise. This approach involves bringing care to the clients, rather than waiting for them to come to a facility for help, a journey that may be too overwhelming for seriously impaired people.

Although approaches such as ACT are expensive, the benefits are impressive. Researchers have conducted dozens of studies on the effectiveness of ACT and have concluded that ACT has had significant positive impact on reducing hospitalizations, stabilizing housing in the community, and lowering overall treatment costs (Karow et al., 2012).

As effective as it can be, critics charge that ACT is not provided in a manner consistent with its goal of empowering consumers and instead is coercive and paternalistic. To address this charge, ACT researchers are investigating the possibility of combining ACT with another program, called Illness Management and Recovery (IMR). In IMR,

Assertive Community Treatment involves a highly skilled and collaborative team of psychiatrists, nurses, social workers, and other mental health care professionals.

consumers receive training in effective ways to manage their illnesses and pursue their goals for recovery. Resting on the principle of self-determination, IMR is based on the premise that consumers should be given the resources they need to make informed choices. IMR uses peers and clinicians to deliver structured, curriculum-based interventions. Although an initial investigation of ACT-IMR revealed that the providers experienced a number of difficulties in implementing the program, it appeared to reduce hospitalization rates. Moreover, even after funding for the study ran out, the teams continued to provide services (Salyers, McGuire, Rollins, Bond, Mueser, & Macy, 2010).

6.7 Schizophrenia: The Biopsychosocial Perspective

Definitions and diagnostic approaches to schizophrenia are undergoing significant revisions, but throughout the past decade, researchers have gained a great deal of understanding about its many possible causes. Perhaps most exciting is the evolution of an integrated approach to theories that focus on underlying brain mechanisms as expressed in cognitive deficits. Treatment is moving beyond the provision of medication to greater use of evidence-based psychological interventions. Finally, researchers appear to be gaining greater appreciation of the role of sociocultural influences. Together, these advances are increasing the chances that individuals with these disorders will receive integrated care, maximizing their chances of recovery (Sungur, Soygür, Güner, Üstün, Çetin, & Falloon, 2011).

Clinicians, also, increasingly understand schizophrenia from a life-span perspective. The needs and concerns of individuals with this disorder vary over the years of adulthood. In addition to the fact that many actually do recover, researchers and mental health practitioners are recognizing that part of their job involves providing ways to help people with long-term schizophrenia adapt to changes involved in both the aging process and the evolution of the disease. The idea that schizophrenia is a neurodevelopmental disorder highlights this important new focus and provides a basis for interventions that take into account individual changes over time.

Return to the Case: David Marshall

David was eventually able to return to school part time, living at home with Ann. Though he struggled with the change in his level of functioning, he was able to use therapy and case management to understand his limitations. By doing so, the aim is to avoid future stressors from occurring and from inducing psychotic episodes. It is difficult to completely avoid any instances of psychosis from occurring with a disorder as severe as schizophrenia. However, with the proper contingencies and social support the impact of his symptoms will be easier for David to tolerate.

Dr. Tobin's reflections: David's move into the dorms presented as a first major life stressor. Although he had already been attending college for a year, living with his mother seems to have provided a feeling of safety that was shattered once he moved away. It was difficult though, as David certainly wished he could attain independence successfully. Though he was not at his same level of functioning as before, David and Ann had assumed that whatever David had been going through was finished. Returning to the dormitories, however, proved too great a stressor and so David's symptoms resurfaced once again.

Luckily for David, Ann was able to take action to help him after it had become clear that he was suffering from something very serious that neither of them had quite understood. Having "caught" the disorder early on, entering a treatment program is beneficial as it decreases the likelihood that his life will be complicated by the fallout from future psychotic episodes. However, prevention of future episodes is contingent upon his participation in therapy and his medication compliance.

SUMMARY

- Schizophrenia is a serious mental illness, given its potentially broad impact on an individual's ability to live a productive and fulfilling life. Although a significant number of people with schizophrenia eventually manage to live symptom-free lives, many must find ways to adapt their lives to the reality of the illness.
- There are six diagnostic criteria for schizophrenia (see Table 2). In addition to the diagnostic criteria for schizophrenia and related psychotic disorders, the *DSM-5* authors provide a set of severity rating criteria in several spheres of functioning. *DSM-5* authors conceptualize schizophrenia as a spectrum or set of related disorders characterized by dimensions.
- Using the *DSM-IV-TR,* clinicians could make subtype diagnoses to provide more information about the presenting symptoms. With *DSM-5,* these same subtypes (disorganized, paranoid, undifferentiated, and residual) have become specifiers. Specifiers serve the same purpose of providing more diagnostic information, without standing alone as discrete disorders. The exception to this change is catatonia, which has become its own disorder. This exception came about as a result of evidence that the symptoms of catatonia develop differently from the other specifiers.
- First identified as a disease in the 1800s by Benedict Morel, researchers, including physicians, psychiatrists, and psychologists, have been studying schizophrenia, theorizing its origin, and identifying symptoms and categories. As the years unfold, researchers attempt to develop a more precise set of diagnostic criteria.
- Schizophrenia may take one of several courses. When symptoms no longer interfere with a client's behavior, he or she is in remission. Compared to other psychological disorders, the course and outcome are poorer for people with schizophrenia.
- Other disorders on the schizophrenia spectrum include brief psychotic disorder, schizophreniform disorder, schizoaffective disorder, and several specific types of delusional disorders including erotomanic type, grandiose type, jealous type, persecutory type, and somatic type.
- Theories accounting for the origin of schizophrenia have traditionally fallen into two categories: biological and psychological. In the first part of this century, a debate raged between proponents of both sides. More recently, researchers have begun to accept that both biology and experience interact in the determination of schizophrenia and have begun to build complex theoretical models that incorporate multiple factors. This includes the neurodevelopmental hypothesis, which states that schizophrenia is a disorder of development that arises during the years of adolescence or early adulthood due to alterations in the genetic control of brain maturation.
- The primary biological treatment for schizophrenia is antipsychotic medication, or neuroleptics. The two main categories of neuroleptics are the so-called "typical" or "first generation" and "atypical" or "second generation" antipsychotics. The distressing side effects and failure of typical antipsychotics to treat negative symptoms of schizophrenia have led psychiatric researchers on a search to alternatives that would both be more effective and not cause tardive dyskinesia, a motor disorder that consists of involuntary movements of their mouth, arms, and trunk of the body. Because of the many complexities in the biological treatment of individuals with schizophrenia, researchers and clinicians increasingly recognize the need to take the individual's medical and psychiatric profile into account.
- From a psychological perspective, with increasing evidence suggesting specific genetic and neurophysiological abnormalities in the brains of people with schizophrenia, researchers are becoming increasingly interested in finding out more about the role of cognitive deficits in causing the disorder. However, these symptoms may not be at the core of the disorder. Instead, cognitive functions affected by schizophrenia may be more fundamental to understanding the disorder's central features.
- For many years, the most common psychological interventions for people with schizophrenia involved behavioral treatments intended to lower the frequency of an individual's maladaptive behaviors that interfere with social adjustment and functioning. However, this form of intervention is no longer practical given that most individuals with schizophrenia receive treatment in the community. In addition, there is little data on its effectiveness and with clinicians focusing on evidence-based treatment, the profession cannot justify its use. More promising is cognitive-behavioral therapy when clinicians use it as an adjunct to pharmacological treatments. Clinicians using cognitive-behavioral therapy to treat individuals with symptoms of psychosis (CBTp) do not try to change their delusions or eliminate their hallucinations, but instead try to reduce their distress and preoccupation with these symptoms. Researchers are also developing interventions to help address the cognitive deficits of individuals with schizophrenia, particularly those who suffer from primarily negative symptoms.
- There have been many theories regarding schizophrenia from a sociocultural perspective. Contemporary researchers have approached the issue by trying to predict the outcome or recovery of adults hospitalized for schizophrenia. The index of expressed emotion (EE) provides a measure of degree to which family members speak in ways that reflect criticisms, hostile feelings, and emotional overinvolvement or overconcern. Moving beyond the family environment, researchers have also studied broader social factors, such as social class and income, in relationship to schizophrenia. Other risk factors for schizophrenia, or at least symptoms of psychosis related to an individual's sociocultural background, include adversity in childhood including parental loss or separation, abuse, and being a target of bullying.
- The coordination of services is especially important in programs geared toward helping people with schizophrenia.

- From a biopsychosocial perspective, an exciting development is the evolution of an integrated approach to theories that focus on underlying brain mechanisms as expressed in cognitive deficits. Treatment is moving beyond the provision of medication to greater use of evidence-based psychological interventions. Finally, researchers appear to be gaining greater appreciation of the role of sociocultural influences. Together, these advances are increasing the chances that individuals with these disorders will receive integrated care, maximizing their chances of recovery. Clinicians, also, increasingly understand schizophrenia from a life-span perspective. The idea that schizophrenia is a neurodevelopmental disorder highlights this important new focus and provides a basis for interventions that take into account individual changes over time.

KEY TERMS

Active phase
Asociality
Assertive Community Treatment (ACT)
Avolition
Brief psychotic disorder
Catatonia
Cognitive-behavioral therapy for psychosis (CBTp)
Delusion
Delusional disorder
Developmental cascade hypothesis
Disorganized speech
Downward drift
Erotomanic type of delusional disorder
Extrapyramidal symptoms (EPS)
Expressed emotion (EE)
First-rank symptom (FRS)
Grandiose type of delusional disorder
Hallucination
Inappropriate affect
Jealous type of delusional disorder
Loosening of associations
Negative symptoms
Neologism
Neurodevelopmental hypothesis
Neuroplasticity
Paranoia
Persecutory type of delusional disorder
Positive symptoms
Restricted affect
Schizoaffective disorder
Schizophrenia
Schizophrenia spectrum
Schizophreniform disorder
Shared psychotic disorder
Somatic type of delusional disorder
Tardive dyskinesia
Vulnerability

Depressive and Bipolar Disorders

OUTLINE

Case Report: Janice Butterfield
Depressive Disorders
- Major Depressive Disorder
- Persistent Depressive Disorder (Dysthymia)
- Disruptive Mood Dysregulation Disorder
- Premenstrual Dysphoric Disorder

Disorders Involving Alternations in Mood
- Bipolar Disorder

Real Stories: Carrie Fisher: Bipolar Disorder
- Cyclothymic Disorder

Theories and Treatment of Depressive and Bipolar Disorders
- Biological Perspectives
  - Biological Theories
  - Antidepressant Medications

What's in the *DSM-5*: Depressive and Bipolar Disorders
  - Bipolar Medications
  - Alternative Biologically Based Treatments
- Psychological Perspectives
  - Psychodynamic Approaches
  - Behavioral and Cognitive-Behavioral Approaches
  - Interpersonal Approaches
- Sociocultural Perspectives

Suicide
You Be the Judge: Do-Not-Resuscitate Orders for Suicidal Patients
Depressive and Bipolar Disorders: The Biopsychosocial Perspective
Return to the Case: Janice Butterfield
Summary
Key Terms

Learning Objectives

7.1 Explain the key features of major depressive disorder and persistent depressive disorder, including prevalence.

7.2 Compare and contrast bipolar I, bipolar II, and cyclothymic disorder.

7.3 Understand theories and treatments of depressive and bipolar disorders.

7.4 Discuss the relationships among age, gender, and suicide.

7.5 Analyze the biopsychosocial model of depressive and bipolar disorders.

CHAPTER 7

Case Report: Janice Butterfield

Demographic information: 47-year-old African-American female.

Presenting problem: Janice was referred for psychotherapy after a recent hospitalization following a suicide attempt. Janice reported that the precipitant to her suicide attempt was the loss of her job in a real estate company, where she had worked for 25 years. She reported that although she realized her company had downsized due to the economy, she found herself feeling profoundly guilty for the negative impact her unemployment would have on her family. Janice reported she has been married for 27 years and has three daughters, one of whom lives at home. Another is in college, and her youngest will be attending college at the start of the next school year. Janice reported she had become increasingly overwhelmed by the stress about her financial situation, as her family mainly relied on her income.

Along with feelings of guilt, Janice reported she had felt so depressed and down that she spent many days in the past 2 weeks in bed, and often found herself thinking of ending her life. She stopped taking her pain medication, which was prescribed for her chronic backaches "to save up if I needed them later." One evening when her husband was out, she attempted suicide by taking all of her saved-up medications at once. Janice's husband returned to find her unresponsive and rushed her to the hospital just in time to save her life. She was hospitalized in an inpatient psychiatric unit and given medication until her suicidal thoughts and severe depression decreased enough so that the doctors deemed her no longer a threat to herself. She followed the referral given to her by the psychiatrists on the inpatient unit to attend weekly psychotherapy for follow-up. She had never been in therapy before.

During her first therapy session, Janice reported that she had thought about going to therapy many times before. She explained that her depressive episodes usually lasted about 1 month, but sometimes as long as 3 months. During these episodes, she missed a few days of work but would manage to go about her normal routine albeit with much difficulty. She described that while she was at work, she would go out to her car to cry, because it would be too painful to be around others. "I just didn't want anything to do with life at those points," she recalled. Her depression would eventually improve on its own, and she would lose interest in getting treatment as a result. She reported that she had occasionally thought about suicide in the past when she was feeling depressed, but had never before made and carried out a plan as she had during the most recent episode.

Janice went on to explain how these depressed moods always caught her "off guard," as they would occur directly after long periods when she felt happy and energetic. She stated these moods usually started after she had made a large real estate sale, and she felt "invincible" after such a sale. During these times, she described that she often needed very little sleep due to the seeming endless amount of energy she possessed, and she would begin to take on many new projects and clients at work—much more than would be expected of her. During these periods she splurged on lavish clothing or jewelry, and during her last energetic period had purchased new cars for herself and her husband. These expenditures were uncharacteristic for Janice, as she described herself as usually being quite frugal. Due to her constantly moving thoughts, Janice found it difficult to concentrate and was so distracted she was rarely able to finish anything she began to take on

Case Report *continued*

at work. She would feel disappointed that she had to give up some of her projects, and her joyful feelings would turn to irritability and anger. She reported that her husband usually experienced the brunt of her irritable mood, and this caused major problems in their marriage. Janice further reported that she felt like she ignored her family altogether due to her work habits when she was feeling particularly energetic. She remarked, "When I'm feeling that good, I can only think about myself and what feels good to me. I stop being a mother and a wife." Her extreme spending periods eroded her family's savings, which was especially a concern now that she had lost her job. This also contributed to her guilt about paying for her youngest daughter's college tuition. Janice had never talked directly with her husband or her children about her vast mood shifts. She stated she worried that if she had told her family about her personal difficulties, they would "see me as a weakling, instead of the head of the household."

Relevant history: Janice had never received psychiatric treatment or therapy in the past, though she reported she had experienced mood swings since she was 19. She estimated that she had severe mood episodes (either manic or depressive) about three to four times per year. When reflecting on the severity of her mood episodes, she stated that she felt her behaviors had been more "extreme" in more recent years than when she was younger. Janice reported that she noticed the patterns in her mood swings always began with an energetic period, directly followed by a depressive episode, and then a period of several months of stability. More recently, though, she noted that the periods of stability had only been lasting 1 or 2 months, and her mood episodes had been lasting longer.

Case formulation: Janice's initial diagnosis from the psychiatric unit was major depressive episode, and her current presentation also met this criteria. However, in the initial therapy session she reported also having a history of manic episodes that were followed by periods of depression, which she had not mentioned while she had been hospitalized. The symptoms of the manic episode she described caused significant problems for Janice financially, due to her excessive spending sprees. In combination with losing her job, her financial problems caused significant stress for Janice and may have contributed to the severity of her most recent depressive episode, which eventually led to a suicide attempt. Therefore, her diagnosis is bipolar I disorder, most recent episode depressed.

Treatment plan: It is recommended that Janice continue to attend weekly psychotherapy. In therapy, it will be necessary to make a suicide safety plan, given her history of suicidal ideation in the past. Therapy should initially focus on psychoeducation, symptom management, and mood monitoring. She will also be referred to an outpatient psychiatrist for medication reconciliation, as psychotherapeutic medication is highly recommended in the treatment of bipolar disorder.

Sarah Tobin, PhD

depressive disorder
Involves periods of symptoms in which an individual experiences an unusually intense sad mood.

dysphoria
An unusually elevated sad mood.

major depressive disorder
A disorder in which the individual experiences acute, but time-limited episodes of depressive symptoms.

major depressive episode
A period in which the individual experiences intense psychological and physical symptoms accompanying feelings of overwhelming sadness (dysphoria).

People can experience day-to-day highs and lows, but when their disturbances of mood reach a point of clinical significance, they may be considered to have a depressive or bipolar disorder. In *DSM-5,* these two disorders involve a set of criteria that allow clinicians to establish whether their clients show alterations in mood that significantly deviate from the individual's baseline or ordinary emotional state.

7.1 Depressive Disorders

A **depressive disorder** involves periods of symptoms in which an individual experiences an unusually intense sad mood. The disorder's essential element of this sad mood is known as **dysphoria.**

Major Depressive Disorder

Major depressive disorder involves acute, but time-limited periods of depressive symptoms that are called **major depressive episodes** (see Table 1). **Persistent depressive disorder (dysthymia)** is a chronic but less severe mood disturbance in which the individual

TABLE 1 Criteria for a Major Depressive Episode

For most of the time during a 2-week period, a person experiences at least five or more of the first nine symptoms in addition to the last two. He or she must experience a change from previous functioning and at least one of the first two symptoms must be present. During this 2-week period, most of these symptoms must be present nearly every day.

- Depressed mood most of the day
- Markedly diminished interest or pleasure in all or most daily activities
- Significant unintended weight loss or unusual increase or decrease in appetite
- Insomnia or hypersomnia
- Psychomotor agitation or retardation observable by others
- Fatigue or loss of energy
- Feelings of worthlessness or excessive or inappropriate guilt
- Difficulty maintaining concentration or making decisions
- Recurrent thoughts of death or having suicidal thoughts, plans, or attempts
- The symptoms are not attributable to a medical condition or use of a substance
- The symptoms cause significant distress or impairment

does not experience a major depressive episode. People receive a diagnosis of recurrent major depressive disorder if they have had two or more major depressive episodes with an interval of at least two consecutive months though they may meet the criteria for a major depressive disorder for 2 years.

Major depressive disorder can be and often is diagnosed with a range of other disorders including, for example, personality disorders, substance use disorders, and anxiety disorders. A number of conditions can mimic major depressive disorder, including those associated with disorders that we discussed in the chapter "Schizophrenia Spectrum and Other Psychotic Disorders", which include or are related to schizophrenia. These include schizophrenia, schizoaffective disorder, schizophreniform disorder, and delusional disorder. Therefore, the clinician must rule out these specific disorders before assigning the diagnosis of major depressive disorder to the client.

The lifetime prevalence of major depressive disorder in the United States is 16.6 percent of the adult population (Kessler, Petukhova, Sampson, Zaslavsky, & Wittchen, 2012). On a yearly basis, 6.7 percent of the adult population receives a diagnosis of major depressive disorder (Kessler, Chiu, Demler, Merikangas, & Walters, 2005), with clinicians classifying 30.4 percent of these cases (2 percent of the adult population) as severe. Figure 1 summarizes these overall prevalence statistics.

The average age of onset of the disorder is 32 years (Kessler, Berglund, Demler, Jin, Merikangas, & Walters, 2005). Second only to lower back pain as a cause of years lived with disability around the world, major depressive disorder is also the nineteenth most common global disease (Vos et al., 2012).

The overall statistics do not tell the whole story, as there are significant gender and age differences. Women are 70 percent more likely than men to experience major depressive disorder at some point in life. Compared to adults 60 years of age and older, adults 59 years of age and younger are approximately twice as likely to have experienced major depressive disorder. Looking at 12-month prevalence, 18- to 29-year-olds are 200 percent as likely as adults 60 and older to have experienced this disorder (Kessler, Berglund, et al., 2005).

persistent depressive disorder (dysthymia)
Chronic but less severe mood disturbance in which the individual does not experience a major depressive episode.

Prevalence

- **12-month prevalence:** 6.7% of U.S. adult population
- **Severe:** 30.4% of these cases (e.g., 2.0% of U.S. adult population) are classified as "severe"

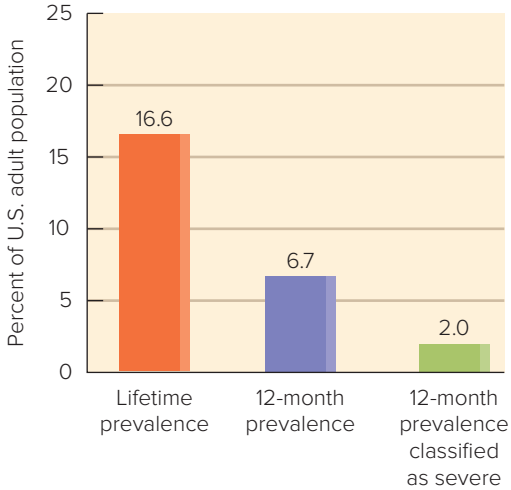


FIGURE 1 Prevalence of Major Depressive Disorder in the United States

http://www.nimh.nih.gov/health/statistics/prevalence/major-depression-among-adults.shtml

MINI CASE

Major Depressive Disorder, Recurrent Episode

Daryll is a 37-year-old construction worker whose wife took him to a psychiatric facility. Although Daryll has been functioning normally for the past several years, he suddenly became severely disturbed and depressed. At the time of admission, Daryll was agitated, dysphoric, and suicidal, even going as far as to purchase a gun to kill himself. He had lost his appetite and had developed insomnia during the preceding 3 weeks. As each day went by, he found himself feeling more and more exhausted, less able to think clearly or to concentrate, and uninterested in anything or anyone. He had become hypersensitive in his dealings with neighbors, co-workers, and family, insisting that others were being too critical of him. This was the second such episode in Daryll's history, the first having occurred 5 years earlier, following the loss of his job due to a massive layoff in his business.

Persistent Depressive Disorder (Dysthymia)

The mood disturbance occurring with major depressive disorder may take a chronic, enduring form. People with persistent depressive disorder (dysthymia) have, for at least 2 years (1 year for children and adolescents), a more limited set of the symptoms that occur with major depressive disorder, including sleep and appetite disturbances, low energy or fatigue, low self-esteem, difficulty with concentration and decision making, and feelings of hopelessness. However, people with persistent depressive disorder currently do not meet the criteria for a major depressive episode, which requires that the client meet five of the criteria in Table 1.

Despite the fact that people with persistent depressive disorder do not experience all the symptoms of a major depressive episode, they are never free of their symptoms for longer than 2 months. Moreover, they are likely to have other serious psychological disorders, including a heightened risk for developing major depressive disorder, personality disorder, and substance use disorder.

Approximately 2.5 percent of the adult population will develop dysthymic disorder in the course of their lives, with a peak in the 45- to 59-year-old age group (Kessler, Berglund, et al., 2005). The 12-month prevalence for dysthymic disorder is 1.5 percent of the U.S. population, with almost half of these cases (0.8 percent of the adult population) classified as severe (Kessler, Chiu, et al., 2005). As is true for major depressive disorder, dysthymic disorder symptoms take on a different form in older adults, who are more likely to report disturbances in physical than in psychological functioning (Oxman, Barrett, Sengupta, & Williams Jr., 2000).

Disruptive Mood Dysregulation Disorder

disruptive mood dysregulation disorder
A depressive disorder in children who exhibit chronic and severe irritability and have frequent temper outbursts.

The diagnosis of **disruptive mood dysregulation disorder** is used for children who exhibit chronic and severe irritability and have frequent temper outbursts that occur, on average, three or more times per week over at least one year and in at least two settings. These outbursts must be developmentally inappropriate meaning that, for example, they may take the form of a much younger child's outburst of rage than what would be expected in an older child or young teen.

Between outbursts, children with this disorder remain angry or at least extremely irritable. The criteria specify that the diagnosis should not be made for the first time for children whose first episode occurs when they are younger than 6 or older than 18. However, either by directly observing the child or from the child's history, the clinician must determine that the disorder had its onset before the age of 10. In other words, a teen of 13 must be reported by parents or teachers, for example, to have been subject to angry episodes prior to turning 10 years old.

MINI CASE

Persistent Depressive Disorder (Dysthymia)

Kimiko is a 34-year-old community college instructor who, for the past 3 years, has had persistent feelings of depressed mood, inferiority, and pessimism. She realizes that, since her graduation from college, she has never felt really happy and that, in recent years, her thoughts and feelings have been characterized as especially depressed. Her appetite is low, and she struggles with insomnia. During waking hours, she lacks energy and finds it difficult to do her work. She often finds herself staring out the window of her office, consumed by thoughts of how inadequate she is. She fails to fulfill many of her responsibilities and, for the past 3 years, has received consistently poor teacher evaluations. Getting along with her colleagues has become increasingly difficult. Consequently, she spends most of her free time alone in her office.

The authors of *DSM-5* recognized a potential criticism of this disorder that might be characterized as pathologizing a child's "temper tantrums," but they believed it was important to have a disorder earmarked for children and teens who in the past would have been diagnosed with bipolar disorder. Follow-up data of children who show this extreme irritability and angry outbursts suggest that rather than developing bipolar disorder, they are at risk of developing depressive and/or anxiety disorders when they reach adulthood.

Premenstrual Dysphoric Disorder

Women who experience depressed mood or changes in mood, irritability, dysphoria, and anxiety during the premenstrual phase that subside after the menstrual period begins for most of the cycles of the preceding year may be diagnosed with **premenstrual dysphoric disorder (PMDD).** This disorder was in the Appendix (i.e., not a diagnosable condition) in *DSM-IV-TR*. By making this disorder part of the standard psychiatric nomenclature, the *DSM-5* authors believed that better diagnosis and treatment could result for women who truly experience a highly exaggerated mood disturbance prior to their monthly menstrual cycle.

Critics argue that the PMDD diagnosis pathologizes the normal monthly variations in mood that women may experience. However, the counterargument is that the majority of women do not experience mood alterations so severe on a monthly basis that they would show such extreme symptoms. By including PMDD as a diagnosis, women with these severe episodes of depression can receive treatment that might not otherwise be available to them.

premenstrual dysphoric disorder (PMDD)
Changes in mood, irritability, dysphoria, and anxiety that occur during the premenstrual phase of the monthly menstrual cycle and subside after the menstrual period begins for most of the cycles of the preceding year.

7.2 Disorders Involving Alternations in Mood

Bipolar disorders and cyclothymic disorders involve alternations in mood. **Bipolar disorder** involves an intense and disruptive experience of a **manic episode,** which may also occur in alternation with a major depressive episode. During a manic episode, the individual may experience unusually high levels of **euphoria. Cyclothymic disorder** involves alternations between dysphoria and briefer, less intense, and less disruptive euphoric states called hypomanic episodes.

bipolar disorder
A mood disorder involving manic episodes–intense and disruptive experiences of heightened mood, possibly alternating with major depressive episodes.

manic episode
Acute, but time-limited period of intense and unusual elation.

euphoria
A feeling state that is more cheerful and elated than average, possibly even ecstatic.

cyclothymic disorder
A mood disorder with symptoms that are more chronic and less severe than those of bipolar disorder.

Bipolar Disorder

Clinicians diagnose people who have manic episodes, even if they have never had a depressive episode, as having bipolar disorder, a term that has replaced "manic depression."

REAL STORIES

Carrie Fisher: Bipolar Disorder

Carrie Fisher is an American actress, screenwriter, novelist, and lecturer who has appeared in over 40 films–most notably for her portrayal of Princess Leia Organa in the *Star Wars* trilogy. She has also written four novels, one of which, *Wishful Drinking*, has been turned into a one-woman play performed in venues across the country. In the book, she chronicles her life–from growing up in a Hollywood family, her rise to fame, her struggles with drugs and alcohol, to her battles with bipolar disorder. Carrie talks about her experiences with humor and honesty, revealing the reality of her mental illness.

Born in 1956 in Beverly Hills, California, Carrie is the daughter of actress Debbie Reynolds and singer Eddie Fisher. The product of a Hollywood marriage, Carrie seemed to have been destined to be a Hollywood star from the very beginning. When she was 2 years old, Carrie's father left her mother for Elizabeth Taylor, her mother's best friend. The media highly publicized this story, although in her book, Carrie states that she doesn't believe her childhood experiences had a major impact on any of the problems that she encountered later in life.

Carrie first began acting at the age of 12, appearing in Las Vegas with her mother. She later dropped out of high school in order to perform with her mother on tour. In 1973, Carrie appeared with her mother in the Broadway musical *Irene*, and 2 years later, after attending drama school in London, made her film debut in the 1975 film *Shampoo* with Warren Beatty. Two years after that, she instantly became an international celebrity and an icon for her role in the *Star Wars* trilogy. According to Carrie, it was at this point that she began to heavily abuse cocaine and alcohol, having already experimented with marijuana at the age of 13. Looking back on her drug abuse, Carrie recalls that she used drugs as a way to self-medicate her extreme mood episodes. She first received a diagnosis of manic-depression (as it was called at the time) when she was 24 years old. Although she did not pursue any treatment at that point, she began to understand what was driving much of her heavy substance use. In the book, she describes how she did not accept her diagnosis, and even felt personally insulted by it. Rather than taking medication as was recommended by her psychiatrist, she dropped out of treatment and impulsively moved to New York from Los Angeles, and soon after that married singer Paul Simon.

Carrie and Paul were married from 1983 to 1984, though they dated on and off for a total of 12 years. In 1992, Carrie had a daughter, Billie, with her partner Bryan Lourd.

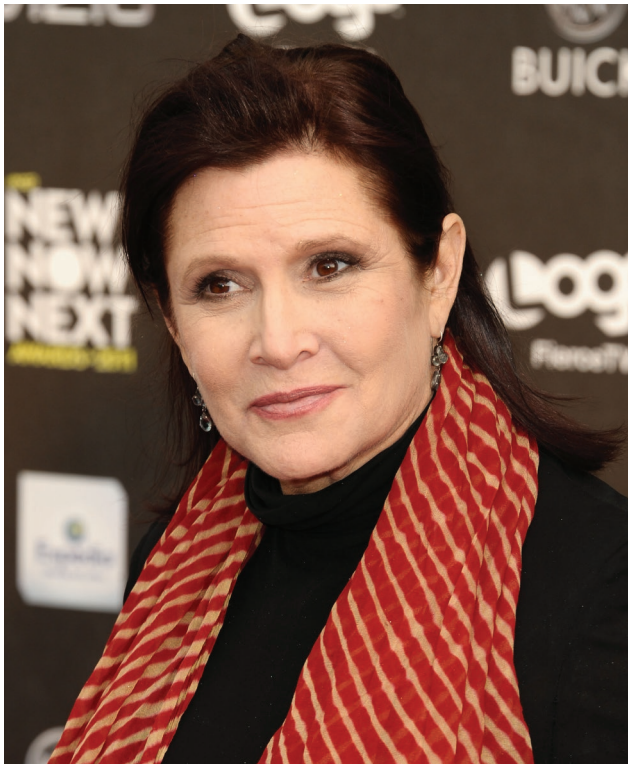
Despite her chronic battles with substance abuse and bipolar disorder, Carrie continued to appear in films and television shows throughout the 1980s. Her substance abuse led to a hospitalization in the mid-1980s, inspiring her first novel, *Postcards from the Edge*, a semi-autobiographical account of an actress suffering from substance abuse, published in 1987. The book became a successful movie for which she received critical acclaim.

Throughout the 1990s, Carrie continued to appear in films and became well known in Hollywood for her screenwriting talents. In 1997, she suffered from a psychotic break after she sought out medication to treat her chronic depression. She describes that experience in *Wishful Drinking*: "Now, anyone who has stayed awake for six days knows that there's every chance that they'll wind up psychotic. Anyway, I did, and part of how that manifested was that I thought everything on television was about me . . . I watched CNN, and at the time Versace had just been killed by that man Cunanin, and the police were frantically scouring the Eastern seaboard for him. So, I was Cunanin, Versace, and the police. Now this is exhausting programming." She was hospitalized for 6 days and then spent 6 months receiving outpatient treatment.

Having now accepted her diagnosis of bipolar disorder and finally coming to terms with her need for treatment, Carrie set out to lecture against the stigmatization of mental illness. Since that time she has been an active voice in speaking out about the need for government funding for mental health treatment, and for the need for greater public acceptance of mental illness.

In *Wishful Drinking*, Carrie describes her experiences with switching between mania and depression. "I have two moods . . . One is Roy, rollicking Roy, the wild ride of a mood. And Pam, sediment Pam, who stands on the shore and sobs . . . sometimes the tide is in, sometimes it's out." Carrie also writes of some of the various treatments for her illness that she has received, including electroconvulsive therapy (ECT).

She recalls the mix of emotions and reactions to receiving ECT, including fear,



After struggling for many years with substance abuse and bipolar disorder, Carrie Fisher is now an activist for destigmatization of mental illness.

humiliation, and concern about dangerous side effects, particularly given the way that the treatment had been portrayed in popular culture. However, she eventually decided that her symptoms were becoming far too severe and needed more intensive treatment.

"I'd been feeling overwhelmed and pretty defeated. I didn't necessarily feel like *dying*–but I'd been feeling a lot like not being alive. The second reason I decided to get ECT is that I was depressed. Profoundly depressed. Part of this could be attributed to my mood disorder, which was, no doubt, probably the source of the emotional intensity. That's what can take simple sadness and turn it into sadness squared." Fortunately for Carrie, ECT proved to be an effective treatment for combating her intense depressive episodes.

"At times," she writes at the end of *Wishful Drinking*, "being bipolar can be an all-consuming challenge, requiring a lot of stamina and even more courage, so if you're living with this illness and functioning at all, it's something to be proud of, not ashamed of."

An individual must experience a manic episode in order for a clinician to diagnose the person with bipolar disorder, as Table 2 defines.

The two major categories of bipolar disorder are bipolar I and bipolar II. A diagnosis of bipolar I disorder describes a clinical course in which the individual experiences one or more manic episodes with the possibility, although not the necessity, of experiencing one or more major depressive episodes. In contrast, a diagnosis of bipolar II disorder means that the individual has had one or more major depressive episodes and at least one called a **hypomanic episode.** The criteria for a hypomanic episode are similar to those of a manic episode, but involve a shorter duration (4 days instead of 1 week).

hypomanic episode
A period of elated mood not as extreme as a manic episode.

Individuals who are in a manic, hypomanic, or major depressive episode may show features of the opposite pole, but not to an extreme enough degree to meet the relevant diagnostic criteria. For example, people in a manic episode may report feeling sad or empty, fatigued, or suicidal. *DSM-5* uses a specifier of "mixed features" to apply to cases in which an individual experiences episodes of mania or hypomania when depressive features are present, and to episodes of depression in the context of major depressive disorder or bipolar disorder when features of mania/hypomania are present. The existence of this additional "mixed" category accounts for those people whose symptoms may, either simultaneously with or close in time to, show the opposite mood symptoms.

Bipolar disorder has a lifetime prevalence rate of 3.9 percent in the U.S. population (Kessler, Berglund, et al., 2005) and a 12-month prevalence of 2.6 percent (Kessler, Chiu, et al., 2005). Of those diagnosed with bipolar disorder in a given year, nearly 83 percent (2.2 percent of adult population) have cases classified as "severe." At least half of all

TABLE 2 Criteria for a Manic Episode

A distinct period of abnormally and persistently elevated, expansive, or irritable mood and abnormally and persistently increased activity or energy, lasting at least 1 week and present most of the day, nearly every day (or any duration if hospitalization is necessary).

During the period of mood disturbance and increased energy or activity, three (or more) of the following symptoms (four if the mood is only irritable) are present to a significant degree, and represent a noticeable change from usual behavior:

- inflated self-esteem or grandiosity
- decreased need for sleep (e.g., feels rested after only 3 hours of sleep)
- more talkative than usual or pressure to keep talking
- flight of ideas or subjective experience that thoughts are racing
- distractibility (i.e., attention too easily drawn to unimportant or irrelevant external stimuli), as reported or observed
- increase in goal-directed activity (either socially, at work or school, or sexually) or psychomotor agitation
- excessive involvement in activities that have a high potential for painful consequences (e.g., engaging in unrestrained buying sprees, sexual indiscretions, or foolish business investments)

This episode must represent a clearly observable change in functioning but it is not severe enough to require hospitalization to prevent harm to self or others.

MINI CASE

Bipolar I Disorder, Current Episode Manic

Isabel is a 58-year-old realtor who, for the past week, has shown signs of uncharacteristically outlandish behavior. This behavior began with Isabel's development of an unrealistic plan to create her own real estate empire. She went without sleep or food for 3 days, spending most of her time at her computer developing far-fetched financial plans. Within 3 days she put deposits on seven houses, together valued at more than $3 million, although she had no financial resources to finance even one of them. She made several visits to local banks, where she was known and respected, and made a scene with each loan officer who expressed skepticism about her plan. In one instance, she angrily pushed over the banker's desk, yanked his phone from the wall, and screamed at the top of her lungs that the bank was keeping her from earning a multimillion-dollar profit. The police were summoned, and they brought her to the psychiatric emergency room, from which she was transferred for intensive evaluation and treatment.

cases begin before a person reaches the age of 25 (Kessler, Chiu, et al., 2005). Approximately 60 percent of all individuals with bipolar disorder can live symptom free if they receive adequate treatment (Perlis et al., 2006). This means that a large percentage continue to experience symptoms. According to one estimate, over the course of a five-year period, people with bipolar disorder feel that their mood is normal only about half the time (Pallaskorpi et al., 2015).

Of all psychological disorders, bipolar disorder is the most likely to occur in people who also have problems with substance abuse. People with bipolar and substance use disorders have an earlier onset of bipolar disorder, more frequent episodes, greater chances of having anxiety- and stress-related disorders, aggressive behavior, problems with the law, and risk of suicide (Swann, 2010).

People with bipolar disease seem to be in poorer physical health than others their own age. They are at greater risk of heart disease and diabetes (Silarova et al., 2015), and have higher levels of cholesterol in the blood (Kessing, Vradi, McIntyre, & Andersen, 2015). It is possible that for these reasons, according to a comprehensive population study conducted in Denmark, bipolar disorder is associated with lower life expectancy across a variety of causes (Kessing, Vradi, McIntyre, & Andersen, 2015). In addition to higher mortality due to illness, people with bipolar disorder also have elevated rates of suicide and other forms of violent death (Hayes, Miles, Walters, King, & Osborn, 2015).

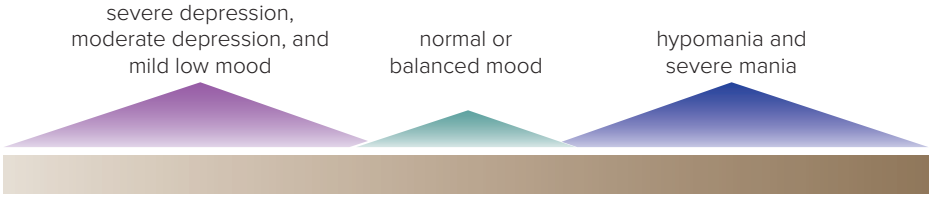
As you can see in Figure 2, bipolar disorder can cause people to experience a range of moods.

bipolar disorder, rapid cycling
A form of bipolar disorder involving four or more episodes within the previous year that meet the criteria for manic, hypomanic, or major depressive disorder.

Clinicians diagnose people as having **bipolar disorder, rapid cycling** if they have four or more episodes within the previous year that meet the criteria for manic, hypomanic, or major depressive disorder. In some individuals, the cycling may occur within 1 week or even 1 day. The factors that predict rapid cycling include earlier onset, higher depression scores, higher mania scores, and lower global assessment of functioning. A history of rapid cycling in the previous year and use of antidepressants also predict rapid cycling (Schneck et al., 2008). Medical conditions such as hypothyroidism, disturbances in sleep-wake cycles, and use of antidepressant medications can also contribute to the development of rapid cycling (Papadimitriou, Calabrese, Dikeos, & Christodoulou, 2005).

FIGURE 2 Range of Moods Present in People with Bipolar Disorder

https://www.nimh.nih.gov/health/topics/bipolar-disorder/index.shtml



MINI CASE

Cyclothymic Disorder

Larry is a 60-year-old bank cashier who has sought treatment for his mood variations, which date back to age 26. For much of his adult life, co-workers, family, and friends have repeatedly told him that he is very moody. He acknowledges that his mood never feels quite stable, although at times others tell him he seems more calm and pleasant than usual. Unfortunately, these intervals are quite brief, lasting for a few weeks and usually ending abruptly. Without warning, he may experience either a somewhat depressed mood or a period of elation. During his depressive periods, his confidence, energy, and motivation are very low. During his hypomanic periods, he willingly volunteers to extend his workday and to undertake unrealistic challenges at work. On weekends, he might decide to put in long shifts at a homeless shelter without getting any sleep. Larry disregards the urging of his family members to get professional help, insisting that it is his nature to be high energy at times. He also states that he doesn't want some "shrink" to steal away the periods during which he feels on top of the world.

Cyclothymic Disorder

Cyclothymic disorder symptoms are more chronic and less severe than those of bipolar disorder. People with this disorder have met the criteria for a hypomanic episode many times over a span of at least 2 years (1 year in children and adolescents) and also have numerous periods of depressive symptoms, but never meet the criteria for a major depressive episode. During their respective time frames, adults, children, or adolescents have never been without these symptoms for more than 2 months at a time.

7.3 Theories and Treatment of Depressive and Bipolar Disorders

Biological Perspectives

Long aware of the tendency for mood disorders to occur more frequently among biologically related family members, researchers working within the biological perspective are attempting to pinpoint genetic contributors to these disorders. However, multiple genes interact in complex ways with environmental risk factors, complicating tremendously these attempts to track down the cause of depressive and bipolar disorders (Kamali & McInnis, 2011).

Biological Theories

There is general agreement in the field that genetics plays a role in the cause of major depressive disorder. Estimates are that first-degree relatives are 15 to 25 percent more likely to have the disorder than are people who have no such familial relationship. The age at onset of first major depressive episode also appears to have a genetic component, further supporting the idea that genetic vulnerability plays a role in the etiology of mood disorders (Ferentinos et al., 2015).

The remainder of the explanation in accounting for who develops a mood disorder can be attributed, at least in part, to the fact that genetic predisposition interacts with environmental factors, including stress, social support, and life events, to make individuals vulnerable to developing these disorders (Lau & Eley, 2010).

Within the genetic part of the equation, the task then remains one of linking genes with the types of changes in the nervous system that could produce psychological symptoms. Altered serotonin functioning seems to be one of those neurochemical changes that plays an important role in causing genetically predisposed individuals to develop major depressive disorder. The best evidence for serotonin's role comes from studies in

Antidepressant medication is commonly prescribed to individuals who suffer from major depressive disorder.

which individuals are experimentally deprived of tryptophan, an amino acid that aids the body in manufacturing serotonin (Cowen, 2008).

A second research area on biochemical abnormalities in people with major depressive disorder involves brain-derived neurotrophic factor (BDNF), a protein that helps keep neurons alive and able to adapt and change in response to experience. People with major depressive disorder seem to have inherited a version of a gene that codes BDNF that results in lower levels in the areas of the brain regions involved in controlling mood (Lau & Eley, 2010).

It is possible, further, that activation within the brain's attentional circuits raises the depressed individual's awareness of internally based stimuli such as one's own thoughts and feelings (Kaiser, Andrews-Hanna, Wager, & Pizzagalli, 2015). Areas within the brain's network responsible for emotional processing, further, appear to be disrupted, which could lead to the depressed person's greater tendency to experience negative self-regard (Guo et al., 2015).

Compared to major depressive disorder, bipolar disorder has an even stronger pattern of genetic inheritance, with an estimated heritability of 60 percent. In a comprehensive analysis of 367 genes possibly involved in bipolar disorder, a team of researchers from the National Institute of Mental Health narrowed the search to a defect in the "PCLO" gene (called the "piccolo" gene). This gene seems to play a role in synaptic transmission (Choi, Higgs, Wendland, Song, McMahon, & Webster, 2011).

Brain scan and neuropsychological testing of individuals with bipolar disorder suggest that they have difficulties in attention, memory, and executive function consistent with abnormalities in the primary visual cortex, the frontal lobes, the temporal lobes, and the cingulate cortex (Benabarre et al., 2005). Further research suggests that the inability to inhibit responses that may have a genetic component may, consequently, serve as an endophenotype for bipolar disorder (Schulze et al., 2011).

Antidepressant Medications

At present, biological interventions for mood disorders target not the genetic abnormality but the effect of that abnormality on neurotransmitters. Therefore, antidepressant medication is the most common form of biologically based treatment for people with major depressive disorder. Clinicians prescribe antidepressants from four major categories: selective serotonin reuptake inhibitors (SSRIs), serotonin and norepinephrine reuptake inhibitors (SNRIs), tricyclic antidepressants (TCAs), and monoamine oxidase inhibitors (MAOIs).

The choice of which antidepressant an individual receives depends primarily on the clinician's preference for a particular class of medications. Ultimately, what medications the individual receives may be determined by trial and error to find out which one works best and produces the fewest side effects.

SSRIs block the uptake of serotonin, making more of this crucial neurotransmitter available to act at the receptor sites of receiving neurons. These medications include fluoxetine (Prozac), citalopram (Celexa), escitalopram (Lexapro), paroxetine (Paxil), and sertraline (Zoloft). Balancing the positive effects of SSRIs on mood are their side effects. The most commonly reported complaints associated with SSRIs are nausea, agitation, and sexual dysfunction. A newer class of antidepressants are serotonin modulators that target the postsynaptic serotonin receptors rather than the reuptake of serotonin in the synapse. These medications were approved for use in the United States in 2013, and results are still coming in on whether they will prove to be as effective, with fewer side effects, than other classes of antidepressants (Pae et al., 2015).

SNRIs increase both norepinephrine and serotonin levels by blocking their reuptake. They include duloxetine (Cymbalta), venlafaxine (Effexor), and desvenlafaxine (Pristiq).

Psychotherapeutic medication offers relief to many individuals who suffer from mood disorders and are often used in combination with other modes of treatment, such as psychotherapy, to help patients manage their symptoms.

These medications also carry with them a number of undesirable side effects including suicidal thoughts or attempts as well as allergic symptoms, gastrointestinal disturbances, weakness, nausea, vomiting, confusion, memory loss, irritability, and panic attacks, among other unpleasant reactions. Compared to SSRIs, the SNRIs show statistically significant effects in experimental studies, but clinically seem to hold no advantages. If anything, SNRIs have a greater chance of adverse reactions than SSRIs (Machado & Einarson, 2010) including the risk of suicidal thoughts and attempts as well as the other side effects that SSRIs can cause.

TCAs, which derive their name from the fact that they have a three-ring chemical structure, include amitriptyline (Elavil, Endep), desipramine (Norpramin), imipramine (Tofranil), and nortriptyline (Aventyl, Pamelor). These medications are particularly effective in alleviating depression in people who have some of the more common biological symptoms, such as disturbed appetite and sleep. Although the exact process by which TCAs work remains unclear, we do know that they block the premature reuptake of biogenic amines back into the presynaptic neurons, thus increasing their excitatory effects on the postsynaptic neurons.

The antidepressant effects of MAOIs, such as phenelzine (Nardil) and tranylcypromine (Parnate), prolong the life of serotonin and norepinephrine in the synapse, thereby increasing their actions in the central nervous system. MAOIs are particularly effective in treating chronic depression in people who have not responded to other medications. However, they have serious side effects that can be life threatening when people taking them also are on allergy medications or ingest foods or beverages such as beer, cheese, and chocolate, all of which are high in a substance called tyramine. As a result, clinicians do not prescribe MAOIs as commonly as other types of antidepressant medications.

Antidepressant medications take time to work, requiring from 2 to 6 weeks before they take effect. Once the depression has subsided, the clinician will urge the client to remain on the medication for 4 or 5 additional months, and much longer for people with a history of recurrent, severe depressive episodes. It is best for the clinician and client to work together to develop therapeutic programs that involve regular visits early in treatment, expanded educational efforts that focus on the medications, and continued monitoring of treatment compliance.

What's in the *DSM-5*

Depressive and Bipolar Disorders

Modifications to the category of Mood Disorders in *DSM-5* were intended to provide greater precision in the diagnosis by refining the criteria for major depressive episode, manic episode, and hypomanic episode. One of the major problems in the *DSM-IV-TR* was a failure to differentiate these episodes from a person's typical level of activity, sadness, or disturbance. In particular, this difficulty led to a failure to distinguish bipolar disorder from attention-deficit hyperactivity disorder, which, in turn, may have led to overdiagnosis of children and adolescents with bipolar disorder. Thus, these changes represent a slight, but important, improvement and will lead to greater specificity.

A highly controversial decision in *DSM-5* was the adding of premenstrual dysphoric disorder (PMDD). As you have learned, the addition of the PMDD diagnosis was met with criticism for pathologizing normal experiences in women. Similarly, critics argue that disruptive mood dysregulation disorder pathologizes the "normal" experience in children of having temper tantrums. The rationale for proposing this new diagnosis was that it would reduce the frequency of diagnosing bipolar disorder in children. By separating severe chronic irritability from bipolar disorder, the authors argued that children will not be misdiagnosed.

Finally, the *DSM-5* authors angered many critics when they decided to leave out the so-called "bereavement exclusion" present in *DSM-IV-TR*. This means that an individual who meets the criteria for a major depressive episode and has lost a loved one in the past 2 months (which was the bereavement exclusion) would receive a psychiatric diagnosis. The argument in favor of making this change was that, in a vulnerable individual, bereavement could trigger a major depressive episode that would be appropriate to diagnose. Moreover, in a lengthy note of clarification, the *DSM-5* authors maintain that the grief associated with normal bereavement is different from the symptoms that occur in individuals who develop a true depressive disorder.

Even though these medications can be effective, especially for certain clients, researchers are concerned that studies on antidepressants suffer from the "file drawer problem" phenomenon—the fact that investigators are likely to file away, and not even submit for publication, studies that fail to establish significant benefits. In one analysis of 74 FDA-registered studies on antidepressants, 31 percent, accounting for 3,349 study participants, were not published. On the other hand, of the published studies, 94 percent of the medication trials reported positive findings. This bias toward publishing only positive results severely limits our ability to evaluate the efficacy of antidepressants because we are only seeing a slice of the actual data (Turner, Matthews, Linardatos, Tell, & Rosenthal, 2008).

Adding further complications, some researchers have questioned whether people with less than severe depression might experience positive results because of the so-called "placebo effect" in which they get better because they expect to get better (Kirsch, Deacon, Huedo-Medina, Scoboria, Moore, & Johnson, 2008).

Medication is certainly one route for the clinician to follow in treating individuals with major depressive disorder. However, increasing attention is being given to the possibility that psychotherapy can be equally effective as medications (Farabaugh et al., 2015). Not only does psychotherapy offer potentially equal efficacious treatment, but it also carries less risks and adverse side effects than medication use.

Bipolar Medications

The traditional treatment for bipolar disorder is lithium carbonate, referred to as lithium, a naturally occurring salt (found in small amounts in drinking water) that, when used medically, replaces sodium in the body. Researchers have examined the efficacy of lithium in numerous studies over the past three decades, and the conclusion seems clear that lithium is effective in treating acute mania symptoms and in preventing the recurrence of manic episodes (Shastry, 2005). Its mechanisms of action are not well understood but appear to relate to the mechanisms by which cells throughout the body provide signals to one another (Alda, 2015). Another medication particularly useful for older adults is asenapine (Saphris), which tends to be better tolerated in this age group (Sajatovic et al., 2015).

Clinicians advise people who have frequent manic episodes (i.e., two or more a year) to remain on lithium continuously as a preventive measure. The drawback is that, even though lithium is a natural substance in the body, it can have side effects. These side effects include mild central nervous system disturbances, gastrointestinal upsets, and more serious cardiac effects. As a consequence, people who experience manic episodes may be reluctant or even unwilling to take lithium continuously.

From the client's perspective, lithium can be seen to interfere with the euphoria that can accompany the beginnings of a manic episode. Consequently, people with this disorder who enjoy those pleasurable feelings may resist taking the medication. Unfortunately, by the time their euphoria escalates into a full-blown episode, it's too late because their judgment is clouded by their manic symptoms of grandiosity and elation. To help overcome this dilemma, clinicians may advise their clients to participate in lithium groups, in which members who use the medication on a regular basis provide support to each other regarding the importance of staying on the medication.

Because of the variable nature of bipolar disorder, other medications can be beneficial in treating symptoms apart from the mania itself. For example, people in a depressive episode may need to take an antidepressant medication in addition to the lithium for the duration of the episode. However, this can be problematic for a person who is prone to developing mania, because an antidepressant might provoke hypomania or mania. Those who have psychotic symptoms may benefit from taking antipsychotic medication such as clozapine (Li, Tang, Wang, & de Leon, 2015). People who experience rapid cycling present a challenge for clinicians because of the sudden changes that take place in their emotions and behavior.

Psychopharmacologists report that rapid cyclers, especially those for whom lithium has not been sufficient, seem to respond positively to prescriptions of anticonvulsant medication, such as carbamazepine (Tegretol) or valproate (Depakote), although these alone are not as effective as lithium (Kessing, Hellmund, Geddes, Goodwin, & Andersen, 2011).

Alternative Biologically Based Treatments

For some clients with mood disorders, medication is either ineffective or slow in alleviating symptoms that are severe and possibly life threatening. Even with the best of treatment, between 60 and 70 percent of individuals with major depressive disorder do not achieve symptom relief (Rush et al., 2006). A combination of genetic, physiological, and environmental factors are involved in determining response to medication. Researchers hope to improve the efficacy of medications through **pharmacogenetics,** the use of genetic testing to determine who will and will not improve with a particular medication, including antidepressants (Crisafulli et al., 2011) and lithium (McCarthy, Leckband, & Kelsoe, 2010).

pharmacogenetics
The use of genetic testing to determine who will and will not improve with a particular medication.

Once a risky and controversial procedure, electroconvulsive therapy is now a highly regulated and safe procedure available for individuals with severe depression who have not responded to other treatment options.

Clinicians, at present, have several somatic alternatives to medication for treatment-resistant depression. As we discussed in the chapter "Theoretical Perspectives", one alternative is electroconvulsive therapy (ECT) (Lisanby, 2007). Clinicians and clients are not sure exactly how ECT works, but most current hypotheses center on ECT-induced changes in neurotransmitter receptors and in the body's natural opiates. As we discussed in the chapter "Theoretical Perspectives", deep brain stimulation (DBS) is another somatic treatment that clinicians use to target major depressive disorder (as well as obsessive-compulsive disorder and movement disorders).

circadian rhythms
Biological clocks that set patterns of sleepfulness and wakefulness on approximately a 24-hour basis.

Based on the hypothesis that at least some mood disorders reflect a disruption in daily biological clocks known as **circadian rhythms,** researchers are proposing the use of treatments that "reset" the individual's bodily clock. Such treatments include light therapy, in which the individual is seated in front of a bright light for a period of time, such as 30 minutes in the morning. One distinct advantage of light therapy is that its side effects are minimal and are almost entirely gone after the reduced dosage or discontinued treatment (Pail et al., 2011). Researchers also believe that lithium may work on at least some individuals with bipolar disorder by resetting their circadian rhythms (McClung, 2007).

Psychological Perspectives

Psychodynamic Approaches

Early psychoanalytic theories based on this approach proposed that people with depressive disorders had suffered a loss early in their lives that affected them at a deep, intrapsychic level (Abraham, 1911/1968). It was attachment theory, however, that brought the focus onto people's feelings of security or insecurity toward the way that their caregivers reared them in childhood. Bowlby (1980) proposed that people with an insecure attachment style have a greater risk for developing a depressive disorder in adulthood. Following up on Bowlby's ideas, Bemporad (1985) proposed that insecurely attached children become preoccupied with the need to be loved by others. As adults, they form relationships in which they overvalue the support of their partners. When such relationships end, they become overwhelmed with feelings of inadequacy and loss.

Psychoanalytic explanations of bipolar disorder propose that manic episodes are defensive responses through which individuals stave off feelings of inadequacy, loss, and helplessness. They are thought to develop feelings of grandiosity and elation or become hyperenergetic as an unconscious defense against sinking into a state of gloom and despair. Supporting this interpretation, researchers report a positive relationship between use of denial and narcissistic defense mechanisms and extent of manic symptoms (Sharma & Sinha, 2010).

Contemporary approaches to treatment within the psychodynamic perspective focus on helping individuals manage their symptoms rather than attempting to repair the core of the individual's disturbed attachment. These approaches involve short (8- or 10-session), focused treatments. A review of eight studies comparing short-term psychodynamic therapy to other methods showed this method to be as least as effective as CBT in the treatment of major depressive disorder (Lewis, Dennerstein, & Gibbs, 2008).

Behavioral and Cognitive-Behavioral Approaches

One of the earliest behavioral formulations of theories of depression regards the symptoms of depression as resulting from lack of positive reinforcement (Lazarus, 1968; Skinner, 1953). According to this view, depressed people withdraw from life because they no longer have incentives to be active. Contemporary behaviorists base their approach on Lewinsohn's (1974) model. He maintained that depressed people have a low rate of what he termed "response contingent positive reinforcement behaviors" that increase in frequency as the result of performing actions that produce pleasure. According to the behaviorist point of view, the lack of positive reinforcement elicits the symptoms of low self-esteem, guilt, and pessimism.

In the method known as **behavioral activation** for depression, based on these behaviorist principles, the clinician helps the client identify activities associated with positive mood. The client keeps a record of the frequency of engaging in these rewarding activities and sets small weekly goals that gradually increase their frequency and duration. These activities are preferably ones that are consistent with the client's core values. Some clients may prefer to spend time exploring the arts, whereas others spend time in physical activity. Behavioral activation seems particularly well suited for clients who are not "psychologically minded," for group therapy, and for settings such as hospitals, nursing homes, and substance-abuse treatment centers (Sturmey, 2009).

behavioral activation
Behavioral therapy for depression in which the clinician helps the client identify activities associated with positive mood.

Clinicians increasingly are integrating behavioral with cognitive approaches that focus on the role of dysfunctional thoughts as causes of, or at least contributors to, mood disorders. People with depressive disorders, according to the cognitive-behavioral perspective, think in repetitively negative ways that perpetuate their negative emotions. Beck (1967) defined these depressive thoughts as the **cognitive triad**—that is, a negative view of the self, the world, and the future.

cognitive triad
According to the cognitive theory of depression, the view that a depressed person's dysphoria results from a negative view of the self, the world, and the future.

These negative views lead depressed individuals, in turn, to experience a profound loss of self-esteem, convinced that they will never have what they need to feel good about themselves. They assume that they are worthless and helpless and that their efforts to improve their lives are doomed to fail. In the course of their daily experiences, the depressed, in this perspective, make faulty interpretations that keep alive the cycle of negative thoughts and emotions (Beck, Rush, Shaw, & Emery, 1979; Beck & Weishaar, 1989). Each of these faulty interpretations, or cognitive distortions, has its own unique qualities (see Table 3), but they share a similar failure to draw logical conclusions from the individual's experiences.

Behavioral therapy with clients who have depressive disorders follows the general principles that we outlined in the chapter "Theoretical Perspectives" in which clinicians help their clients develop more positively reinforcing experiences. In this approach, clinicians

TABLE 3 **Examples of Cognitive Distortions**

Type of Distortion	Definition	Example
Overgeneralizing	If it's true in one case, it applies to any case that is even slightly similar.	"I failed my first English exam, so I'm probably going to fail all of them."
Selective abstraction	The only events that the person takes seriously are those that represent failures, deprivation, loss, or frustration.	"Even though I won the election for the student senate, I'm not really popular because not everyone voted for me."
Excessive responsibility	I am responsible for all bad things that happen to me or others to whom I am close.	"It's my fault that my friend didn't get the internship—I should've warned her about how hard the interview would be."
Assuming temporal causality	If it has been true in the past, then it's always going to be true.	"My last date was a wipeout, my next date will probably hate me too."
Making excessive self-references	I am the center of everyone else's attention, and they can all see when I mess up.	"When I tripped over the branch in the sidewalk, everyone could see how clumsy I am."
Catastrophizing	Always thinking the worst and being certain that it will happen.	"Because I failed my accounting exam, I will never make it in the business world."
Dichotomous thinking	Seeing everything as either one extreme or another rather than as mixed or in between.	"I can't stand people who are liars because I can never trust them."

Adapted from A. T. Beck, A. J. Rush, B. F. Shaw, & G. Emery in *Cognitive Therapy of Depression.*

begin with a careful assessment of the frequency, quality, and range of activities and social interactions in their client's life, focusing on sources of positive and negative reinforcement. Based on this analysis, the clinicians work with their clients to institute changes in their environments while also teaching them social skills to improve the quality and number of their positive interactions. An important focus of the work done by behaviorally oriented clinicians is to encourage clients to increase their involvement in activities that they find inherently rewarding. These rewarding activities, in turn, can help boost the client's mood.

Behaviorally oriented clinicians also believe that education is an essential component of therapy. They regard individuals with depressive disorders as perpetuating their negative emotions by setting unrealistic goals, which they are then unable to achieve. To counteract these, clinicians working in the behavioral perspective assign homework exercises that encourage clients to make gradual behavioral changes, which will increase the probability that they can achieve their goals and thus feel rewarded.

Another technique used by the behavioral clinician involves behavioral contracting combined with self-reinforcement. For example, the clinician and client may agree that a client would benefit from the opportunity to socialize outside the home more often. Together, they would then set up a schedule of rewards in which they pair the social activity with something the client identifies as a desirable reward compatible with the goals of treatment (i.e., the clinician would not recommend that the client use the rewards of alcohol, drugs, or online gambling). Other methods the behaviorally oriented clinician would use include more extensive instruction, modeling, coaching, role playing, rehearsal, and perhaps working with the client in a real-world setting.

The focus of cognitive behavioral therapy (CBT) is on helping clients try to change their dysfunctional thought processes that in turn will improve their mood. Like behaviorally oriented therapy, CBT involves an active collaboration between the client and the clinician. In contrast to behaviorally oriented therapy, however, CBT focuses additionally on the client's dysfunctional thoughts and how to change them through cognitive restructuring.

Research comparing CBT to either other psychological forms of therapy or medication supports its greater effectiveness both in the short and long term, particularly for moderate or mild depressive disorders (Cleare et al., 2015). Mindfulness training, in addition, can help clients develop a greater sense of self-efficacy, an added boost to its positive effects on mood (Eisendrath et al., 2015).

Clinicians treating people with bipolar disorder customarily turn first to pharmacological interventions. However, psychological interventions can be beneficial in helping clients develop better coping strategies in an effort to minimize the likelihood of relapse (Bowden, 2005). As we mentioned earlier, people who have experienced a manic episode may be tempted to forgo taking their medication because they wish to reexperience the exciting highs of a manic episode. If they can develop insight into the risks involved in noncompliance, and gain an improved understanding of medications such as lithium, they are more likely to adhere to the treatment program.

Psychoeducation is an especially important aspect of treating people with bipolar disorder in order to help them understand its nature, as well as the ways in which medication is so important in controlling symptoms (Bond & Anderson, 2015). Moreover, CBT can also be an effective intervention for clients with bipolar disorder to help them cope with the periods in which their symptoms are beginning to emerge, but before they become full blown (Driessen & Hollon, 2010). Unfortunately, psychotherapy services tend to be underutilized by people with bipolar disorder, especially those who are younger and less well educated (Sylvia et al., 2015).

interpersonal therapy (IPT)
A time-limited form of psychotherapy for treating people with major depressive disorder, based on the assumption that interpersonal stress induces an episode of depression in a person who is genetically vulnerable to this disorder.

Interpersonal Approaches

Developed as a brief intervention, **interpersonal therapy (IPT)** is a focused approach that is intended to last between 12 and 16 weeks. In IPT, clients are helped to manage the interpersonal stress associated with their depressive episodes which themselves are seen as a function of genetic predisposition. Administered according to a set of guidelines, interpersonal therapy provides clinicians with a clear model to follow so that treatment can proceed within the scheduled

time frame. The IPT manual has the additional advantage of ensuring some consistency across therapists, making it possible to evaluate its effectiveness empirically.

We can divide interpersonal therapy into three broad phases. In the first phase, the clinician assesses the magnitude and nature of the individual's depression using quantitative assessment measures and semistructured interviews. Depending on the type of depressive symptoms that the individual shows, the therapist may consider combining treatment with antidepressant medications along with psychotherapy.

In the second phase, the therapist and the client collaborate in formulating a treatment plan that focuses on the primary problem. Typically, these problems are related to grief, interpersonal disputes, role transitions, and problems in interpersonal relationships stemming from inadequate social skills.

An interpersonal therapist carefully collaborates with each client to generate a unique treatment plan, based on the client's symptoms and particular areas of concern.

The therapist then carries out the treatment plan in the third phase, varying the methods according to the precise nature of the client's primary problem. The IPT approach encourages clinicians to combine such techniques as encouraging self-exploration, providing support, educating the client in the nature of depression, and providing feedback on the client's ineffective social skills. A primary focus of therapy is on the here and now, rather than on past childhood or developmental issues.

For clients who cannot take antidepressant medications or where it is impractical to use medications, IPT is an especially valuable intervention in that nonmedical personnel can administer it or clients, with instruction, can learn it themselves (Weissman, 2007). Overall, a large-scale analysis of studies conducted over 30 years on interpersonal therapy showed that, compared to cognitive-behavioral therapy and medications, interpersonal therapy was significantly more effective (Bowden, 2005).

Interpersonal and social rhythm therapy (IPSRT) (Frank, 2007) is a biopsychosocial approach to treating people with bipolar disorder that incorporates the concepts of stressful life events, disturbances in circadian rhythms (e.g., sleep-wake cycles, appetite, energy) into a focus on the individual's personal relationships. According to the IPSRT model, mood episodes are likely to emerge from medication nonadherence, stressful life events, and disruptions in social rhythms.

Clinicians who use IPSRT focus on educating clients about medication adherence, giving them a forum to explore their feelings about the disorder and helping them develop insight about the ways in which the disorder has altered their lives. Clients learn to pay careful attention to the regularity of daily routines (including the timing of events and the stimulation that occurs with these events), and the extent to which life events, positive as well as negative, influence daily routines. The goal of IPSRT is to increase stability in a client's social rhythms.

Reducing interpersonal stress for clients with bipolar disorder is important for several reasons. First, stressful life events heighten the arousal of the individual's autonomic nervous system and hence alter circadian rhythm. Helping clients cope with stress helps adjust these rhythms. Second, many life events, whether perceived as stressful or not, themselves cause changes in daily routines which in turn create more stress. Third, major life stressors affect a person's mood and also lead to significant changes in social routines (Frank, 2007). As clients stabilize their social rhythms and routines while improving their interpersonal relationships, their stress levels decline accordingly. Researchers employing IPSRT support its use on an outpatient and inpatient basis

Interpersonal and social rhythm therapy incorporates biological approaches to treatment such as light therapy to regulate an individual's circadian rhythms.

(Swartz et al., 2011). However, in comparing IPT with IPSRT, a randomized clinical treatment study showed that both were equally effective (Inder et al., 2015).

Looking across the results of virtually all published studies on interventions for mood disorders, Hollon and Ponniah (2010) concluded that cognitive-behavioral and behavioral therapy meet the criteria for evidence-based treatments, receiving strong support particularly for individuals with less severe or chronic depression. A review of randomized clinical trials comparing CBT with IPT shows both to be equally effective in treating major depressive disorder for at least 1 year post-treatment (Lemmens, Arntz, Peeters, Hollon, Roefs, & Huibers, 2015). Individuals with more severe depressive or bipolar disorders also benefit from cognitive-behavioral, interpersonal, and behaviorally oriented therapy above and beyond the effects of medication, and perhaps even instead of medication entirely, particularly over the long term (McHugh, Whitton, Peckham, Welge, & Otto, 2013).

Sociocultural Perspectives

According to the sociocultural perspective, individuals develop depressive disorders in response to external life circumstances. These circumstances can involve specific events such as sexual victimization, chronic stress such as poverty and single parenting, or episodic stress such as bereavement or job loss. Women are more likely to be exposed to these stressors than are men, a fact that may account, at least in part, for the higher frequency in the diagnosis of depressive disorders in women (Hammen, 2005).

However, acute and chronic stressors seem to play a differential role in predisposing an individual to experiencing depressive symptoms. Exposure to an acute stress such as the death of a loved one or an automobile accident could precipitate a major depressive episode. However, exposure to chronic strains from poor working conditions, health problems, interpersonal problems, and financial adversities can interact with genetic predisposition and personality to lead certain individuals to experience more persistent feelings of hopelessness. Moreover, once activated, an individual's feelings of depression and hopelessness can exacerbate exposure to stressful environments which, in turn, can increase further the individual's feelings of chronic strain (Brown & Rosellini, 2011).

On the positive side, strong religious beliefs and spirituality may combine with the social support that membership in a religious community provides to lower an individual's chances of developing depression even in those with high risk. Among the adult children of individuals with major depressive disorder, those with the strongest religious beliefs were less likely to experience a recurrence over a 10-year period (Miller, Wickramaratne, Gameroff, Sage, Tenke, & Weissman, 2011).

7.4 Suicide

Although not a diagnosable disorder, suicidality is one potential diagnostic feature of a major depressive episode. The definition of suicide is "a fatal self-inflicted destructive act with explicit or inferred intent to die" (Goldsmith, Pellman, Kleinman, & Bunney, 2002) (p. 27). Suicidal behavior runs from a continuum of thinking about ending one's life ("suicidal ideation") to developing a plan, to nonfatal suicidal behavior ("suicide attempt"), to the actual ending of one's life ("suicide") (Centers for Disease Control and Prevention, 2011).

The rates of completed suicide in the United States are far lower than other reported causes of death, amounting to slightly over 39,000 in the year 2011 (Kochanek, Murphy, & Xu, 2015). However, underreporting is likely due to the difficulty of establishing cause of death as intentional rather than unintentional harm. The highest suicide rates by age are for people 45 to 54 years old (19.8 per 100,000). Individuals 55 to 64 years old have

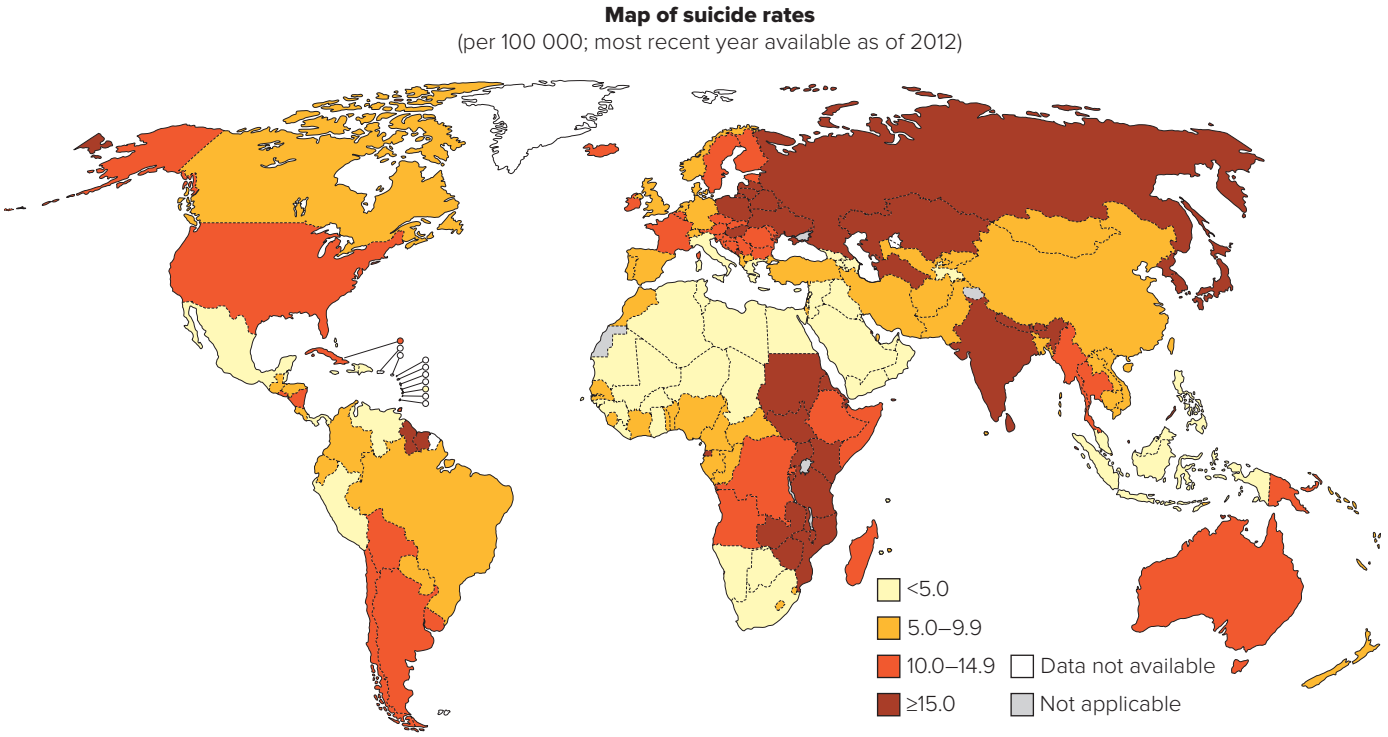


FIGURE 3 Map of Suicide Rates

Age-standardized suicide rates (per 100 000 population), both sexes, 2012. Copyright © by World Health Organization.

the next highest rates (17.4) but those 65 to 74 have the highest rates for suicide by discharge of firearms (12.6). Within the United States, white men are much more likely than are non-white men to commit suicide.

Around the world, there are approximately 1 million suicides each year with a global mortality rate of 16 per 100,000. The highest suicide rates around the world are for males in Lithuania (61.3 per 100,000) and for females in Republic of Korea (22.1 per 100,000), and the lowest rates (near 0) for several Latin American and Caribbean countries, Jordan, and Iran (see Figure 3).

In one-third of countries, young adults are at highest risk of suicide. In Europe and North America, depression and alcohol-use disorders are major psychological risk factors for suicide. In the United States, over 90 percent of suicides occur in people with a psychological disorder (Goldsmith, Pellman, Kleinman, & Bunney, 2002). In contrast, impulsiveness plays a higher role in the suicides of people from Asian countries (World Health Organization, 2011).

The biopsychosocial perspective is particularly appropriate for understanding why people commit suicide and in many ways parallels the understanding provided from an integrative framework for major depressive disorders. Biological theories emphasize the genetic and physiological contributions that also contribute to the causes of mood disorders. Psychological theories focus on distorted cognitive processes and extreme feelings of hopelessness that characterize suicide victims. From a sociocultural perspective, the variations from country to country and within countries suggest that there are contributions relating to an individual's religious beliefs and values as well as to the degree to which the individual is exposed to life stresses.

The perspective of positive psychology provides a framework for understanding why individuals who are at high risk for the abovementioned reasons nevertheless do not commit suicide. The buffering hypothesis of suicidality (Johnson, Wood, Gooding, Taylor, & Tarrier, 2011) describes resilience as a separate dimension than risk. You may be at

risk of committing suicide, but if you are high on resilience, you are unlikely to do so. The statistically higher risk you may face due to living in a stressful environment may not translate into higher suicidality if you feel you can cope successfully with these circumstances.

The factors that seem to comprise high resilience include the ability to make positive assessments of one's life circumstances and to feel in control over these circumstances. On the negative side, low resilience occurs with high levels of perfectionism and hopelessness (Hewitt, Caelian, Chen, & Flett, 2014). Having friends or family members who attempted suicide represents another risk factor (Mueller, Abrutyn, & Stockton, 2015). Further buffers to suicide risk are a number of psychosocial factors such as being able to solve problems, having high self-esteem, feeling supported by one's family and significant others, and being securely attached. People who do not believe that suicide is an acceptable option to stress are also better able to overcome high risk.

Interventions based on the resilience model would address not only the individual's specific risk factors, then, but on assessing and then strengthening the individual's feelings of personal control and perceived abilities to handle stress. CBT is one such intervention shown to be effective on reducing suicide attempts in populations such as adolescents (Ougrin, Tranah, Stahl, Moran, & Asarnow, 2015) and military personnel with a history of suicide attempts (Rudd et al., 2015).

You Be the Judge

Do-Not-Resuscitate Orders for Suicidal Patients

Medical professionals encourage (or sometimes require) patients, whether they are terminally ill or not, to direct them on how they wish to be treated should they require life support. Often, for such an "Advance Directive," also known as a "Living Will," patients specify whether or not they wish to have artificial life support should they be unable to survive on their own.

The issue of whether physicians should assist patients in ending their own lives, a process known as "Physician-Assisted Suicide," came to public attention in the 1990s when Dr. Jack Kevorkian, a Michigan physician, began providing terminally ill patients with the means to end their lives through pharmacological injections. Kevorkian's very public involvement in what he saw as a righteous campaign to alleviate people's suffering and allow them to "die with dignity" soon received national attention. He was imprisoned for 8 years following the televised assisted suicide that he performed on a man with amyotrophic lateral sclerosis (ALS), a terminal nervous system disease.

The purpose of a DNR is not to bring about a patient's death, but to make the patient's wishes clear regarding life support. As such, medical personnel respect the DNR when they must make life-and-death decisions. In contrast, when individuals who have psychological disorders and wish to end their lives embark upon the same plans as a medical patient with a life-threatening illness, clinicians treat them to prevent them from committing suicide. The treatment may include involuntary hospitalization.

The obligation to respect end-of-life wishes may present an ethical conflict for mental health professionals when treating suicidal individuals who complete a DNR stating that they do not wish to obtain life support. The question is whether having a serious psychological disorder that is incapacitating, resistant to treatment, and debilitating is any different from having a similarly untreatable and painful medical illness.

Q: *You be the judge:* Does the individual's right to autonomy, respected with a DNR, differ in this type of case (Cook, Pan, Silverman, & Soltys, 2010)?

7.5 Depressive and Bipolar Disorders: The Biopsychosocial Perspective

The disorders we covered in this chapter span a range of phenomena, from chronic but distressing sad moods, to rapidly vacillating alternations between mania and depression. Although these disorders clearly involve disturbances in neurotransmitter functioning, they also reflect the influences of cognitive processes and sociocultural factors. Because individuals may experience the symptoms of depressive disorders for many years, clinicians are increasingly turning to nonpharmacological interventions, particularly for cases in which individuals have mild or moderate symptoms. The situation for clients with bipolar disorder is more complicated, because lifelong maintenance therapy on medications is more likely necessary. Nevertheless, these individuals can benefit from psychological interventions to help keep their symptoms monitored and under control.

Even in individuals whose symptoms reflect a heavy influence of biology, however, it is important for all clients with mood disorders to have access to a range of therapeutic services. With the development of evidence-based approaches, which integrate interventions across the individual's multiple domains of functioning, the chances are good that people with these disorders will increasingly have the ability to obtain treatment that allows them to regulate their moods and lead more fulfilling lives.

Return to the Case: Janice Butterfield

After several weeks in therapy, Janice's depression had started to show improvement. Once her depression remitted, however, she discontinued taking her medication. As she discussed in her initial therapy session, Janice found it important to appear strong to her family and associated psychological problems with weakness. Despite her concerns about admitting her psychological struggles, Janice continued to come to her weekly psychotherapy, and the sessions focused on her feelings about her diagnosis and the importance of taking her medication to prevent future mood swings, though she felt stable at the time. Using examples of the past consequences of her mood swings, Janice was slowly able to better understand that the impact on her family was far worse should she continue to go through mood cycles than if she worked at maintaining stability.

Dr. Tobin's reflections: Though it is a natural reaction to feel down when faced with a challenge such as losing a job and having to find a way to support your family, Janice's response went beyond the typical realm of depression most people may feel and she met diagnostic criteria for major depressive episodes. Janice's description of her past depressive episodes was also consistent with this diagnosis. Additionally, it was revealed that Janice experienced manic episodes in the past that had greatly affected not only her life but put her family at great financial risk. Unfortunately, it wasn't until Janice had attempted suicide that she finally sought the help that she needed. It is not unusual for individuals with bipolar disorder to be noncompliant with medication, as they go through long periods of feeling "normal," or what is known as their baseline. This was especially true for Janice, as she had gone her entire life without seeking treatment and had difficulty understanding the need to take medication when she was not feeling depressed or manic.

Janice described experiencing a worsening of her mood episodes with time. This is typical for individuals with bipolar disorder who go without treatment for many years. Though Janice has been hesitant to talk about her problems with her family, it will be important to include them in her treatment as they can help her understand when her mood may start to shift, because individuals with bipolar disorder may struggle to be aware of their changes in mood.

SUMMARY

- Depressive and bipolar disorders involve a disturbance in a person's emotional state or mood. People can experience this disturbance in the form of extreme depression, excessive elation, or a combination of these emotional states. An episode is a time-limited period during which specific intense symptoms of a disorder are evident.
- Major depressive disorder involves acute, but time-limited episodes of depressive symptoms, such as feelings of extreme dejection, a loss of interest in previously pleasurable aspects of life, bodily symptoms, and disturbances in eating and sleeping behavior. Individuals with major depressive disorder also have cognitive symptoms, such as a negative self-view, feelings of guilt, an inability to concentrate, and indecisiveness. Depressive episodes can be melancholic or seasonal. Persistent depressive disorder involves depression that is not as deep or intense as that experienced in major depressive disorder, but has a longer lasting course. People with persistent depressive disorder have, for at least 2 years, depressive symptoms, such as low energy, low self-esteem, poor concentration, decision-making difficulty, feelings of hopelessness, and disturbances of appetite and sleep. Disruptive mood dysregulation disorder involves chronic and severe irritability and premenstrual dysphoric disorder occurs in women prior to their monthly menstrual periods.
- Bipolar disorder involves an intense and highly disruptive experience of extreme elation, or euphoria, called a manic episode, which is characterized by abnormally heightened levels of thinking, behavior, and emotionality that cause significant impairment. Bipolar episodes in which both mania and depression are displayed can be labeled with specifiers to indicate mixed symptoms. Cyclothymic disorder involves a vacillation between dysphoria and briefer, less intense, and less disruptive states called hypomanic episodes.
- Clinicians have explained depressive and bipolar disorders in terms of biological, psychological, and sociocultural approaches. The most compelling evidence supporting a biological model involves the role of genetics, with the well-established fact that these disorders run in families. Biological theories focus on neurotransmitter and hormonal functioning. Psychological theories have moved from early psychoanalytic approaches to more contemporary viewpoints that emphasize the behavioral, cognitive, and interpersonal aspects of mood disturbance. The behavioral viewpoint assumes that depression is the result of a reduction in positive reinforcements, deficient social skills, or the disruption caused by stressful life experiences. According to the cognitive perspective, depressed people react to stressful experiences by activating a set of thoughts called the cognitive triad: a negative view of the self, the world, and the future. Cognitive distortions are errors people make in the way they draw conclusions from their experiences, applying illogical rules, such as arbitrary inferences or overgeneralizing. Interpersonal theory involves a model of understanding depressive and bipolar disorders that emphasizes disturbed social functioning.
- Clinicians also base depressive and bipolar disorder treatments on biological, psychological, and sociocultural perspectives. Antidepressant medication is the most common form of somatic treatment for people who are depressed, and lithium carbonate is the most widely used medication for people who have bipolar disorder. In cases involving incapacitating depression and some extreme cases of acute mania, the clinician may recommend electroconvulsive therapy. The psychological interventions that are most effective for treating people with depressive and bipolar disorders are those rooted in the behavioral and cognitive approaches. Sociocultural and interpersonal interventions focus on the treatment of mood symptoms within the context of an interpersonal system, such as an intimate relationship.
- Although no formal diagnostic category specifically applies to people who commit suicide, many suicidal people have depressive or bipolar disorders, and some suffer from other serious psychological disorders. Clinicians explain the dramatic act of suicide from biological, psychological, and sociocultural perspectives. The treatment of suicidal clients varies considerably, depending on the context, as well as intent and lethality. Most intervention approaches incorporate support and direct therapeutic involvement.

KEY TERMS

Behavioral activation
Bipolar disorder
Bipolar disorder, rapid cycling
Circadian rhythms
Cognitive triad
Cyclothymic disorder
Depressive disorder
Disruptive mood dysregulation disorder
Dysphoria
Euphoria
Hypomanic episode
Interpersonal therapy (IPT)
Major depressive disorder
Major depressive episode
Manic episode
Persistent depressive disorder (dysthymia)
Pharmacogenetics
Premenstrual dysphoric disorder (PMDD)

Anxiety, Obsessive-Compulsive, and Trauma- and Stressor-Related Disorders

OUTLINE

Case Report: Barbara Wilder
Anxiety Disorders
- Separation Anxiety Disorder
  - Theories and Treatment of Separation Anxiety Disorder
- Selective Mutism
- Specific Phobias
  - Theories and Treatment of Specific Phobias
- What's in the *DSM-5*: Definition and Categorization of Anxiety Disorders
- Social Anxiety Disorder
  - Theories and Treatment of Social Anxiety Disorder
- Panic Disorder and Agoraphobia
  - Panic Disorder
  - Agoraphobia
  - Theories and Treatment of Panic Disorder and Agoraphobia
- Generalized Anxiety Disorder
  - Theories and Treatment of Generalized Anxiety Disorder

Obsessive-Compulsive and Related Disorders
- Theories and Treatment of Obsessive-Compulsive Disorder
- Body Dysmorphic Disorder

Real Stories: Howie Mandel: Obsessive-Compulsive Disorder
You Be the Judge: Psychosurgery
- Hoarding Disorder
- Trichotillomania (Hair-Pulling Disorder)
- Excoriation (Skin-Picking) Disorder

Trauma- and Stressor-Related Disorders
- Reactive Attachment Disorder and Disinhibited Social Engagement Disorder
- Acute Stress Disorder and Post-Traumatic Stress Disorder
  - Theories and Treatment of Post-Traumatic Stress Disorder

Anxiety, Obsessive-Compulsive, and Trauma- and Stressor-Related Disorders: The Biopsychosocial Perspective
Return to the Case: Barbara Wilder
Summary
Key Terms

Learning Objectives

8.1 Distinguish between a normal fear response and an anxiety disorder.

8.2 Describe separation anxiety disorder.

8.3 Describe theories and treatments of specific phobias.

8.4 Describe theories and treatments of social anxiety disorder.

8.5 Contrast panic disorder with agoraphobia.

8.6 Describe generalized anxiety disorder.

8.7 Contrast obsessive-compulsive disorder with body dysmorphic disorder and hoarding.

8.8 Identify the trauma- and stress-related disorders.

8.9 Explain the biopsychosocial perspective on anxiety, obsessive-compulsive, and trauma- and stressor-related disorders.

CHAPTER 8

Case Report: Barbara Wilder

Demographic information: 30-year-old Caucasian female.

Presenting problem: At age 18, Barbara joined the military to help pay for college. Shortly after she graduated with a bachelor's degree in business, the United States declared war on Iraq and Barbara was sent for her first tour of duty, which lasted 18 months. She returned for three more tours before she was injured in a military police raid so severely that her lower left leg required amputation and she was forced to discontinue her service with the military.

While receiving treatment at the Veteran's Affairs (VA) Medical Center, Barbara's doctors noticed that she seemed constantly "on edge." When asked to provide details about her leg injury, she would grow anxious and withdrawn. Barbara stated that she had difficulty sleeping because she was having frequent nightmares. Suspecting that she could be suffering from post-traumatic stress disorder (PTSD), the VA physicians referred her to the Primary Care Behavioral Health clinic. Barbara reported that she had indeed been suffering a great deal of psychological stress since returning from her final tour of duty. She described her time in Iraq as incredibly dangerous and stressful. She worked on the military police unit and was in charge of guarding prisoners of war. Her station was often attacked, and gunfire fights were a frequent occurrence. Barbara also witnessed numerous incidents in which civilians and fellow soldiers were injured and killed.

Although she was under constant threat of injury or death while in Iraq and witnessed many grotesque scenes, Barbara stated that for the first three tours she was generally able to stay focused on her work without being unduly fearful. Over time and with repeated long tours of duty, she found it increasingly difficult, however, not to be affected by the events going on around her. At the start of what was to be her last tour of duty, Barbara recalled that she felt as if she were starting to "mentally break down." When she was injured in the raid, Barbara was certain that she had been killed and remained in a state of shock for nearly 12 hours. Once she regained consciousness, Barbara describes that she "just lost it" and began screaming at the medical staff around her. She now remembers very little of that day, but recalls the feeling of total fear that overcame her, and remains with her to the present time.

In addition to the emotional difficulties Barbara faced when she came home from the war, she also was required to readjust to living in her community at home and no longer living the life of a soldier. This adjustment was difficult for Barbara not only because she had been away from her friends and family for so long, but also because she felt overwhelming distress associated with combat memories. Nevertheless, Barbara was coping well with her injury—undergoing physical therapy at the VA and getting used to life as an amputee. However, there was no denying that she was a different person than she had been before her time as a soldier, due to both her injury and the horrifying experiences she had survived during her time in Iraq.

Barbara originally planned to return to school to receive a degree in business administration when her contract with the military expired. However, since returning to the United States 6 months ago, Barbara has given up on this plan. She rarely leaves the house where she resides with her parents. For the first 2 months after her return stateside, she drank alcohol excessively on a daily basis. She eventually noticed that drinking only seemed to make her anxiety worse, and so she stopped altogether. Though she stated she never talks about her experiences in Iraq, at least once every day

Case Report *continued*

she is haunted by disturbing, vivid flashbacks to violent images she witnessed while in the war. These visions also come to her in nightmares. She remarked she must have replayed the image of seeing her leg blown up thousands of times in her mind. She reported feeling as if she were in a state of constant anxiety and that she was particularly sensitive to loud, unexpected noises. As a result, Barbara reported she was often irritable and jumpy around other people, even growing angry quite easily. She expressed fears that she would never be able to make anything of her life, and that she barely felt motivated to make strides toward an independent life. Once social and outgoing, Barbara no longer has any desire to see her friends and mostly ignores her parents. Barbara described feeling emotionally "numb" and very detached from her feelings—a great departure from her usual temperament.

Relevant history: Barbara reported that she had always been "somewhat anxious," but that she never experienced this anxiety as an interference with her daily functioning. Prior to her involvement with the military, she described herself as a normal, outgoing person who was mostly content with her life. She reported no history of mental illness in her immediate family.

Symptoms: Barbara reported that since her return from Iraq, she has frequently been experiencing a number of distressing symptoms that have significantly interfered with her life. Her symptoms include difficulty sleeping, nightmares, flashbacks, restlessness, feelings of detachment from others, diminished interest, feeling emotionally "numb," avoiding talking about the trauma, hypervigilance, increased anger, and irritability for the past 6 months.

Case formulation: Barbara's symptoms meet the required *DSM-5* criteria for post-traumatic stress disorder. During her several years in Iraq, Barbara was repeatedly exposed to dangerous, life-threatening situations and witnessed many gruesome events as a soldier. Though she was initially able to cope with these experiences, over time Barbara's resolve was shaken and she began to respond to her surroundings with fear and horror, especially pertaining to the incident in which she lost part of her left leg. Her symptoms over the past 6 months can be categorized by the main required criteria of PTSD: intrusive recollection, avoidance/numbing, hyperarousal, duration (at least 1 month), and interference with functioning. Barbara developed a pattern of heavy alcohol use in reaction to the trauma she experienced, but with family support was able to overcome this, and has been abstinent for several months. Though she was drinking heavily for a period of 2 months, she did not meet enough criteria for a *DSM-5* diagnosis of alcohol use disorder.

Treatment plan: After the psychological assessment determined that Barbara was suffering from PTSD, she was referred for weekly individual psychotherapy as well as a weekly PTSD therapy group at the VA. Psychotherapy for PTSD often consists of some exposure to the trauma, via talking and/or writing about the trauma in detail. Some treatments for PTSD involve reflecting on the ways in which trauma has impacted the individual's general beliefs about trust and safety. The purpose of group therapy is to provide social support for those suffering from the disorder and to work on coping skills training. Group therapy aimed at reducing symptoms of PTSD can sometimes be utilized in place of individual therapy.

Sarah Tobin, PhD

anxiety disorders
Disorders characterized by excessive fear and anxiety, and related disturbances in behavior.

anxiety
A future-oriented and global response, involving both cognitive and emotional components, in which an individual is inordinately apprehensive, tense, and uneasy about the prospect of something terrible happening.

fear
The emotional response to real or perceived imminent threat.

8.1 Anxiety Disorders

The central defining feature of **anxiety disorders** is the experience of a chronic and intense feeling of **anxiety** in which people feel a sense of dread about what might happen to them in the future. The anxiety experienced by people with anxiety disorders causes them to have great difficulty functioning on a day-to-day basis—not just the typical worries that people have from time to time about getting their work done on time, for example.

People with anxiety disorders also experience **fear,** which is the emotional response to real or perceived imminent threat. Again, as with the experience of anxiety, the sense of fear that people with these disorders have goes beyond ordinary or even rational concern over possible dangers.

Apart from having the unpleasant feelings associated with anxiety and fear, people with anxiety disorders go to great lengths to avoid situations that provoke these emotional responses. To the extent that they are unable to put themselves in these situations, such

individuals will have difficulty performing jobs, enjoying leisure pursuits, or engaging in social activities with friends and families.

Across all categories, anxiety disorders have a lifetime prevalence rate of 28.8 percent and an overall 12-month prevalence of 18.1 percent. Of all 12-month prevalence cases, nearly 23 percent are classified as severe. The percent of people reporting lifetime prevalence across all anxiety disorders peaks between the ages of 30 and 44, with a sharp dropoff to 15.3 percent among people 60 years and older (Kessler, Chiu, et al., 2005) (Figure 1).

Demographics (for lifetime prevalence)

- **Sex:** Women are 60% more likely than men to experience an anxiety disorder over their lifetime
- **Race:** Non-Hispanic blacks are 20% less likely, and Hispanics are 30% less likely, than non-Hispanic whites to experience an anxiety disorder during their lifetime
- **Age:**

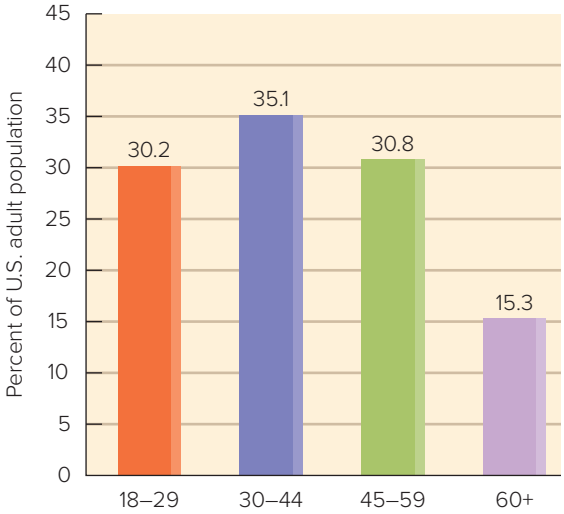


FIGURE 1 Demographics of Lifetime Prevalence for Anxiety Disorders

Separation Anxiety Disorder

Individuals with **separation anxiety disorder** have intense and inappropriate anxiety about leaving home or being left by the people close to them in their lives. Children with this disorder may cling so closely to a parent they will not let the parent out of their sight. Adults who meet the criteria for this disorder have intense anxiety about being separated from the person to whom they are emotionally attached. Caregivers or adults to whom the individual is attached are referred to as the **attachment figure.**

Prior to the *DSM-5,* the condition of separation anxiety disorder was considered specific to children. However, recognizing that there are a significant number of adult-onset cases, *DSM-5* lifted the disorder's age restriction to make it a diagnosis applicable to anyone regardless of age.

Key features of the disorder, which can vary according to the individual's age, include being excessively distressed when separated from the attachment figure or even at the thought of such separation occurring. Part of the anxiety they experience involves worrying about harm befalling the attachment figure. While with the person to whom they're attached, these individuals are afraid of such causes of separation as getting lost or kidnapped. Their anxiety at separation leads them to try to avoid going away which, for children, can mean they do not want to go to school. They need to sleep near their attachment figures, and may have nightmares about separation. The prospect of separation may lead them to develop physical complaints such as headaches, stomachaches, or even nausea and vomiting.

separation anxiety disorder
A childhood disorder characterized by intense and inappropriate anxiety, lasting at least 4 weeks, concerning separation from home or caregivers.

attachment figure
The person who is the target of the individual's strongest emotional bond.

Worldwide, epidemiologists estimate that 5.3 percent of individuals experience separation anxiety disorder at some point in life, with 43.1 percent of those developing the symptoms in adulthood. Regardless of when the symptoms first become evident, people with this disorder were more likely to have suffered adversities during their childhood or traumatic events at some point in their lives. Females are more likely than males to experience separation anxiety disorder. People who develop this disorder are at greater risk of subsequently developing other anxiety disorders and depressive disorder ("internalizing" disorders) as well as ADHD and conduct disorder (Silove et al., 2015).

Theories and Treatment of Separation Anxiety Disorder

Although twin studies supported the role of genetic contributions to this disorder, a novel children-of-twins study conducted by Swedish researchers suggested that anxiety is passed down from parents to children through environmental, rather than genetic, mechanisms. In other words, children with anxious parents learn to develop anxiety through modeling (Eley et al., 2015).

Sociocultural factors also play a role in predisposing certain individuals to developing separation anxiety disorder. The symptoms of this disorder seem to be more severe in countries that promote an individualistic, independent culture compared to those with a more collectivist set of cultural norms (Eley et al., 2015). Remaining together with attachment figures may seem more acceptable in these cultures, so the behavior of individuals with separation anxiety disorder may not seem so out of the ordinary.

Children with separation anxiety disorder experience extreme distress when they are apart from their primary caregivers.

As mentioned, trauma may play a role in the development of separation anxiety disorder. In the aftermath of the September 11 terrorist attacks, an estimated nearly 13 percent of New York City schoolchildren had a probable diagnosis of separation anxiety disorder (Hoven et al., 2005). It is possible that temperamental differences rooted in biology cause some children to experience heightened reactivity in these kinds of situations.

At present, the treatment literature does not include studies of adults given that the condition was considered specific to childhood until *DSM-5*'s publication. For children, both behavioral and cognitive-behavioral therapies seem to have the greatest promise. Behavioral techniques that clinicians use for treating separation anxiety disorder in children include systematic desensitization, prolonged exposure, and modeling. Contingency management and self-management are also useful in teaching the child to react more positively and competently to a fear-provoking situation.

Researchers investigating the effectiveness of this approach have developed a form of CBT that clinicians can administer in an intensive and time-limited manner, so children do not have to commit to weeks or months of therapy. In one version of time-limited CBT, girls with separation anxiety disorder attended a 1-week camp where they received intensive CBT in a group setting (Santucci, Ehrenreich, Trosper, Bennett, & Pincus, 2009). The treatment involved working with parents and their children in a combination of psychoeducation, cognitive restructuring, and relaxation training. Craft activities without the parents present took place at regularly scheduled times. At the end of the week, the children and their parents attended an awards ceremony. At that time, they were also given training for follow-up during the weeks subsequent to camp. Relapse prevention training was also built into the final day's activities to ensure that, should a bout of separation anxiety reoccur, parents and children did not revert completely to their pretreatment behavior.

Selective Mutism

selective mutism
A disorder originating in childhood in which the individual consciously refuses to talk.

Refusing to talk in specific situations is the core feature of **selective mutism.** Children with this disorder are capable of using normal language, but they become almost completely silent under certain circumstances, most commonly the classroom. The estimates of this disorder's prevalence range from a low of 0.2 percent to a high of 2 percent and begin between the ages of 3 and 6 years, with equal frequencies among boys and girls

(Kearney & Vecchio, 2007). Anxiety may be at the root of selective mutism given that children most typically show this behavior in school rather than at home (Shriver, Segool, & Gortmaker, 2011).

Children with selective mutism seem to respond well to behavioral therapy. The clinician devises a hierarchy of desired responses beginning by rewarding the child for making any utterances, and then progressing through words and sentences, moving from perhaps the home to the clinic and eventually to the school. Another behavioral approach uses contingency management, in which children receive rewards if they engage in the desired behavior of speaking. Contingency management seems particularly well suited for use in the home by parents. Of the two methods, shaping plus exposure therapy seems to be more effective, but contingency management in the home can nevertheless serve an important adjunct (Vecchio & Kearney, 2009).

CBT is another method that produces improvement in children with selective mutism. An investigation of CBT's 1-year effectiveness among children age 3 to 9 years showed high rates of improvement for children younger than 5 years (78 percent) and less improvement for children ages 6 and older. The treatment, which was adapted for school settings, involved six levels, from speaking to the therapist with the parent present to ultimately speaking to other children with neither the therapist nor the parent present. Along with the behavioral interventions method just described, the treatment included instructing parents and teachers to use "defocused communication," in which they minimize the direct pressure placed on the child to speak (Oerbeck, Stein, Pripp, & Kristensen, 2015).

Specific Phobias

A **phobia** is an irrational fear associated with a particular object or situation. It is common to have some fear or at least desire to avoid such objects as spiders or situations involving enclosed spaces or heights. In a **specific phobia,** however, the fear or anxiety is so intense that it becomes incapacitating. People with specific phobia go to great lengths to avoid the object or situation that is the target of their fear. If they can't get away, they endure the situation but only with marked anxiety and discomfort. As is true for all anxiety disorders, a specific phobia involves significant distress. Moreover, it is not a fleeting condition but must be present for at least 6 months to justify a diagnosis.

phobia
An irrational fear associated with a particular object or situation.

specific phobia
An irrational and unabating fear of a particular object, activity, or situation.

Almost any object or situation can form the target of a phobia. People can have phobias for anything from driving to syringes. Trivia games might ask you to define terms that refer to unusual phobias such as "coulrophobia" (fear of clowns).

However endless the list of possible specific phobias may be, they fall into four major categories: insects and animals, the natural environment (storms or fires), blood-injection injury (seeing blood, having an invasive medical procedure), and engaging in activities in particular situations (riding an escalator, flying). A fifth category of specific phobias includes a variety of miscellaneous stimuli or situations such as fear of clowns or an adult's fear of contracting a particular illness.

Overall, the lifetime prevalence for specific phobia is 12.5 percent (Kessler, Chiu, et al., 2005). The highest lifetime prevalence rates of specific phobias involve fear of natural situations, particularly heights, estimated to be between 3.1 and 5.3 percent. Animal phobia ranges in prevalence from 3.3 to 7 percent. That these are the two most common forms of specific phobia is indicated by the fact that among people with any form of specific phobia, 50 percent have a fear of animals or a fear of heights (LeBeau et al., 2010).

A common phobia is an excessive fear of spiders.

Theories and Treatment of Specific Phobias

As you have just seen, there are many types of specific phobias, ranging from the common to the relatively obscure. However, the fact that they are grouped together suggests an underlying theme or element at the root of their cause and, potentially, their treatment.

Within the biological perspective, researchers believe that the anxiety associated with specific phobias may relate to abnormalities in the anterior insular cortex (Rosso et al., 2010). This area of the brain lies between the temporal and frontal lobes associated with emotion and self-awareness. Interestingly, different specific phobias seem to show different patterns of brain activation (Lueken, Kruschwitz, Muehlhan, Siegert, Hoyer, & Wittchen, 2011).

Treatment of specific phobias following from the biological perspective focuses on symptom management. Toward this end, clinicians operating from this perspective prescribe antianxiety medications such as benzodiazepines. However, unlike other forms of anxiety disorder, specific phobias are more circumscribed in nature and the situations are generally more easily avoided. Thus, clinicians would prescribe medications only when the specific phobia interferes with the individual's ability to carry out everyday activities.

The behavioral approach to specific phobias emphasizes the conditioning that occurs when the individual learns to associate unpleasant physical sensations to a certain kind of stimulus or situation. Behaviorists assume that there may be some adaptive value to having such reactions because they may truly be ones that should be feared, such as an encounter with a deadly snake. However, the maladaptive nature of the symptoms evolves as individuals begin to generalize this appropriate fear reaction to all stimuli in that category, including harmless ones.

There may also be developmental aspects to specific phobias. Very young children tend to fear objects or situations they can see; as they get older, the objects become more abstract in nature (such as "the bogeyman") (Davis & Ollendick, 2011). At the other end of the age spectrum, older adults with specific phobias may not report symptoms but instead misattribute their anxiety to a physical condition (Coelho, Goncalves, Purkis, Pocinho, Pachana, & Byrne, 2010).

According to the cognitive-behavioral view, individuals with specific phobias have overactive "alarm systems" to danger, and they perceive things as dangerous because they misinterpret harmless stimuli. For example, the mistaken perception of an object or a situation as uncontrollable, unpredictable, dangerous, or disgusting is correlated with feelings of vulnerability. These attributions might explain the common phobia of spiders, an insect about which people have many misconceptions and apprehensions. In blood-injury injection, by contrast, disgust and fear of contamination play a prominent role (de Jong & Peters, 2007). People with phobias also tend to overestimate the likelihood of a dangerous outcome after becoming exposed to the feared stimulus (de Jong & Merckelbach, 2000).

The idea that clients learn to substitute adaptive (relaxation) for maladaptive (fear or anxiety) responses forms the basis for the four types of behavioral treatments involving exposure therapy (see Table 1). Systematic desensitization is an effective behavioral method for treating specific phobia. This method, a variant of counterconditioning, involves presenting the client with progressively more anxiety-provoking images while in a relaxed state.

MINI CASE

Specific Phobia, Natural Environment

Aarman is a 32-year-old lawyer seeking treatment for his irrational fear of thunderstorms. He has had this phobia since age 4, and throughout life he has developed various strategies for coping with his fear. Whenever possible, he avoids going outside when a storm is forecast. Not only will he stay within a building, but he will ensure that he is in a room with no windows and no electrical appliances. As his job has grown in responsibility, Aarman has found that he can no longer afford to take time off because of his fear, which he knows is irrational.

TABLE 1 Methods of Exposure Used in Behavioral Therapy of Phobias

	Graduated Exposure	Immediate Full Exposure
Imagery	Systematic desensitization	Imaginal flooding
Live	Graded *in vivo*	*In vivo* flooding

In the behavioral technique called **flooding,** the client is totally immersed in the sensation of anxiety, rather than being more gradually acclimated to the feared situation. ***In vivo* flooding** involves exposing the client to the actual feared situation. The clinician may actually take the client to the situation that produces fear such as the top of a tall building for a client who fears heights. A variant of flooding is **imaginal flooding,** in which the clinician virtually exposes the client to the feared situation. Though requiring additional controlled studies, a number of investigations report promising findings about the ability of virtual reality exposure therapy to reduce symptoms (Parsons & Rizzo, 2008).

flooding
A behavioral technique in which the client is immersed in the sensation of anxiety by being exposed to the feared situation in its entirety.

***in vivo* flooding**
A behavioral technique in which the client is immersed to the actual feared situation.

imaginal flooding
A behavioral technique in which the client is immersed through imagination into the feared situation.

In vivo flooding is probably the most stressful of any of the treatments described and therefore has a high dropout rate (Choy, Fyer, & Lipsitz, 2007). An alternative is the **graded *in vivo*** method in which clients initially confront situations that cause only minor anxiety and then gradually progress toward those that cause greater anxiety. Often the therapist tries to be encouraging and to model the desired nonanxious response. In treating a client named Tan, who has a fear of enclosed spaces, the therapist could go with him into smaller and smaller rooms. Seeing his therapist showing no signs of fear could lead Tan to model the therapist's response. The therapist could also offer praise, to further reinforce the new response that Tan is learning. As illustrated in Table 1, behavioral treatments vary according to the nature of the client's exposure to the phobic stimulus (live or imaginal) and the degree of intensity with which the stimulus is confronted (immediate full exposure or exposure in graduated steps).

graded *in vivo*
A procedure in which clients gradually expose themselves to increasingly challenging anxiety-provoking situations.

The most recently tested variant of exposure therapy uses **virtual reality exposure therapy (VRET),** in which clients become immersed in computer-generated environments that resemble the situations they fear. Safer for obvious reasons than *in vivo* therapy and more realistic than imaginal methods, this would seem to be an ideal way to provide clients with experiences that can allow them to unlearn their fears. A meta-analysis conducted on clinical trials using VRET to treat people with fear of heights or fear of spiders showed effects on phobic behaviors comparable to those seen with behavior therapy (Morina, Ijntema, Meyerbröker, & Emmelkamp, 2015). It is quite likely that VRET will become increasingly used to treat specific phobias given the rapid growth in computer technology.

virtual reality exposure therapy (VRET)
A method of exposure therapy that uses virtual reality, in which clients become immersed in computer-generated environments that resemble the situations they fear.

All behavioral techniques rely on positive reinforcement as the mechanism to achieve symptom relief. The therapist becomes both a guide and a source of support and praise for the client's successes. The therapist may also find it useful to incorporate some techniques from the cognitive perspective into the behavioral treatment, because maladaptive thoughts are often part of the client's symptom picture. Cognitive-behavioral treatment for specific phobia focuses on helping the client learn more adaptive ways of thinking about previously threatening situations and objects.

Cognitive restructuring can help clients view feared situations more rationally by challenging their irrational beliefs about the feared stimuli. For example, a therapist may show a young man with an elevator phobia that the disastrous consequences he believes will result from riding in an elevator are unrealistic and exaggerated. He can also learn the technique of "talking to himself" while in this situation, telling himself that his fears are ridiculous, that nothing bad will really happen, and that he will soon reach his destination.

In **thought stopping,** the individual learns to stop anxiety-provoking thoughts. In therapy, the client is supposed to alert the therapist when the anxiety-provoking thought

thought stopping
A cognitive-behavioral method in which the client learns to stop having anxiety-provoking thoughts.

What's in the *DSM-5*

Definition and Categorization of Anxiety Disorders

The *DSM-5* saw major changes in the definition and categorization of anxiety disorders. Agoraphobia became a separate disorder, much as it is now in the *ICD-10*. In addition, social anxiety disorder had been called social phobia in *DSM-IV-TR*. The change reflects the fact that social anxiety disorder is not a "phobia," in the sense of representing fear of other people, although social phobia still appears in parentheses. Obsessive-compulsive disorder (OCD) is categorized with body dysmorphic disorder, hoarding disorder, trichotillomania (excessive hair pulling), and skin picking. Acute and post-traumatic stress disorders moved into their own category of "Trauma and Stressor-Related Disorders." Finally, several disorders formerly in the group of disorders that originated in childhood (a designation now dropped) were moved into the anxiety disorder grouping.

is present; at that point, the therapist exclaims, "Stop!" Outside therapy, the client mentally verbalizes a similar verbalization each time the anxiety-provoking thought comes to mind.

Social Anxiety Disorder

social anxiety disorder
An anxiety disorder characterized by marked, or intense, fear of anxiety of social situations in which the individual may be scrutinized by others.

The primary feature of **social anxiety disorder** is a fear of becoming humiliated or embarrassed in front of other people. Extending beyond the ordinary concerns a person may have about looking foolish or making a mistake during a performance, people with this disorder become anxious even at the prospect of eating or drinking in front of others. Thus, the fear is not of other people, but of what other people may think of the individual. In *DSM-IV-TR*, the disorder was referred to as social phobia, but to avoid the misnomer, it was renamed in *DSM-5* with social phobia in parentheses.

The lifetime prevalence of social anxiety disorder is 12.1 percent in the United States, making it the second most common form of anxiety disorder. Of the 6.8 percent who develop this disorder over a 12-month period, nearly 30 percent are classified as severe (Kessler, Berglund, et al., 2005).

Theories and Treatment of Social Anxiety Disorder

The biological underpinnings of social anxiety disorder may, some researchers believe, be related to partly heritable mechanisms (Stein & Gelernter, 2014). The intense anxiety experienced by an individual with social anxiety disorder, from this perspective, is essentially a form of intense shyness combined with the personality trait of neuroticism. These qualities in turn either cause or are caused by alterations in areas of the brain involved in attention. Individuals with social anxiety disorder, according to this view, become excessively self-focused and therefore exaggerate the extent to which others look critically upon them.

Of the possible medications that can be used to treat social anxiety disorder, the SSRIs and SNRIs are regarded as having the greatest effectiveness. Other medications used to treat this disorder that may work as well have considerable drawbacks. Benzodiazepines have significant potential for abuse; moreover, they may actually interfere with treatment involving psychological methods such as exposure to feared situations. MAOIs, which can also effectively manage social anxiety symptoms, have potentially dangerous side effects (Jorstad-Stein & Heimberg, 2009).

MINI CASE

Social Anxiety Disorder, Performance Only Type

Theo is a 19-year-old college student who reports that he is terrified at the prospect of speaking in class. His anxiety about this matter is so intense that he has enrolled in very large lecture classes, where he sits in the back of the room, slouching in his chair to make himself as invisible as possible. On occasion, one of his professors randomly calls on students to answer certain questions. When this occurs, Theo begins to sweat and tremble. Sometimes he rushes from the classroom and frantically runs back to the dormitory for a few hours and tries to calm himself down.

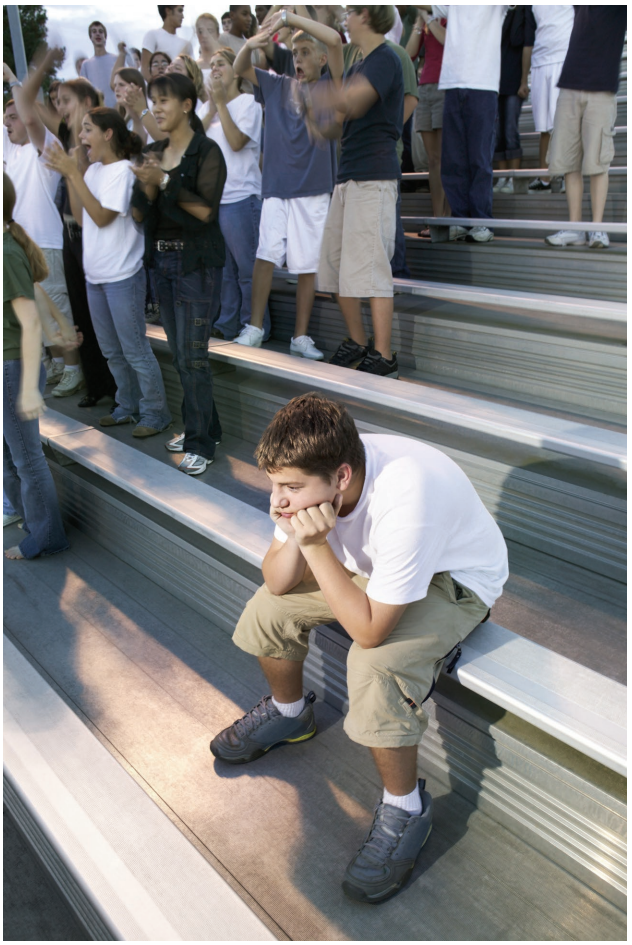
Apart from whatever genetic contributions may make some individuals more likely to develop social anxiety disorder, there are changes that take place in childhood and adolescence that can also heighten an individual's risk of developing this disorder. In particular, being able to think about how you are viewed by others, an ability that emerges in adolescence, may interact with physiological vulnerability to lead to the appearance of symptoms (Roberson-Nay & Brown, 2011).

Among psychological approaches, the cognitive-behavioral perspective regards people with social anxiety disorder as unable to gain a realistic view of how others really perceive them. As with other forms of cognitive-behavioral therapy, the clinician working from this perspective attempts to reframe the client's thoughts in combination with real or imagined exposure.

Researchers attempting to use VRET find that, unlike in the treatment of specific phobia, virtual scenarios are less effective methods of intervention. Although virtual exposure may evoke similar responses as *in vivo* exposure to social situations, when it comes to reenacting those social situations in therapy, individuals need to be exposed to an actual audience (Owens & Beidel, 2015).

Treatment of social anxiety disorder can be particularly challenging, however, because clients may tend to isolate themselves socially and therefore have fewer opportunities to expose themselves in the course of their daily lives to challenging situations. Unlike people with other types of anxiety disorders, the impaired social skills of people with social anxiety disorder may lead them to experience negative reactions from others, thus confirming their fears.

Thus, for clients who do not respond to psychotherapy or medication, there are promising signs about the benefits of alternative methods, including motivational interviewing, acceptance and commitment therapy, and mindfulness/meditation. The common element to these methods, also present in CBT, is the practice of stepping back from situations to identify and challenge automatic thoughts (Kocovski, Fleming, Hawley, Ho, & Antony, 2015).



Social anxiety disorder causes distress by preventing an individual from engaging in social activities they would normally enjoy.

Panic Disorder and Agoraphobia

In *DSM-IV-TR,* agoraphobia was not considered a diagnosis separate from panic disorder. The *DSM-5*, consistent with emerging research and the *ICD*, now separates the two disorders although the two diagnoses may be assigned if the individual meets the criteria for both disorders. We present them in one section because the majority of research on theories and treatment was conducted on the basis of the *DSM-IV-TR* diagnostic categorization.

Panic Disorder

People with **panic disorder** experience periods of intense physical discomfort known as **panic attacks.** During a panic attack, the individual feels overwhelmed by a range of highly unpleasant physical sensations. These can include respiratory distress (shortness of breath, hyperventilation, feeling of choking), autonomic disturbances (sweating, stomach distress, shaking or trembling, heart palpitations), and sensory abnormalities (dizziness, numbness, or tingling). During a panic attack, people may also feel that they are "going crazy" or losing control. *DSM-5* includes specifiers for panic attacks, indicating the nature of the symptoms the individual experiences, such as palpitations, sweating, trembling, chest pain, nausea, chills, fear of going "crazy," and fear of dying. Of these symptoms, palpitations ("heart pounding") and dizziness are the most commonly reported (Craske et al., 2010).

panic disorder
An anxiety disorder in which an individual has panic attacks on a recurrent basis or has constant apprehension and worry about the possibility of recurring attacks.

panic attack
A period of intense fear and physical discomfort accompanied by the feeling that one is being overwhelmed and is about to lose control.

Having an occasional panic attack is not enough to justify a diagnosis of panic disorder. They have to occur on a repeated basis and be accompanied by fear of having

another one. People with this disorder also might engage in avoidance behaviors, staying away from situations in which another panic attack might occur. The fear of having another attack or deliberate avoidance of possible situations that may cause the client to experience a panic attack distinguishes panic disorder from other psychological disorders that involve panic attacks.

agoraphobia
Intense anxiety triggered by the real or anticipated exposure to situations in which they may be unable to get help should they become incapacitated.

Agoraphobia

In **agoraphobia,** the individual feels intense fear or anxiety triggered by the real or anticipated exposure to situations such as using public transportation, being in an enclosed space such as a theater or an open space such as a parking lot, and being outside of the home alone. People with agoraphobia are fearful not of the situations themselves, but of the possibility that they can't get help or escape if they have panic-like symptoms or other embarrassing or incapacitating symptoms when in those situations. Their fear or anxiety is out of proportion to the actual danger they might face. If they cannot avoid the situation, they become highly anxious and fearful, and to cope, they might require the presence of a companion. As with other psychological disorders, these symptoms must persist over time (in this case, at least 6 months), cause considerable distress, and not be due to another psychological or medical disorder.

Panic attacks are estimated to occur in 20 percent or more of adult samples; panic disorder has a much lower lifetime prevalence of between 3 and 5 percent. Across a variety of studies, settings, and diagnostic criteria, approximately 25 percent of people who have *DSM-5* panic disorder with the agoraphobia syndrome would meet diagnostic criteria for agoraphobia alone (Wittchen, Gloster, Beesdo-Baum, Fava, & Craske, 2010).

Theories and Treatment of Panic Disorder and Agoraphobia

Researchers studying biological contributions to panic disorder focus on norepinephrine, the neurotransmitter involved in preparing the body to react to stressful situations. Higher levels of norepinephrine can make the individual more likely to experience fear, anxiety, and panic. Serotonin may also play a role in increasing a person's likelihood of developing panic disorder due to the role of this neurotransmitter in anxiety (Kalk, Nutt, & Lingford-Hughes, 2011). Furthermore, according to **anxiety sensitivity theory,** people who develop panic disorder have heightened responsiveness to the presence of carbon dioxide in the blood. Hence, they are more likely to panic due to the sensation that they are suffocating (Pérez Benítez et al., 2009).

anxiety sensitivity theory
The belief that panic disorder is caused in part by the tendency to interpret cognitive and somatic manifestations of stress and anxiety in a catastrophic manner.

The most effective antianxiety medications for panic disorder and agoraphobia are benzodiazepines, which increase the availability of the inhibitory neurotransmitter GABA. However, because benzodiazepines can lead clients to become dependent on them or to abuse them, clinicians may prefer to prescribe selective serotonin or norepinephrine reuptake inhibitors (SSRIs or SNRIs) (Pollack & Simon, 2009).

conditioned fear reactions
Acquired associations between an internal or external cue and feelings of intense anxiety.

From a classical conditioning perspective, panic disorder results from **conditioned fear reactions** in which the individual associates bodily sensations such as difficulty

MINI CASE

Panic Disorder and Agoraphobia

Frieda is a 28-year-old former postal worker who sought treatment because of recurrent panic attacks, which have led her to become fearful of driving. She has become so frightened of the prospect of having an attack on the job that she has asked for a medical leave. Although initially she would leave the house when accompanied by her mother, she now is unable to go out under any circumstances, and her family is concerned that she will become a total recluse.

In relaxation therapy, patients learn a variety of techniques that focus on breathing and relaxation in order to overcome the physiological symptoms of anxiety.

breathing with memories of the last panic attack, causing a full-blown panic attack to develop. The cognitive-behavioral model proposes that people with panic disorder, upon feeling the unpleasant sensations of the panic attack begin (loss of breath), believe that the panic attack is unpredictable and uncontrollable and that they will not be able to stop it (White, Brown, Somers, & Barlow, 2006).

Relaxation training is one behavioral technique used to help clients gain control over the bodily reactions involved in panic attacks. After training, the client should be able to relax the entire body when confronting a feared situation. Another approach focuses on breathing. The client is instructed to hyperventilate intentionally and then to begin slow breathing, a response that is incompatible with hyperventilation. Following this training, the client can begin the slow breathing at the first signs of hyperventilation. In addition to changing the response itself, this method allows clients to feel that they can exert voluntary control over the development of a panic attack. In the method known as **panic-control therapy (PCT),** the therapist combines breathing retraining, psychoeducation, and cognitive restructuring to help individuals recognize and ultimately control the bodily cues associated with panic attacks (Hofmann, Rief, & Spiegel, 2010).

relaxation training
A behavioral technique used in the treatment of anxiety disorders that involves progressive and systematic patterns of muscle tensing and relaxing.

panic-control therapy (PCT)
Treatment that consists of cognitive restructuring, exposure to bodily cues associated with panic attacks, and breathing retraining.

Generalized Anxiety Disorder

In contrast to the forms of anxiety disorders you've just learned about, **generalized anxiety disorder** does not have a particular focus. People with generalized anxiety disorder feel anxious for much of the time, even though they can't necessarily say why. In addition to anxiety, people with this disorder worry a great deal, apprehensively expecting the worst to happen to them. Their symptoms span a range of physical and psychological experiences including general restlessness, sleep disturbances, feelings of being easily fatigued, irritability, muscle tension, and trouble concentrating to the point where their mind goes blank. There is no particular situation that they

generalized anxiety disorder
An anxiety disorder characterized by anxiety and worry that is not associated with a particular object, situation, or event but seems to be a constant feature of a person's day-to-day existence.

MINI CASE

Generalized Anxiety Disorder

Jin is a 32-year-old single mother of two children seeking professional help for her long-standing feelings of anxiety. Despite the fact that her life is relatively stable in terms of financial and interpersonal matters, she worries most of the time that she will develop financial problems, that her children will become ill, and that the political situation in the country will make life for her and her children more difficult. Although she tries to dismiss these concerns as excessive, she finds it virtually impossible to control her worrying. Most of the time, she feels uncomfortable and tense, and sometimes her tension becomes so extreme that she begins to tremble and sweat. She finds it difficult to sleep at night. During the day she is restless, keyed up, and tense. She has consulted a variety of medical specialists, each of whom has been unable to diagnose a physical problem.

can identify as lying at the root of their anxiety, and they find it difficult to control their worrying.

Generalized anxiety disorder has a lifetime prevalence of 5.7 percent. Over a 12-month period, the prevalence is reported to be 3.1 percent; of these, 32 percent are classified as severe (Kessler, Berglund, et al., 2005).

Theories and Treatment of Generalized Anxiety Disorder

Researchers believe that people with generalized anxiety disorder experience their symptoms due to disturbances in GABA, serotonergic, and noradrenergic systems (Nutt & Malizia, 2001). Support for the notion that there is a biological component to generalized anxiety disorder is the finding of an overlap in genetic vulnerability with the personality trait of neuroticism (see the chapter "Assessment"). In other words, people who are prone to developing this disorder have inherited an underlying neurotic personality style (Hettema, Prescott, & Kendler, 2004).

The symptoms of generalized anxiety disorder are perhaps best understood from a psychological standpoint as products of cognitive distortions (Aikins & Craske, 2001). People with generalized anxiety disorder become easily distressed and worried by the minor nuisances and small disruptions of life. If something goes wrong in their day-to-day existence, such as car trouble, an argument with a co-worker, or a home repair problem, they magnify the extent of the problem and become unduly apprehensive about the outcome. Their attention shifts from the problem itself to their worries, further escalating their level of worry. As a result, people with generalized anxiety disorder are less efficient in their daily tasks so that they actually have more to worry about as more goes wrong for them. Compounding the problem is their lack of confidence in their ability to control or manage their anxious feelings and reactions.

Cognitive behavioral therapy builds on the assumption that cognitive distortions contribute to generalized anxiety (Borkovec & Ruscio, 2001). In this type of therapy, clients learn how to recognize anxious thoughts, to seek more rational alternatives to worrying, and to take action to test these alternatives. Clinicians using this approach attempt to break the cycle of negative thoughts and worries. Once this cycle is broken, the individual can develop a sense of control over the worrying behavior and become more proficient at managing and reducing anxious thoughts.

Another compounding factor in generalized anxiety disorder may be the individual's inability to tolerate uncertainty or ambiguity. Their constant worries result from the fact that the outcomes of many common situations in life are ambiguous. They want to know exactly what will happen when, as in everything from travel to school, achievement cannot be entirely predicted. One of the positive effects of cognitive

behavioral therapy may be due in part to a greater ability to tolerate life's ambiguities (Bomyea et al., 2015).

Neither cognitive behavioral therapy nor medication (SSRIs and SNRIs) produce lasting improvements, although each are considered the method of choice within their perspectives. However, combining medication with psychotherapy does not produce any incremental effects of either (Crits-Christoph et al., 2011). Among older adults, however, who may have greater sensitivity to the side effects of antidepressants and antianxiety medications, psychotherapy alone may be the method of choice (Wetherell et al., 2011).

8.2 Obsessive-Compulsive and Related Disorders

An **obsession** is a recurrent and persistent thought, urge, or image that the individual experiences as intrusive and unwanted. Individuals try to ignore or suppress the obsession, or try to neutralize it by engaging in some other thought or action. The thought or action that the person uses to try to neutralize the obsession is known as a **compulsion,** a repetitive behavior or mental act performed according to rigid rules that the person feels driven to carry out. The compulsions need not, however, be paired with obsessions.

obsession
An unwanted thought, word, phrase, or image that persistently and repeatedly comes into a person's mind and causes distress.

compulsion
A repetitive and seemingly purposeful behavior performed in response to uncontrollable urges or according to a ritualistic or stereotyped set of rules.

obsessive-compulsive disorder (OCD)
An anxiety disorder characterized by recurrent obsessions or compulsions that are inordinately time consuming or that cause significant distress or impairment.

In **obsessive-compulsive disorder (OCD),** individuals experience either obsessions or compulsions to such an extent that they find it difficult to conduct their daily activities. As part of the disorder, they may experience significant distress or impairment in their ability to work and have a satisfying family or social life.

The most common compulsions experienced by people with OCD involve their repeating a specific behavior, such as washing and cleaning, counting, putting items in order, checking, or requesting assurance. Their compulsions may also take the form of mental rituals, such as counting up to a certain number every time they have an unwanted thought. Some individuals with OCD experience tics, a pattern of abnormal motor symptoms such as uncontrollable twitches, vocalizations, and facial grimaces.

In general, there appear to be four major dimensions to the symptoms of OCD: obsessions associated with checking compulsions, having things symmetrical and in order, having things clean (associated with feeling the need to wash), and behaviors related to hoarding (Mataix-Cols, Rosario-Campos, & Leckman, 2005). Table 2 lists items from the Yale-Brown Obsessive-Compulsive Symptom Checklist, an instrument commonly used for assessing individuals with OCD.

Rated as one of the top 10 debilitating disorders by the World Health Organization, OCD has a lifetime prevalence in the United States estimated at 1.6 percent. The 12-month prevalence is slightly lower, 1 percent; of these about half are classified as

MINI CASE

Obsessive-Compulsive Disorder, with Poor Insight

Cesar is a 16-year-old high-school student referred for treatment by his teacher, who became disturbed by Cesar's irrational concern about the danger posed by an electrical outlet at the front of the classroom. Cesar pleaded daily with the teacher to have the outlet disconnected to prevent someone from accidentally getting electrocuted while walking by it. The teacher told Cesar that his concerns were unfounded, but he remained so distressed that he felt driven, when entering and leaving the classroom, to shine a flashlight into the outlet to make sure that a loose wire was not exposed. During class time, he could think of nothing else but the outlet.

TABLE 2 Sample Items from the Yale-Brown Obsessive-Compulsive Symptom Checklist

Scale	Sample items
Aggressive obsessions	Fear might harm self Fear of blurting out obscenities Fear will be responsible for something else terrible happening (e.g., fire, burglary)
Contamination obsessions	Concerns or disgust with bodily waste or secretions (e.g., urine, feces, saliva) Bothered by sticky substances or residues
Sexual obsessions	Forbidden or perverse sexual thoughts, images, or impulses Sexual behavior toward others (aggressive)
Hoarding/saving obsessions	Distinguish from hobbies and concern with objects of monetary or sentimental value
Religious obsessions	Concerned with sacrilege and blasphemy Excess concern with right/wrong, morality
Obsession with need for symmetry or exactness	Accompanied by magical thinking (e.g., concerned that another will have an accident unless things are in the right place)
Miscellaneous obsessions	Fear of saying certain things Lucky/unlucky numbers Colors with special significance Superstitious fears
Somatic obsessions	Concern with illness or disease Excessive concern with body part or aspect of appearance (e.g., dysmorphophobia)
Cleaning/washing compulsions	Excessive or ritualized hand-washing Excessive or ritualized showering, bathing, toothbrushing, grooming, or toilet routine
Checking compulsions	Checking locks, stove, appliances, etc. Checking that nothing terrible did not/will not harm self Checking that did not make mistake completing a task
Repeating rituals	Rereading or rewriting Need to repeat routine activities (e.g., in/out door, up/down from chair)
Counting compulsions	(Check for presence)
Ordering/arranging compulsions	(Check for presence)
Hoarding/collecting compulsions	Distinguish from hobbies and concern with objects of monetary or sentimental value (e.g., carefully reads junk mail, sorts through garbage)
Miscellaneous compulsions	Excessive list making Need to tell, ask, or confess Need to touch, tap, or rub Rituals involving blinking or staring

From W. K. Goodman, L. H. Price, S. A. Rasmussen, C. Mazure, P. Delgado, G. R. Heninger, and D. S. Charney (1989a), "The Yale-Brown Obsessive-Compulsive Scale II. Validity" in *Archives of General Psychiatry, 46,* pp. 1012–1016.

severe (Kessler, Berglund, et al., 2005). Many more individuals than those diagnosed with the disorder seek help for OCD-like symptoms (Leckman et al., 2010).

Some people with obsessive-compulsive disorder worry incessantly about germs and dirt, and feel irresistible urges to clean and sanitize.

Theories and Treatment of Obsessive-Compulsive Disorder

Given the prominent role of motor movements in OCD, the biological basis for OCD has long been thought to involve abnormalities in the basal ganglia, subcortical areas of brain involved in the motor control. Further contributing to the motor symptoms was thought to be failure of the prefrontal cortex to inhibit unwanted thoughts, images, or urges. Brain scan evidence now supports these explanations, showing heightened levels of activity in the brain motor control centers of the basal ganglia and frontal lobes (Cocchi et al., 2012).

The most effective biological treatment for OCD is clomipramine (a tricyclic antidepressant) or an SSRI such as fluoxetine or sertraline (Kellner, 2010). In extreme cases in which no other treatments provide symptom relief, people with OCD may be treated with psychosurgery. For example, deep brain stimulation to areas of the brain involved in motor control can help relieve symptoms by reducing the activity of the prefrontal cortex, which in turn may help reduce the frequency of obsessive-compulsive thoughts (Le Jeune et al., 2010).

The cognitive-behavioral perspective toward understanding OCD proposes that maladaptive thought patterns contribute to the development and maintenance of OCD symptoms. Individuals with OCD may be primed to overreact to anxiety-producing events in their environment. Such priming may place OCD in a spectrum of so-called internalizing disorders that include other anxiety and mood disorders involving a similar pattern of startle reactivity (Vaidyanathan, Patrick, & Cuthbert, 2009). For people with OCD, these experiences become transformed to disturbing images, which they then try to suppress or counteract by engaging in compulsive rituals. Complicating their symptoms are beliefs in the danger and meaning of their thoughts, or their "metacognitions," which lead people with OCD to worry, ruminate, and feel that they must monitor their every thought (Solem, Håland, Vogel, Hansen, & Wells, 2009). Cognitive behavioral therapy is currently regarded as the most effective treatment for OCD (Öst, Havnen, Hansen, & Kvale, 2015).

Clinicians may also use behavioral methods to treat clients with OCD. For example, thought stopping can help clients reduce obsessional thinking, as in exposure to situations that provoke compulsive rituals or obsessions (Bakker, 2009). The clinician may combine exposure with response prevention, in which the clinician instructs the client to stop performing compulsive behaviors, and satiation therapy, in which clients confront their obsessional thoughts for so long that they lose their meaning (Khodarahimi, 2009).

Body Dysmorphic Disorder

People with **body dysmorphic disorder (BDD)** are preoccupied with the idea that a part of their body is ugly or defective. Their preoccupation goes far beyond the ordinary dissatisfaction that many people feel about the size and shape of their body or appearance of a particular body part. People with BDD may check themselves constantly, groom themselves to an excessive degree, or constantly seek reassurance from others about how they look. They don't necessarily see themselves as fat or excessively heavy, both of which are common concerns in Western cultures, but they may believe that their body build is too small or not muscular enough.

body dysmorphic disorder
A disorder in which individuals are preoccupied with the idea that a part of their body is ugly or defective.

The *DSM-5* reclassified BDD from its prior placement in the anxiety disorders into its current inclusion with obsessive-compulsive and related disorders. The main change

REAL STORIES

Howie Mandel: Obsessive-Compulsive Disorder

In his autobiography, *Here's the Deal: Don't Touch Me*, Canadian comedian, actor, and television personality Howie Mandel tells a candid account of how he rose to fame while suffering from obsessive-compulsive disorder (OCD). In the book, Howie uses a humorous perspective to describe the often painful experiences in living with OCD. It is his passion for comedy and connecting with audiences that help him through difficult periods, and his honest and frank approach to discussing his illness in the public eye that make his story remarkable.

In addition to OCD, Howie was diagnosed with ADHD as an adult, and recounts in the book the ways in which he now remembers being affected by both diagnoses during his childhood. Howie grew up in Toronto, Ontario, and in the book he recalls having a great deal of difficulty in school, often getting into trouble for pulling pranks or using inappropriate and impulsive behavior in the classroom. He writes about one particularly upsetting incident while he was a child, in which sand flies had laid eggs under his skin. Rather than undergoing an expensive medical procedure, his mother elected to remove the eggs herself by placing Howie in a hot bath and scrubbing his skin until the eggs came out. Howie explains, "I can't even begin to tell you what this did to me psychologically. To this day, when I think about it, I can see the image of my skin bubbling. It feels as if there are organisms trying to make their way under my skin, and I'm taken back to those icky, creepy crawling monsters that need to be burned away. This is the feeling that recurs each and every time my OCD is triggered by the thought of germs on my body." Howie reveals that the main content of his obsessions revolve around fears of dirt and contamination, which he attributes in part to what he describes as his family's obsessive attention to cleanliness from early on. For example, he writes how his grandmother would clean and wax even the outside of her house.

Howie was never diagnosed with either OCD or ADHD as a child, and did not receive any treatment until he was an adult. Howie was expelled from high school due to his behavioral issues, and spent the next several years living with his parents while working as a carpet salesman. While in school, Howie recalls spending more time and effort on making elaborate pranks, than on his school work. When he decided to try standup comedy in a popular comedy club in Toronto, he finally felt he had found a way to channel his quirky and eccentric sense of humor. As it turns out, he discovered he was a talented and gifted performer. Further, Howie describes that through performing on stage, he found a way to find relief from obsessive thoughts and worries about germs and contamination: "My entire life is about distracting myself from horrible thoughts that constantly creep into my head. If I'm not doing something productive, I will find something to distract me. These distractions come upon me impulsively. Many people seek relief from their demons through food, alcohol, or drugs. My drug of choice is humor."

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It wasn't long until Howie's high energy and sometimes bizarre stage show started to gain notoriety and acclaim, and he soon moved to Los Angeles to embark on an acting career, joining the cast of the popular television show *St. Elsewhere* for six seasons. During this time he continued to work in comedy and secured several film roles. He was later given his own animated comedy series, *Bobby's World*, which ran for eight seasons. From that series, he hosted a talk show for one season, and then became the host of a television game show, *Deal or No Deal*. While filming these shows, he was stricken with the difficult prospect of shaking hands with guests and contestants, which would act as a trigger for obsessive worries about contamination that stayed with him the entire day. Howie tried several strategies to cope with his concerns about shaking hands with guests, including using "vats" of antibiotic lotion, scrubbing with surgical-grade soap before and after each taping, and "fist bumping" rather than shaking hands. He eventually decided to stop shaking hands with guests altogether.

Throughout the book, Howie describes how his relationship with his wife Terry, whom he met in high school, and their three children, provided extra support throughout his struggles with OCD.

In 2006, Howie went public with his diagnosis of OCD while live on the air on *The Howard Stern* radio show. He later publicly revealed his ADHD diagnosis, and has gone on to promote awareness of the disorder, and particularly adult ADHD. Howie has appeared in numerous television shows and films throughout his successful career. Most recently, he joined the celebrity cast of the popular television talent show, *America's Got Talent*. Despite his incredible success in the entertainment industry, Howie continues to deal with symptoms of OCD. Though he once feared that being open about his diagnosis would be a career-ending move, in his book he writes that it in fact has brought him closer to his fans. With his characteristic humor and remarkable self-awareness, Howie Mandel's story demonstrates how one can live and achieve success, even with a severe psychological disorder.

You Be the Judge

Psychosurgery

As we discussed in the chapter "Theoretical Perspectives", psychosurgery is increasingly being used to give clinicians a tool for controlling the symptoms of obsessive-compulsive disorder. However, to what extent is surgical intervention justifiable to control the existence of psychological symptoms? Moreover, this surgery is not reversible. The debate over psychosurgery goes back to the mid-twentieth century when physician Walter Freeman traveled around the country performing approximately 18,000 psychosurgeries in which he severed the frontal lobes from the rest of the brain to control the unmanageable behaviors of psychiatric patients. The idea was that by severing the frontal lobes from the limbic system, the patients would no longer be controlled by their impulses.

As was true in the early twentieth century, when clinicians employed lobotomies to manage otherwise intractable symptoms of psychiatric patients, is it possible that future generations will look upon psychosurgery and similar interventions as excessively punitive and even barbaric? On the other hand, with symptoms that are so severe and disabling, is any method that can control them to be used even if imperfect?

Gillett (2011) raised these issues regarding the use of current forms of psychosurgery. By altering the individual's brain through such radical techniques, psychiatrists are tampering with a complex system of interactions that make up the individual's personality. Just because they "work," and because no other methods are currently available, does this justify making permanent changes to the individual's brain? The victims of the leucotomies performed by Freeman "improved" in that their behavior became more docile, but they were forever changed.

Q: *You be the judge:* Is it appropriate to transform the person using permanent methods whose basis for effectiveness cannot be scientifically established? As Gillett (2011) concludes, "burn, heat, poke, freeze, shock, cut, stimulate or otherwise shake (but not stir) the brain and you will affect the psyche" (p. 43).

was to include repetitive behaviors, such as checking the mirror or seeking reassurance, as part of the criteria, changes that seem to have improved diagnostic accuracy (Schieber, Kollei, de Zwaan, & Martin, 2015). Table 3 illustrates these types of repetitive behaviors, which include items from the Body Dysmorphic Disorder version of the Yale-Brown Obsessive-Compulsive Disorder Scale (BDD-YBOCS) (Phillips, Menard, Fay, & Pagano, 2005).

As many as 87 percent of women are dissatisfied with some aspect of their body's appearance (Mond et al., 2013). Overall, at any one point in time, though, the prevalence of BDD is a much lower 2.5 percent of women and 2.2 percent of men. The most common areas that concern people with BDD differ by gender with men more likely to be concerned with their body build and thinning hair, and women with their weight and hip size.

BDD is frequently accompanied by major depressive disorder, social anxiety disorder, obsessive-compulsive disorder, and eating disorders. Their distress clearly can become intense. Completed suicides are 45 times more common among people with this disorder than those in the general U.S. population (Phillips et al., 2005).

There are cross-cultural aspects to BDD. In Japan, the belief that one's physical appearance is offensive to others is called *shubo-kyufo,* a subtype of *taijin kyofusho* or "fear of interpersonal relations." The syndrome *koro* or *suoyang* ("shrinkage of the penis" in Chinese) involves men's fear of genital retraction into the body. Individuals who suffer from *koro* also experience other BDD symptoms (Fang & Hofmann, 2010).

Individuals with body dysmorphic disorder often feel that their appearance is much more flawed than how they actually appear to others.

Treatment of BDD from a biological perspective involves medications, particularly SSRIs, which can reduce the associated symptoms of depression and anxiety as well as the more obsessive symptoms of distress, bodily preoccupations, and compulsions. Once on SSRIs, people with BDD can experience improved quality of life and overall functioning, and perhaps gain insight into their disorder (Bjornsson, Didie, & Phillips, 2010).

TABLE 3 Body Dysmorphic Disorder Modification of the Yale-Brown Obsessive-Compulsive Scale (BDD-YBOCS)

This modification of the Yale-Brown Obsessive-Compulsive Scale uses the following criteria to determine the severity of the client's symptoms regarding the presumed body defect or defects:

1. Time occupied by thoughts about body defect
2. Interference due to thoughts about body defect
3. Distress associated with thoughts about body defect
4. Resistance against thoughts about body defect
5. Degree of control over thoughts about body defect
6. Time spent in activities related to body defect such as mirror checking, grooming, excessive exercise, camouflaging, picking at skin, asking others about defect
7. Interference due to activities related to body defect.
8. Distress associated with activities related to body defect
9. Resistance against compulsions
10. Degree of control over compulsive behavior
11. Insight into the nature of excessive concern over defect
12. Avoidance of activities due to concern over defect

http://www.veale.co.uk/wp-content/uploads/2010/11/BDD-YBOCS-Adult.pdf.

MINI CASE

Body Dysmorphic Disorder, with Poor Insight

Lydia is a 63-year-old woman whose local surgeon referred her to the mental health clinic. For the past 8 years, Lydia has visited plastic surgeons across the country to find one who will perform surgery to reduce the size of her hands, which she perceives as "too fat." Until she has this surgery, she will not leave her house without wearing gloves. The plastic surgeon concurs with Lydia's family members and friends that Lydia's perception of her hands is distorted and that plastic surgery would be inappropriate and irresponsible.

From a psychosocial perspective, people with BDD may have experienced being teased about their appearance or made to feel sensitive in some other way during a time when their identities were in a critical period of formation. Once they start to believe that their bodily appearance is defective or deviates from the ideal to which they aspire, they become preoccupied with this belief, setting off a series of dysfunctional thoughts and repetitive behaviors. For example, they may look at an ordinary feature of their appearance, such as their waist size, and see only their "too large" waist when they view themselves. This selective attention to this body part is accompanied by the belief that no one could possibly like them, which in turn can lead them to avoid social situations and to engage in rituals such as looking in the mirror and studying their waist size frequently.

Clinicians treating clients with BDD from a cognitive-behavioral perspective focus on helping them to understand that appearance is only one aspect of their total identity, while at the same time challenging them to question their assumptions that their appearance is, in fact, defective. The clinician may also help these individuals realize that other people looking at them may not even be thinking at all about their appearance, or if so, not critically (Fang & Wilhelm, 2015).

In one hands-on cognitive technique, clinicians encourage clients to look at themselves in a mirror and to change their negative thoughts about what they see (Wilhelm, Buhlmann, Hayward, Greenberg, & Dimaite, 2010). Additionally, interpersonal therapy can be useful to help people with BDD to develop improved strategies for dealing with the distress they feel in their relationships with others, as well as addressing their low self-esteem and depressed mood (Bjornsson et al., 2010).

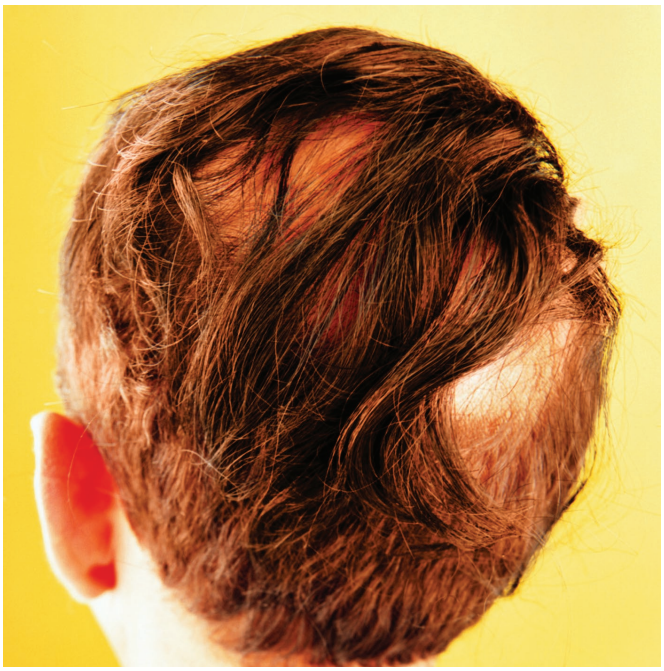
Hoarding Disorder

In the compulsion known as **hoarding,** people have persistent difficulties discarding or parting with their possessions, even if they are not of much value. These difficulties include any form of discarding, including putting items into the garbage. They believe these items to have utility, to have aesthetic or sentimental value, but in reality the items often consist of old newspapers, bags, or leftover food.

hoarding
A compulsion in which people have persistent difficulties discarding things, even if they have little value.

When faced with the prospect of discarding the items, these individuals become distressed. However, in reality, their homes can become unlivable due to the clutter that accumulates over the years. The rooms in their living space fill up with a mixture of objects that are actually of value, such as collector's items, and items that ordinarily would be thrown away, such as old magazines. Unlike ordinary collectors, who organize their items in a systematic way, people with hoarding disorder accumulate items without any form of organization.

Because the disorder newly became a diagnosis on its own in *DSM-5*, the only prevalence data available are the estimates the authors cite, which is from 2 to 6 percent of adults. A substantial percentage of adults with hoarding disorder also have comorbid depressive symptoms (Hall, Tolin, Frost, & Steketee, 2013). Older adults who develop hoarding disorder are likely to become physically and cognitively impaired, experiencing significant effects on their daily functioning (Ayers, Najmi, Mayes, & Dozier, 2015).



This man, like many who suffer from trichotillomania, has marked hair loss as a result of frequent and uncontrollable urges to pull his hair out.

Treatment of hoarding disorder that follows a biopsychosocial approach appears to have the most effectiveness. Biological treatments have traditionally included SSRIs, but researchers believe the disorder may also have a neurocognitive component that would warrant treatment through addressing cognitive function. For example, people with hoarding disorder may have a form of ADHD in which they lack the ability to focus their attention on specific details (Tolin, 2011).

Home visits in which the therapist uses cognitive-behavioral methods seem to hold the most promise, particularly in encouraging clients to discard their hoarded items (Tolin, Frost, Steketee, & Muroff, 2015). Practical assistance from movers or professional organizers may also be useful in supplementing medications and cognitive-behavioral treatment. Friends, family members, and local officials may also be consulted to assist in clearing the individual's living space.

Trichotillomania (Hair-Pulling Disorder)

A diagnosis of **trichotillomania (hair-pulling disorder)** is given to individuals who pull out their hair in response to an increasing sense of tension or urge. After they pull their hair, they feel relief, pleasure, or gratification. People with trichotillomania are upset by their uncontrollable behavior and may find that their social, occupational, or other areas of functioning are impaired because of this disorder. They feel unable to stop this behavior, even when the pulling results in bald patches and lost eyebrows, eyelashes, armpit hair, and pubic hair. As people with this disorder get older, they increase the number of bodily sites from which they pull hair (Flessner, Woods, Franklin, Keuthen, & Piacentini, 2009).

trichotillomania (hair-pulling disorder)
An impulse-control disorder involving the compulsive, persistent urge to pull out one's own hair.

People with this disorder experience significant impairment in areas of life ranging from sexual intimacy to social activities, medical examinations, and haircuts. They can also develop skin infections, scalp pain or bleeding, and carpal tunnel syndrome. Psychologically, they may suffer low self-esteem, shame and embarrassment, depressed mood, irritability, and argumentativeness. Their impairments appear early in life and continue through to middle and late adulthood (Duke, Keeley, Geffken, & Storch, 2010). Additionally, those who also eat the hair they pull can develop hairballs (Grant & Odlaug, 2008), which settle in their gastrointestinal tract, causing abdominal pain, nausea and vomiting, weakness, and weight loss.

Diagnosable trichotillomania is relatively rare, with an estimated current prevalence rate of 0.6 percent of the community population. However, trichotillomania may be underreported because people with this disorder are secretive about the behavior and tend to engage in hair pulling only when alone (Duke, Bodzin, Tavares, Geffken, & Storch, 2009).

In *DSM-IV-TR*, trichotillomania was included in the category of impulse-control disorders, but in *DSM-5*, it moved to the category that includes obsessive-compulsive and related disorders. In addition, the name changed to hair pulling, which the *DSM-5* authors concur would be a better description of the disorder than calling it a "mania," which they regard as inappropriate for this disorder.

There may be two types of hair pulling. In the "focused" type, which may account for one-quarter of cases, the individual is aware of having the urge to pull and may develop compulsive behaviors or rituals to avoid doing so. In "automatic" hair pulling, the individual is involved in another task or is absorbed in thought while engaging in the behavior. Individuals who fall into the automatic category of hair pulling experience pronounced stress and anxiety. For people in the focused type, depression and disability are also likely to occur along with stress and anxiety (Duke et al., 2010).

MINI CASE

Trichotillomania (Hair-Pulling Disorder)

For most of her childhood and adolescence, 15-year-old Audra lived a fairly isolated existence, with no close friends. Although Audra never discussed her unhappiness with anyone, she often felt depressed and hopeless. As a young child, Audra lay in bed on many nights, secretly tugging at her hair. Over time, this behavior increased to the point at which she plucked the hair, strand by strand, from her scalp. Typically, she pulled out a hair, examined it, bit it, and either threw it away or swallowed it. Because her hair was thick and curly, her hair loss was not initially evident, and Audra kept it carefully combed to conceal the bald spots. One of her teachers noticed that Audra was pulling her hair in class, and, in looking more closely, she saw the bald patches on Audra's head. She referred Audra to the school psychologist, who called Audra's mother and recommended professional help.

Heritability seems to play an important role in trichotillomania, with an estimated 80 percent heritability (Novak, Keuthen, Stewart, & Pauls, 2009). Abnormalities in a gene on chromosome 1 known as SLTRK1 may play a role in the disorder; this gene is also linked to Tourette's disorder (Abelson et al., 2005). Researchers have also identified abnormalities in SAPAP3, a gene related to glutamate, which in turn is involved in obsessive-compulsive disorder (Zuchner et al., 2009). The neurotransmitters serotonin, dopamine, and glutamate are, in turn, thought to play a role in the development of trichotillomania (Duke et al., 2009). Brain imaging studies of individuals with trichotillomania suggest that they may also have abnormalities in neural pathways in the brain involved in generating and suppressing motor habits; these pathways also seem to be involved in regulating affect (Chamberlain et al., 2010).

Corresponding to these abnormalities in neurotransmitter and brain functioning, the regulation model of trichotillomania suggests that individuals with this disorder seek an optimal state of emotional arousal, providing them with greater stimulation when they are understimulated and calming them when they are overstimulated. At the same time, hair pulling may bring them from a negative to a positive affective state. Using the Trichotillomania Symptoms Questionnaire (see Table 4), researchers conducting an online survey found that individuals who engaged in hair pulling experienced more difficulty controlling their emotions than those who did not. There were subgroups within those who engaged in hair pulling. These subgroups varied in whether they were more likely to experience boredom versus anxiety or tension and in the overall intensity of emotions they felt that seemed to drive them toward hair pulling. The

TABLE 4 Trichotillomania Symptoms Questionnaire

1. Do you currently pull your hair out?
2. At any point in your life, including now, have you had periods of uncontrollable hair-pulling?
3. Do you (or did you in the past) experience urges to pull your hair out?
4. Do you (or did you in the past) try to resist pulling your hair out?
5. Do you (or did you in the past) feel relief when pulling your hair out?
6. Do you (or did you in the past) wish that the urge to pull your hair out would go away?
7. Have you been diagnosed with trichotillomania by a professional?
8. Do you, or did you in the past, feel shame, secrecy, or distress about your hair-pulling?

Shusterman et al., 2009

researchers suggested that these subgroups on the questionnaire seemed to correspond to the automatic versus focused subtypes of the disorder (Shusterman, Feld, Baer, & Keuthen, 2009).

Various pharmacological treatments for trichotillomania include antidepressants, atypical antipsychotics, lithium, and naltrexone. Of these, naltrexone seems to have shown the most promising results. However, the results of controlled studies are not compelling and do not seem to justify the use of medications when weighed against the side effects that can include obesity, diabetes, neurotoxicity, delirium, encephalopathy, tremors, and hyperthyroidism, among others (Duke et al., 2010).

The behavioral treatment of habit reversal training (HRT) is regarded as the most effective approach to treating trichotillomania. Not only does this method prevent the side effects of medication, but it is more successful in reducing the symptoms of hair pulling (Duke et al., 2010); however, for treatment-resistant individuals, a combination of medication and HRT may be required (Franklin, Zagrabbe, & Benavides, 2011).

In HRT, the individual learns a new response to compete with the habit of hair pulling, such as fist clenching. The key feature is that the new response is incompatible with the undesirable habit. When it was first developed several decades ago, HRT was given for only one session. Since that time, clinicians have extended the length of treatment and added several cognitive components, including self-monitoring and cognitive restructuring. For example, clients may learn to challenge their cognitive distortions such as their perfectionistic beliefs. Dialectical behavior therapy (DBT) may add to these methods a combination of mindfulness training, where clients learn to identify the cues that trigger their hair pulling followed by engaging in imagery training where they visualize themselves in a tranquil state (Snorrason, Berlin, & Lee, 2015).

Combining acceptance and commitment therapy (ACT) with HRT is also shown to produce relief from hair-pulling symptoms. Cognitive-behavioral therapy can help in treating children and adolescents with trichotillomania, with very little alteration from the basic protocol used for adults. In one study, 77 percent of those who received treatment remained symptom free after 6 months (Tolin, Franklin, Diefenbach, Anderson, & Meunier, 2007).

Although trichotillomania can be a highly disabling condition, there is promise provided by the range of therapies based on behavior therapy, cognitive-behavior therapy, and the newer approaches that help individuals identify and cope with the feelings associated with the behavior. Newer therapies are also including psychoeducation, to provide clients with the opportunity to gain insight into their disorder.

Excoriation (Skin-Picking) Disorder

excoriation (skin-picking) disorder
Recurrent picking at one's own skin.

A new diagnosis in *DSM-5,* individuals are regarded as having **excoriation (skin-picking) disorder** if they repeatedly pick at their own skin. The skin picking may be of healthy skin, skin with mild irregularities (such as moles), pimples, calluses, or scabs. People with this disorder pick at these bodily areas either with their own fingernails or with instruments such as tweezers. These individuals spend a considerable amount of time engaging in skin picking, perhaps as much as several hours per day. When they are not picking their skin, they think about picking it and try to resist their urges to do so. These individuals may attempt to cover the evidence of their skin picking with clothing or bandages, and they feel ashamed and embarrassed about their behavior.

As this is a new diagnosis, epidemiological data are limited, but *DSM-5* estimates the prevalence as being at least 1.4 percent of adults, three-quarters of whom are female. Researchers believe that skin picking is valid as a distinct diagnosis from trichotillomania (Lochner, Grant, Odlaug, & Stein, 2012). However, the two disorders share features in terms of causes and effective treatment approaches (Snorrason, Belleau, & Woods, 2012). For some individuals with excoriation disorder, high levels of impulsivity also appear to play an important role (Oliveira, Leppink, Derbyshire, & Grant, 2015).

8.3 Trauma- and Stressor-Related Disorders

Individuals who are exposed to trauma or a stressful event may be at risk for developing a psychological disorder. The category of trauma- and stressor-related disorders have as a diagnostic criterion the condition of an actual event that acts as a precipitant. *DSM-5* includes disorders in this group that were originally in their own category within the anxiety disorders. The *DSM-5* also places into this category a set of disorders in childhood that can be traced to exposure to stress or trauma.

Reactive Attachment Disorder and Disinhibited Social Engagement Disorder

In this first of the trauma- and stressor-related disorders we find **reactive attachment disorder,** a diagnosis given to children who literally "react against" attachment to others. Their symptoms include becoming withdrawn and inhibited. They tend not to show positive affect, but they also lack the ability to control their emotions. Unlike normal children, when they become distressed, they do not seek comfort from adults.

The diagnosis of **disinhibited social engagement disorder** involves an opposite situation in which a child with a history of trauma behaves in culturally inappropriate, overly familiar behavior with people who are relative strangers.

These disorders are placed among the trauma- and stressor-related disorders because they are found in children who have experienced an abuse pattern of social neglect, repeated changes of primary caregivers, or rearing in institutions with high child-to-caregiver ratios. Consequently, such children are significantly impaired in their ability to interact with other children and adults.

Researchers conducting a longitudinal study of previously institutionalized Romanian children found these children developed as indiscriminately social/disinhibited children during early infancy as a result of poor caregiving. Their disorders did not improve, even when the quality of their caregiving improved (see Figure 2).

Children with reactive attachment disorder have also received poorer caregiving and are more likely to have insecure attachment styles as they grow older (Gleason et al., 2011).

In terms of their origins, there are underlying similarities between the two disorders. Nevertheless, research supports the distinction between the disorders and hence the conceptualization by *DSM-5* as separate dimensions of psychopathology in childhood (Lehmann, Breivik, Heiervang, & Havik, 2015).

Acute Stress Disorder and Post-Traumatic Stress Disorder

A **trauma** is said to occur when an individual is exposed, either once or repeatedly, to circumstances that are harmful or life threatening and that have lasting adverse effects on the individual's functioning and mental health. When people are exposed to the threat of death, or to actual or threatened serious injury, or sexual violation, they risk developing **acute stress disorder.** Being exposed to the death of others, or to any of these events, real or threatened to others, can also lead to the development of this disorder. For example, first responders to the scene of an accident or police officers who regularly are exposed to the details of child abuse cases may also experience this disorder.

The symptoms of acute stress disorder fall into four categories: intrusion of distressing reminders of the event, dissociative symptoms such as feeling numb or detached from others, avoidance of situations that might serve as reminders of the event, and hyperarousal including

reactive attachment disorder
A disorder involving a severe disturbance in the ability to relate to others in which the individual is unresponsive to people, is apathetic, and prefers to be alone rather than to interact with friends or family.

disinhibited social engagement disorder
Diagnosis given to children who engage in culturally inappropriate, overly familiar behavior with people who are relative strangers.

trauma
A condition that results from circumstances experienced by an individual as harmful or life threatening and that has lasting adverse effects on the individual's functioning and mental health.

acute stress disorder
An anxiety disorder that develops after a traumatic event, and lasts for up to 1 month with symptoms such as depersonalization, numbing, dissociative amnesia, intense anxiety, hypervigilance, and impairment of everyday functioning.

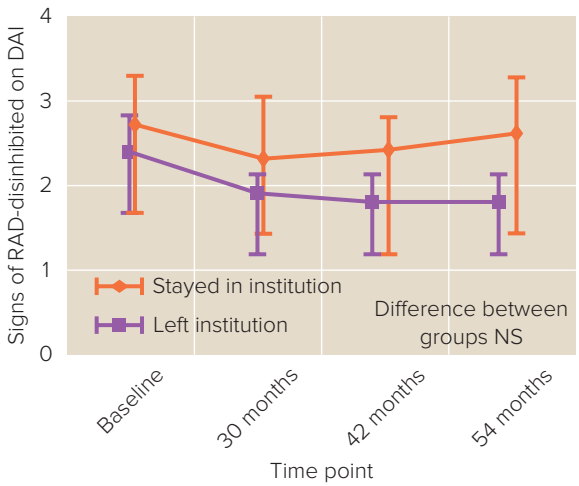


FIGURE 2 Signs of Indiscriminately Social/Disinhibited Reactive Attachment Disorder Across Time Points by Placement Status at 54 Months

MINI CASE

Acute Stress Disorder

Brendan is a 40-year-old paralegal clerk who was psychologically healthy until 2 weeks ago when he survived a wildfire that destroyed his apartment and many buildings in his neighborhood. Since the fire Brendan has been tormented by graphic images of waking to see his room filled with smoke. Although he was treated and released within several hours from the emergency room, he described himself as feeling in a daze, emotionally unresponsive to the concerns of his friends and family, and seemingly numb. He continued to experience these symptoms for several weeks, after which they gradually subsided.

post-traumatic stress disorder (PTSD)
An anxiety disorder in which the individual experiences several distressing symptoms for more than a month following a traumatic event, such as a reexperiencing of the traumatic event, an avoidance of reminders of the trauma, a numbing of general responsiveness, and increased arousal.

sleep disturbances or irritability. The symptoms may persist for a few days to a month after the traumatic event.

The events that can cause acute stress disorder may lead to the longer lasting disorder known as **post-traumatic stress disorder (PTSD).** If the individual experiences acute stress disorder symptoms for more than a month, the clinician assigns the PTSD diagnosis. The intrusions, dissociation, and avoidance seen in acute stress disorder are also present in PTSD. Additionally, symptoms of PTSD include loss of memory for the event, excessive self-blame, distancing from others, and inability to experience positive emotions.

There is a long history to the diagnosis of PTSD. The Vietnam War was perhaps the most publicized war to produce psychological casualties, but reports of psychological dysfunction following exposure to combat emerged after the Civil War. In World Wars I and II, the condition was referred to with such terms as *shell shock, traumatic neurosis, combat stress,* and *combat fatigue*. Survivors of European concentration camps in the 1930s and 1940s also were reported to suffer long-term psychological effects, including chronic depression, anxiety, and difficulties in interpersonal relationships due to the guilt over having survived when so many others were killed.

The lifetime prevalence of PTSD is 6.8 percent, with a yearly prevalence of 3.5 percent. Of those who develop PTSD within a given year, 37 percent experience severe symptoms (Kessler, Berglund, et al., 2005). Among Army soldiers returning from Afghanistan, 6.2 percent met the PTSD diagnostic criteria, with more than double that rate, 12.9 percent, among soldiers returning from Iraq (Hoge, Castro, Messer, McGurk, Cotting, & Koffman, 2004). With the surges of combat in these two war zones, the number of soldiers developing mental health problems, particularly PTSD, has continued to climb. It is estimated that nearly 17 percent of Iraq War veterans meet the screening criteria for this disorder (Hoge, Terhakopian, Castro, Messer, & Engel, 2007).

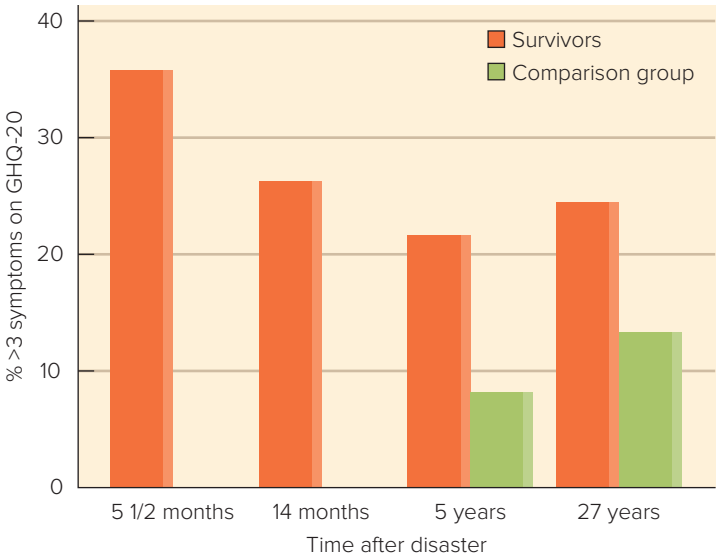


FIGURE 3 Percent of Long-Term Survivors of the North Sea Disaster Still Experiencing Symptoms After 27 Years

The symptoms of PTSD and related disorders, such as depression, can persist for many years. For example, survivors of the North Sea oil rig disaster in 1980 continued to experience symptoms of PTSD along with anxiety disorders (not including PTSD), depressive disorders, and substance use disorders that were significantly higher than those of a matched comparison group (Figure 3) (Boe, Holgersen, & Holen, 2011).

Theories and Treatment of Post-Traumatic Stress Disorder A traumatic experience is an external event that impinges on the individual and hence does not have biological "causality." However, researchers propose that traumatic experiences in part have their impact because they do lead to changes

MINI CASE

Post-Traumatic Stress Disorder

For the past 10 years, Steve has suffered from flashbacks in which he relives the horrors of his 9 months of active duty in the Gulf War. These flashbacks occur unexpectedly in the middle of the day, and Steve is thrown back into the emotional reality of his war experiences. These flashbacks, and the nightmares he often suffers from, have become a constant source of torment. Steve has found that alcohol provides the only escape from these visions and from the distress he feels. Often, Steve ruminates about how he should have done more to prevent the deaths of his fellow soldiers, and he feels that his friends, rather than he, should have survived.

in the brain that make it primed or hypersensitive to possible danger in the future. Individuals with PTSD experience alterations in the hippocampus, the structure in the brain responsible for consolidating memory. As a result, they are unable to distinguish relatively harmless situations (such as fireworks) from the ones in which real trauma occurred (combat). They continue to reexperience the event with heightened arousal and further avoidance of the trauma (Hayes et al., 2011).

SSRI antidepressants are the only FDA-approved medications for people with PTSD. However, the response rates of patients with PTSD to these medications rarely are more than 60 percent, and less than 20 to 30 percent achieve full remission of their symptoms. Research does not support the use of benzodiazepines in treatment of PTSD, although these medications may relieve insomnia or anxiety (Berger et al., 2009). Although researchers believed that the antipsychotic medication risperidone might benefit individuals with PTSD, findings from a large-scale study of nearly 300 veterans did not provide empirical support for its use in reducing symptoms (Krystal et al., 2011).

From a psychological perspective, people with PTSD have a biased information-processing style that, due to the trauma they experienced, causes their attention to be biased toward potentially threatening cues. They therefore feel more likely to be under threat and also are more likely to avoid situations that they perceive as potentially threatening (Huppert, Foa, McNally, & Cahill, 2009). Personality and coping style also predict responses to trauma. People more likely to experience PTSD following exposure to a trauma are found to have

A military veteran suffering from PTSD uses virtual reality technology to expose himself to anxiety-provoking imagery as part of his treatment at a VA hospital.

high levels of neuroticism, negativity, affectivity, prior psychological symptoms, and a history of childhood abuse (Baschnagel, Gudmundsdottir, Hawk, & Gayle Beck, 2009; Engelhard & van den Hout, 2007; Rademaker, van Zuiden, Vermetten, & Geuze, 2011).

Barbara, whose case opened the chapter, seems to have been an exception in this regard; she did not appear to be high on neuroticism, negative, or a victim of childhood abuse. Her prolonged exposure to severe combat along with the loss of her leg seemed to account for her development of the disorder.

Generally considered the most effective psychological treatment for PTSD, cognitive-behavioral therapy combines some type of exposure (*in vivo* or imaginal) with relaxation and cognitive restructuring. Two cognitive-behavioral treatments that have shown particular effectiveness in treating PTSD include cognitive processing therapy (Resick & Shnicke, 1992) and prolonged exposure (Foa, Hembree & Rothbaum, 2007). However, clinicians are reluctant to adopt these methods in treatment (Couineau & Forbes, 2011). Moreover, due to the high dropout and nonresponse rates when these methods are employed, researchers are investigating the efficacy of alternative methods, including interpersonal therapy, meditation, and acceptance and commitment therapy (Bomyea & Lang, 2011). Couples therapy is another method that can prove beneficial in reducing symptoms as well as reducing distress both in the individual and in the individual's partner (Sautter, Glynn, Cretu, Senturk, & Vaught, 2015).

In Eye Movement Desensitization Reprocessing (EMDR), the clinician asks the client to think about a traumatic memory while focusing on rapid movement of the clinician's finger for 10 to 12 eye movements. Though being used to an increasing degree, EMDR lacks the effectiveness associated with exposure therapy (Committee on Treatment of Posttraumatic Stress Disorder, 2008).

An alternative view to PTSD comes from the standpoint of positive psychology, with the proposal that people can grow through the experience of trauma. According to this approach, trauma potentially allows clients to find positive interpretations of their experiences (Helgeson, Reynolds, & Tomich, 2006). Particularly beneficial may be the personal traits of optimism and openness to new experiences (Zoellner, Rabe, Karl, & Maercker, 2008).

Because trauma is so often a component of other disorders, including substance use disorders, the U.S. government's Substance Abuse and Mental Health Services Administration (SAMHSA) has compiled a treatment manual for clinicians working in behavioral health (SAMHSA, 2014). This manual is based on the principles of **trauma informed care,** which is a model that promotes trauma awareness and understanding to professionals treating individuals with a history of trauma. The idea of resilience is central to this philosophy of treatment, helping individuals foster their own inner strengths as they develop a greater sense of competence. Furthermore, according to the principles of trauma informed care, it is particularly important that clinicians avoid retraumatizing clients who already have histories of trauma.

trauma informed care
An approach to treatment that acknowledges the role that trauma can have on the mental health of individuals.

8.4 Anxiety, Obsessive-Compulsive, and Trauma- and Stressor-Related Disorders: The Biopsychosocial Perspective

The disorders we covered in this chapter span a broad spectrum of problems, ranging from specific, seemingly idiosyncratic responses to diffuse and undifferentiated feelings of dread. There are differences among the disorders in symptoms and causes, but there do seem to be important similarities in that they all involve regions of the brain involved in responding to fearful or threatening situations. Perhaps what determines whether an individual with a propensity toward developing an anxiety disorder is the unique combination represented in that person's life by the confluence of genetics, brain functioning, life experiences, and social context. Across these disorders, there also appear to be similarities in treatment approach, with cognitive-behavioral methods perhaps showing the greatest effectiveness.

Return to the Case: Barbara Wilder

Barbara's therapist decided not to use pharmacological interventions but instead to begin treatment with cognitive processing therapy, a cognitive-behavioral therapy specifically aimed at reducing symptoms of PTSD. In therapy, Barbara learned to challenge the thoughts that she was still in danger much of the time. Through the use of imaginal flooding, Barbara became accustomed to discussing her experiences in Iraq without provoking fear or anxiety by relearning to associate her memories of the war with relaxation.

In addition to individual therapy, Barbara's therapist suggested that she participate in group therapy. In these sessions, Barbara met for 90 minutes a week for 10 weeks with 7 other Iraq War veterans. Barbara was able to talk about her traumatic memories as well as provide support to other veterans as they discussed their experiences. By interacting with veterans she could relate to, she relearned how to interact with others socially, which decreased her feelings of irritability and anger around other people in her life.

Within 1 month of beginning her treatment at the VA, Barbara began to experience some relief from her PTSD symptoms, though she continued to have occasional nightmares. Using the coping skills she learned in therapy, Barbara was able to recover from the flashbacks and began to participate in life once again. She made a full physical recovery after receiving a prosthetic leg. Within 2 months, her emotional numbing, irritability, and anxious symptoms completely subsided. Barbara often remarked to her therapist that she felt that she was "herself" again. Several months later, she took a part-time job in an electronics store and enrolled in a part-time MBA program at a nearby community college. She moved into her own apartment a few towns away from her parents' home and began to reconnect with old friends who still live close by. Barbara continues to come to the VA for individual therapy every week, and though the events she experienced in Iraq continue to haunt her, she has learned to live with the memories and has begun to adjust to civilian life.

Dr. Tobin's reflections: It was clear upon her initial presentation that Barbara was presenting with classic symptoms of PTSD. Fortunately she was able to utilize the resources available for her to get help and provide relief from her suffering. Early intervention treatment for those with PTSD is critical in preventing the prolonging of symptoms throughout the life span, and Barbara was able to put her life back together as a result of addressing her PTSD early on. In the case of many veterans of wars fought in earlier eras (such as Vietnam), the needed resources were not available for them when they returned home from war. These veterans currently make up a large population of the Veterans Affairs system, though the rates of PTSD continue to increase for soldiers fighting in the wars in Iraq and Afghanistan.

SUMMARY

- Anxiety disorders are characterized by the experience of physiological arousal, apprehension, or feelings of dread, hypervigilance, avoidance, and sometimes a specific fear or phobia.
- Separation anxiety disorder is a disorder characterized by intense and inappropriate anxiety about being separated from home or caregivers. Many infants go through a developmental phase in which they become anxious and agitated when they are separated from their caregivers. In separation anxiety disorder, these emotions continue far longer than is age appropriate. Even the prospect of separation causes extreme anxiety. Although there appears to be a strong genetic component to separation anxiety disorder, environmental factors also contribute. Adult can also develop separation anxiety disorder. Cognitive behavioral techniques may be most effective. Another disorder appearing in childhood thought to center on anxiety is selective mutism, in which a child refuses to speak in specific situations, such as the classroom. Behaviorist methods using shaping and exposure seem particularly well suited to treating children with selective mutism.
- Specific phobias are irrational fears of particular objects or situations. Cognitive behaviorists assert that previous learning experiences and a cycle of negative, maladaptive thoughts cause specific phobias. Treatments recommended by the behavioral and cognitive-behavioral approaches include flooding, systematic desensitization, imagery, *in vivo* exposure and virtual reality exposure therapy (VRET) as well as procedures aimed at changing the individual's maladaptive thoughts, such as cognitive restructuring and thought

stopping. Treatment based on the biological perspective involves medication.

- Social anxiety disorder is a fear of being observed by others while acting in a way that will be humiliating or embarrassing. Cognitive-behavioral approaches to social anxiety disorder regard the disorder as due to an unrealistic fear of criticism, which causes people with the disorder to lose the ability to concentrate on their performance, instead shifting their attention to how anxious they feel, which then causes them to make mistakes and, therefore, to become more fearful. Behavioral methods that provide *in vivo* exposure, along with cognitive restructuring and social skills training, seem to be the most effective in helping people with social anxiety disorder. Medication is the treatment recommended within the biological perspective for severe cases of this disorder.
- Panic disorder is characterized by frequent and recurrent panic attacks—intense sensations of fear and physical discomfort. This disorder is often comorbid with agoraphobia, a disorder new to the *DSM-5*. Agoraphobia presents with intense anxiety around the thought or experience of being in a public place. In particular, the fear of being trapped or unable to escape from a public place is common. Biological and cognitive-behavioral perspectives have been particularly useful for understanding and treating this disorder. Some experts explain panic disorder as an acquired "fear of fear," in which the individual becomes hypersensitive to early signs of a panic attack, and the fear of a full-blown attack leads the individual to become unduly apprehensive and avoidant of another attack. Treatment based on the cognitive-behavioral perspective involves methods such as relaxation training and panic-control therapy. Medications can also help alleviate symptoms, with the most commonly prescribed being antianxiety and antidepressant medications.
- People who are diagnosed as having generalized anxiety disorder have a number of unrealistic worries that spread to various spheres of life. The cognitive-behavioral approach to generalized anxiety disorder emphasizes the unrealistic nature of these worries and regards the disorder as a vicious cycle that feeds on itself. Cognitive-behavioral treatment approaches recommend breaking the negative cycle of worry by teaching individuals techniques that allow them to feel they control the worrying. Biological treatment emphasizes the use of medication.
- In obsessive-compulsive disorder, individuals develop obsessions, or thoughts they cannot rid themselves of, and compulsions, which are irresistible, repetitive behaviors. A cognitive-behavioral understanding of obsessive-compulsive disorder regards the symptoms as the product of a learned association between anxiety and the thoughts or acts, which temporarily can produce relief from anxiety. A growing body of evidence supports a biological explanation of the disorder, with the most current research suggesting that it is associated with an excess of serotonin. Treatment with medications, such as clomipramine, seems to be effective, although cognitive-behavioral methods involving exposure and thought stopping are quite effective as well. Body dysmorphic disorder involves preoccupation with the idea that a part of the body is ugly or defective. Other disorders related to OCD include hoarding disorder, trichotillomania, and excoriation disorder.
- Individuals who are exposed to trauma or stressors may develop one of a set of disorders. *DSM-5* includes in this group disorders that were originally in the category of traumatic and stressor-related anxiety disorders, including post-traumatic stress disorder and acute stress disorder along with the childhood disorders reactive attachment disorder and disinhibited social engagement disorder. This set of disorders include, as a diagnostic criterion, the condition that there is an actual event that precipitates the symptoms. Children with reactive attachment disorder have severe disturbances in the way they relate to others and are emotionally withdrawn and inhibited. In contrast, children with disinhibited social engagement disorder engage in culturally inappropriate, overly familiar behavior with people who are relative strangers. Both of these disorders are found in children who have experienced social neglect through repeated changes of primary caregivers or reared in institutions with high child-to-caregiver ratios. Research indicates that children with these disorders continue to have problems even if their circumstances improve.
- In post-traumatic stress disorder, the individual is unable to recover from the anxiety associated with a traumatic life event, such as tragedy or disaster, an accident, or participation in combat. The aftereffects of the traumatic event include flashbacks, nightmares, and intrusive thoughts that alternate with the individual's attempts to deny that the event ever took place. Some people experience a briefer but troubling response to a traumatic event; this condition, called acute stress disorder, lasts from 2 days to 4 weeks and involves the kinds of symptoms that people with PTSD experience over a much longer period of time. Cognitive-behavioral approaches regard the disorder as the result of negative and maladaptive thoughts about one's role in causing the traumatic events to happen, feelings of ineffectiveness and isolation from others, and a pessimistic outlook on life as a result of the experience. Treatment may involve teaching people with PTSD new coping skills, so that they can more effectively manage stress and reestablish social ties with others who can provide ongoing support. A combination of covering techniques, such as supportive therapy and stress management, and uncovering techniques, such as imaginal flooding and desensitization, is usually helpful.

KEY TERMS

Acute stress disorder
Agoraphobia
Anxiety
Anxiety disorders
Anxiety sensitivity theory
Attachment figure
Body dysmorphic disorder
Compulsion
Conditioned fear reactions
Disinhibited social engagement disorder
Excoriation (skin-picking) disorder
Fear
Flooding
Generalized anxiety disorder
Graded *in vivo*
Hoarding
Imaginal flooding
In vivo flooding
Obsession
Obsessive-compulsive disorder (OCD)
Panic attack
Panic-control therapy (PCT)
Panic disorder
Phobia
Post-traumatic stress disorder (PTSD)
Reactive attachment disorder
Relaxation training
Selective mutism
Separation anxiety disorder
Social anxiety disorder
Specific phobia
Thought stopping
Tic
Trauma
Trauma informed care
Trichotillomania (hair-pulling disorder)
Virtual reality exposure therapy (VRET)

Dissociative and Somatic Symptom Disorders

OUTLINE

Case Report: Rose Marston

Dissociative Disorders

- Major Forms of Dissociative Disorders
- Theories and Treatment of Dissociative Disorders

Real Stories: Herschel Walker: Dissociative Identity Disorder

You Be the Judge: Dissociative Identity Disorder

Somatic Symptom and Related Disorders

- Somatic Symptom Disorder
- Illness Anxiety Disorder
- Conversion Disorder (Functional Neurological Symptom Disorder)
- Conditions Related to Somatic Symptom Disorders
- Theories and Treatment of Somatic Symptom and Related Disorders

What's in the *DSM-5*: Somatic Symptom and Related Disorders

Psychological Factors Affecting Other Medical Conditions

- Relevant Concepts for Understanding Psychological Factors Affecting Other Medical Conditions
- Stress and Coping
- Emotional Expression
- Personality Style
- Applications to Behavioral Medicine

Dissociative and Somatic Symptom Disorders: The Biopsychosocial Perspective

Return to the Case: Rose Marston

Summary

Key Terms

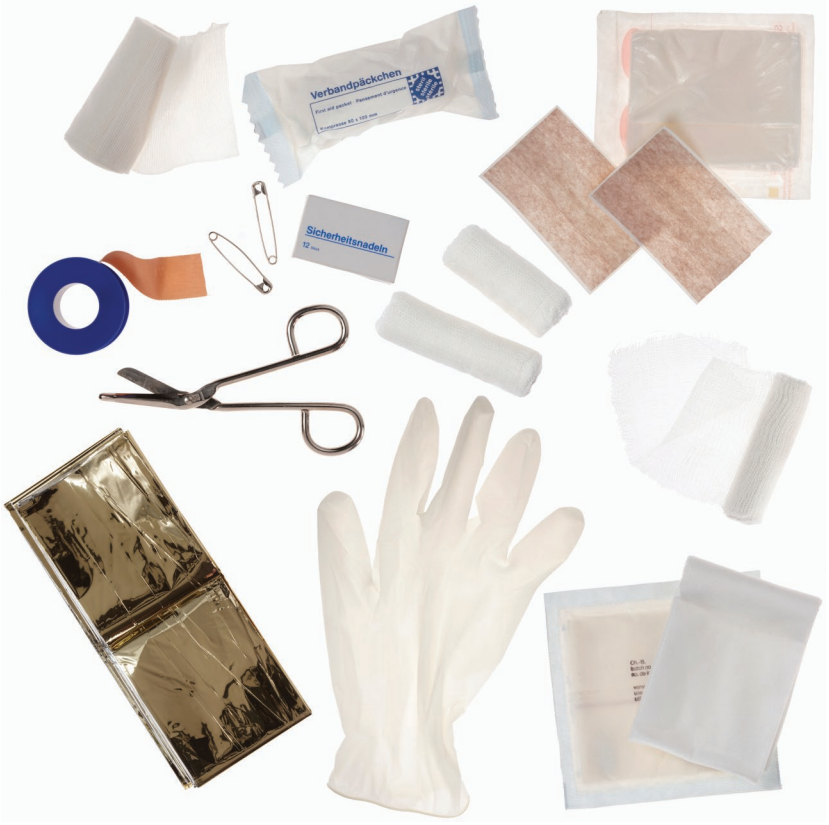
Learning Objectives

9.1 Specify the symptoms of dissociative disorders.

9.2 Identify symptoms and treatments of somatic symptom disorders.

9.3 Recognize psychological factors affecting other medical conditions.

9.4 Explain the biopsychosocial perspective for dissociative and somatic symptom disorders.



CHAPTER 9

Case Report: Rose Marston

Demographic information: 37-year-old Caucasian female.

Presenting problem: Rose was referred for a psychological evaluation by her physician, Dr. Stewart, who became concerned that she may have been suffering from symptoms of a psychological disorder. For the past year, Rose made weekly appointments with Dr. Stewart as well as other health practitioners due to her concern that she was suffering from a severe physical condition. However, Dr. Stewart was unable to detect any actual disease or syndrome that may have caused Rose's frequent stomach pains she complained of having. During the evaluation, Rose reported she was dissatisfied with Dr. Stewart's insistence that she was not suffering from a physical condition, and she consulted with alternative health care practitioners such as homeopathic physicians and even a Reiki master. She admitted she had been hoping that one of the practitioners would discover she suffered from a diagnosable medical condition, and many had even suggested she receive a psychological evaluation, which she refused. She finally agreed to Dr. Stewart's recommendation after much persistence from him.

Rose reported she had recently lost her job after calling in sick nearly every day over the past 3 months. She stated she felt it was more important to spend her time consulting health care practitioners and she also preferred not to leave her house for fear of exacerbating her symptoms. Rose stated she was distressed about the amount of time she had spent worrying about her stomach pain, but she also was overwhelmed by feelings of guilt if she did not direct her activities toward trying to determine the cause of her physical symptoms. Rose described that her symptoms originated as mild stomach irritation, and that over the past year they had escalated to the point where her stomach was causing her constant and severe pain. She reported having tried a multitude of remedies, all of them unsuccessful.

During the evaluation, Rose stated that she felt "devastated" about how her worry concerning her physical symptoms had interfered with her life but that she felt she had to focus on finding a diagnosis. In addition to losing her job, Rose's boyfriend of 2 years had recently ended their relationship, and she admitted she had distanced herself from him since the concerns about her physical symptoms began. She found, in addition, that her concern about her physical symptoms overshadowed any thoughts about her relationship.

The clinician conducting the evaluation asked Rose to describe any recent major stressors in her life, and she reported she had lost her favorite uncle to cancer in the previous year. When describing this loss, Rose immediately became tearful and admitted she felt she had never mourned her uncle and instead pushed away her feelings about his death most of the time.

Following the evaluation, the clinician contacted Dr. Stewart to consult about her case, which Rose had consented to by signing a release of information. Dr. Stewart told the clinician he believed Rose's physical symptoms seemed to be indicative of a late-onset lactose intolerance, but that she had refused to accept this diagnosis. Her symptoms may have worsened as a result of a failure for her to get the proper treatment. Dr. Stewart also remarked that Rose seemed to have been acting very differently since the death of her uncle.

Relevant history: Rose had previously seen a psychiatrist for depression in her late twenties. Her depressive symptoms began after Rose graduated from college, and varied in severity until she

Case Report *continued*

endured an episode so intense she had contemplated suicide. She had received a course of antidepressants that had been effective. At the time of the evaluation, Rose had not been on any psychiatric medications for approximately 5 years because she had felt the previous course of medication had been effective enough for her to discontinue.

Case formulation: Rose meets criteria for somatic symptom disorder, moderate to severe, with predominant pain. This diagnosis is based on her heightened anxiety, which is excessive, in response to her physical symptoms, to the point where her life has been significantly disrupted (i.e., loss of her job and her romantic relationship). Her concerns about her symptoms are both persistent and disproportionate to the actual severity of her physical symptoms, and her refusal to accept a relatively mild diagnosis of lactose intolerance meets criteria for symptoms of this disorder. The anxiety about her symptoms is severe and persistent (lasting longer than 6 months), and she has devoted an objectively excessive amount of time and energy to her physical symptoms. The onset of Rose's symptoms possibly originates from the distress caused by the death of her uncle, due to her report that she engaged in avoidance of processing her reaction.

Treatment plan: Following the evaluation and consultation with Dr. Stewart, the clinician referred Rose to a therapist specializing in cognitive-behavioral treatment for somatic disorders. In this evidence-based approach, Rose's therapist should focus on evaluating her excessive concerns about her physical condition with cognitive restructuring and also behavioral strategies to increase her engagement with recommendations from Dr. Stewart to improve her physical symptoms.

Sarah Tobin, PhD

9.1 Dissociative Disorders

The human mind seems capable of dissociating, or separating, mental functions. You can think intensively about a problem while jogging, perhaps not even realizing that you ran a mile without being aware of your surroundings.

In dissociative disorders, the separation of mental functions occurs to a far more extreme degree than what many people experience in daily life. Dissociative disorders raise intriguing questions about the ways in which people's sense of self evolves over time and how memory and sense of reality can become fragmented and distinct within the same individual. In contrast, somatic symptom disorders, which are discussed later in this chapter, raise equally fascinating questions about mind-body relationships.

Major Forms of Dissociative Disorders

dissociative identity disorder (DID)
A dissociative disorder, formerly called multiple personality disorder, in which an individual develops more than one self or personality.

dissociative amnesia
An inability to remember important personal details and experiences; is usually associated with traumatic or very stressful events.

fugue
An episode of amnesia involving inability to recall some or all of one's past and the loss of identity with either bewildered wandering or travel that seems focused on a particular purpose.

We generally take for granted the idea that each individual has one personality and sense of self. However, in **dissociative identity disorder (DID),** it appears that the individual has developed more than one personality, each with its associated sense of self. The separate personalities seem to have their own unique characteristic ways of perceiving, relating to, and thinking. By definition, people with DID have at least two distinct identities and when inhabiting the identity of one, are not aware that they also inhabit the other identity. As a result, their experiences lack continuity. They have large gaps in important memories about themselves and their lives. They may forget ordinary everyday events, but importantly, also experiences they had that are of a traumatic nature, such as being victimized or abused.

People with **dissociative amnesia** are unable to remember information about an event or set of events in their lives. It is not that they simply forget minor experiences from the past or tasks they need to complete in the future. What they typically forget is a specific event from their lives, most likely one of a traumatic or stressful nature. Their amnesia may even involve a **fugue** state, an episode of amnesia involving inability to recall some or all of one's past and the loss of identity with either bewildered wandering or travel that seems focused on a particular purpose.

MINI CASE

Dissociative Identity Disorder

Myra is a young, single woman who works as a clerk in a large bookstore. She lives by herself, never goes out socially except to see her relatives, and dresses in a conservative manner, which her associates ridicule as prudish. In her early teens, she was involved in an intimate relationship with a middle-age man who was quite abusive toward her. Although others remind her of this troubled relationship, Myra claims that she has no recollection of that person, and she has even wondered at times whether others have made up the story to annoy her. At age 25, Myra says that she is saving herself sexually for marriage, yet she seems totally uninterested in pursuing any close relationships with men. So far, this describes Myra as her work acquaintances and family know her. However, alters reside within Myra's body, and they go by other names and behave in ways that are totally incongruous with "Myra's" personality. "Rita" is flamboyant, outgoing, and uninhibited in her sexual passions. She has engaged in numerous love affairs with a variety of unsavory characters she picked up in nightclubs and discotheques. "Rita" is aware of "Myra" and regards her with extreme disdain. A third personality, "Joe," occasionally emerges from Myra's apartment. Dressed in a man's three-piece business suit, "Joe" goes downtown to do some shopping. According to "Joe," "Rita" is nothing but a "slut" who is heading for "big trouble someday." Myra's alters are oblivious to the details of her life.

Your ordinary perception of who you are involves your knowing that you live within your own body. **Depersonalization** is the condition in which people feel their identities have become detached from their bodies. They may have experiences of unreality, being an outside observer, or emotional or physical numbing. **Derealization** is a condition in which people feel a sense of unreality or detachment from their surroundings. **Depersonalization/derealization disorder** is a condition in which people have one or both of the experiences of depersonalization and derealization.

depersonalization
Condition in which people feel detached from their own body.

derealization
Condition in which people feel a sense of unreality or detachment from their surroundings.

depersonalization/derealization disorder
A dissociative disorder in which the individual experiences recurrent and persistent episodes of depersonalization.

Theories and Treatment of Dissociative Disorders

In normal development, people integrate the perceptions and memories they have of themselves and their experiences. In a dissociative disorder, the individual is trying to block out or separate from conscious awareness events that caused extreme psychological, if not physical, pain.

Individuals with dissociative identity disorder have learned to cope with extremely stressful life circumstances by creating "alter" personalities that unconsciously control their thinking and behavior when they are experiencing stress.

REAL STORIES

Herschel Walker: Dissociative Identity Disorder

Herschel Walker is perhaps one of the most successful professional American football players of all time. He received the prestigious Heisman Trophy in his junior year of college at the University of Georgia and went on to play 11 seasons with the National Football League. Although Herschel is famous for his talents on the field, the difficulties he endured in childhood nearly prevented him from attaining any of the achievements he has accrued over the years. By developing alternate personalities as a youngster, Herschel was able to overcome the challenges in his life and go on to reach immense success as a professional athlete. By using those alternate personalities to cope with stressful situations, he eventually lost the ability to have control over when his "alters" took over his regular self and in 2001, he was diagnosed with dissociative identity disorder (DID). In his autobiography, *Breaking Free: My Life with Dissociative Identity Disorder,* Herschel reveals the challenges that he faced and continues to face in his personal life due to his struggle with DID. In the book, he recounts the major moments from his life and how they were affected by his disorder. Herschel differentiates his experience with DID from more popular examples in the media. For example, his alters do not have a name or speak differently or dress differently. He admits that his case is mild when compared to some others who are afflicted with the same disorder. In fact, he states most people wouldn't even notice when he was in an altered state. He would transform his personality in the moment.

Football legend Herschel Walker wrote a book, *Breaking Free: My Life with Dissociative Identity Disorder,* in which he relates that he cannot remember the season he won the Heisman Trophy, let alone the day of the ceremony.

Herschel was born in 1962 in Wrightsville, Georgia, one of seven children of blue-collar parents. As a child, Herschel struggled with a weight problem and a severe stutter that rendered him almost unable to speak to others for fear of ridicule and embarrassment. Herschel recalls being teased and bullied every day at school by his peers. He was so tortured by his speech impediment that he was often afraid to speak up in class, even though he was a diligent student who enjoyed learning. Although Herschel describes his family as loving and supportive, he found it difficult to reach out to them for emotional support. Herschel also suffered from a debilitating fear of being in the dark as a result of frightening visions and nightmares that would come to him when he tried to go to sleep. In order to provide a sense of relief from the anxiety, Herschel would retreat into a fantasy world in which he felt safe and protected from any harm that his fears could cause him. Herschel told no one about these difficulties he faced, and instead he developed various personalities (or alters) in his mind to cope with the teasing that he was enduring. These personalities took on characteristics that Herschel thought he lacked in himself in order to deal with the constant embarrassment and emotional torture.

In *Breaking Free,* Herschel describes how this coping system changed him. "When the choice I made to deal with the pain worked, I used it again when a similar kind of threatening situation occurred. Through repetition, the habit of having an alter take over became a routine, and the brain is a marvelously efficient machine that likes to take any process we are engaged in–from driving a car to walking to insulating ourselves against hurtful negative comments–from the conscious to the subconscious level. That is what DID did for me, and why as I was growing up, I didn't consciously realize I was doing it."

In high school, Herschel worked hard academically, earning top honors at his school. He also began to work hard athletically, running several miles per day and joining his school's football and track teams. He lost the weight that had been causing him ridicule from his peers and eventually overcame the speech impediment. Herschel excelled in both track and football, although it was his strength and prowess on the football field that gained him the most attention from college recruiters. With many offers, Herschel decided to attend the University of Georgia, helping his school earn a National Championship in his junior year. The same year he received the prestigious Heisman Trophy. Instead of going on to finish his senior year at college, Herschel joined a new professional football league that rivaled the NFL, the United States Football League. He also married his college sweetheart. Herschel played with the league for two seasons before the league dissolved and he was then drafted to the Dallas Cowboys. He played

on four different teams throughout his 11-season NFL career. All the while, Herschel's DID helped him cope with the many challenges–both physical and emotional–that came along with his career. Whenever he was faced with stress or pain, his alters took over for him. "My alters functioned as a kind of community supporting me. . . . I never wanted to experience the kind of lows that I had known as a kid," he writes in *Breaking Free,* "so I became a kind of emotional bulldozer–a machine, a powerful force, something you turn the key on, fire up the ignition, throw into gear. The machine goes, almost always forward, leveling the highs and lows of the terrain it crosses into a smooth, flat, featureless plane."

However, the alters were not always positive ways of helping Herschel cope. They often kept his emotions at arm's length, preventing him from being close with teammates and loved ones–especially his wife. He was often unable to recall certain episodes from his life when his alters had come into play. It wasn't until his marriage, and his life in general began to fall apart, that he realized he needed help. Although his marriage was never able to recover, Herschel began to put his life in order after seeking help in 2001 from a psychologist friend, Dr. Jerry Mungadze at the Dissociative and Trauma Related Disorders Unit at Cedars Hospital in DeSoto, Texas. Herschel was diagnosed with DID and began intensive therapeutic treatment, which helped him identify and gain control over his alters, making a cohesive whole self out of the separate personalities he had been maintaining for most of his life.

Herschel has since started a career in mixed martial arts and recently appeared on a season of *Celebrity Apprentice* with Donald Trump. He lives in Dallas, Texas, and often gives motivational speeches to others who have been diagnosed with DID. In *Breaking Free,* Herschel writes, "I hope my legacy will be more than what I have achieved on the football field and on the track. I would rather be remembered for opening my heart and sharing my experience with DID so that others can understand this condition."

Clinicians face a daunting task both in diagnosing and treating an individual's dissociative symptoms. In the first place, they must determine whether the condition is real or faked. People may deliberately feign a dissociative disorder to gain attention or avoid punishment. However, they may unwittingly develop one of these disorders if they have come under the influence of popular treatment of such a disorder in movies that portrayed the condition such as *Sybil* or, more recently, *Shelter.* As a result of the potential fabrication of dissociative disorder by people who appear to have its symptoms, DID remains one of the most controversial of psychological disorders (Lilienfeld & Lynn, 2015).

In true cases of a dissociative disorder, when the symptoms do not appear feigned, the current consensus is that it arises in individuals subjected to emotional or physical trauma. One large psychiatric outpatient study demonstrated that people with dissociative symptoms in fact had high prevalence rates of both physical and sexual abuse in childhood (Foote, Smolin, Kaplan, Legatt, & Lipschitz, 2006). However, many people without a dissociative disorder were subjected to traumatic events early in life that they do remember (Kihlstrom, 2005). Along similar lines, traumatic experiences in childhood can lead to other types of disorders. The question remains as to why some individuals exposed to trauma develop a dissociative disorder, but others do not.

MINI CASE

Dissociative Amnesia with Dissociative Fugue

In a daze, Norma entered the mental health crisis center, tears streaming down her face. "I have no idea where I live or who I am! Will somebody please help me?" The crisis team helped her search her purse, but could find nothing other than a photograph of a blond-haired little girl. Norma appeared exhausted and was taken to a bed, where she promptly fell asleep. The crisis team called the local police to find out if there was a report of a missing person. As it turned out, the little girl in the photograph was Norma's daughter. She had been hit by a car in a shopping center parking lot. Although badly injured with a broken leg, the child was resting comfortably in a hospital pediatrics ward. Her mother, however, had disappeared. Norma had apparently been wandering around for several hours, leaving her wallet and other identifying papers with the hospital social worker in the emergency room. When Norma awoke, she was able to recall who she was and the circumstances of the accident, but she remembered nothing of what had happened since.

You Be the Judge

Dissociative Identity Disorder

The possibility that an individual may not be responsible for actions committed while one's multiple personalities are in control of the person's behavior leads to fascinating legal questions. Theoretically, of course, it's possible for one alter to commit a crime while the other alters, or even the host, is not aware or in control. Obviously, however, convicting one alter means that the host (along with all the other alters) is also put in prison. At another level, however, the question becomes one related to the legal definition of insanity. Is a person with dissociative identity disorder able to control his or her own mind if part of the mind has split off and is acting independently?

There are three possible approaches to defending a client who legitimately has this diagnosis. In the "alter-in-control" approach, the defendant claims that an alter personality was in control at the time of the offense. In the "each-alter" approach, the prosecution must determine whether each personality met the insanity standard. In the "host-alter" approach, the issue is whether the host personality meets the insanity standard.

Dissociative identity disorder is rarely successful as a legal defense after a public outcry following the ruling in 1974 that serial rapist Billy Milligan was insane due to lack of an integrated personality (*State v Milligan,* 1978). Since that time, cases have had a variety of outcomes, ranging from the judgment that multiple personalities do not preclude criminal responsibility (*State v Darnall,* 1980) to the ruling that alter personalities are not an excuse for inability to distinguish right from wrong (*State v Jones,* 1998). The courts threw out two more recent cases in Washington State (*State v Greene,* 1998) and West Virginia (*State v Lockhart,* 2000) on the grounds that lack of scientific evidence and/or adequate reliability standards do not exist in the diagnosis of the disorder (Farrell, 2010). The key issue for forensic psychologists and psychiatrists is determining the difference between malingering and the actual disorder (Farrell, 2011).

There are tools now available for expert clinicians to use in aiding accurate diagnosis. The Structured Clinical Interview for *DSM–IV* Dissociative Disorders–Revised (SCID-D-R) (Steinberg, 1994; see Table 1), which the profession has rigorously standardized, includes a careful structuring, presentation, and scoring of questions. The professionals who developed and conducted research on this instrument emphasize that only experienced clinicians and evaluators who understand dissociative diagnosis and treatment issues must administer and score these.

The *DSM-5* considers the diagnosis of dissociative identity disorder to be valid. The precedents created by rulings that the diagnosis is not admissible due to failure to meet scientific standards may, over time, thus be overturned. Nevertheless, the diagnosis is, at best, challenging, and potentially easy to feign, particularly if a clinician inadvertently plants the idea of using the diagnosis as a defense.

Q: *You be the judge:* Should dissociative identity disorder be considered admissible in criminal cases? Why or why not?

Assuming that people with dissociative disorders are reacting to trauma by developing dissociative symptoms, the treatment goal becomes primarily one of integrating the disparate parts of self, memory, and time within the person's consciousness. One approach is for clinicians to use hypnotherapy to help clients recall the traumatic experiences that seem to have caused the dissociation. Gradually, through post-hypnotic suggestion, clients may be able to bring those experiences back into conscious awareness.

Alternatively, clinicians can use cognitive-behavioral techniques to help clients develop a coherent sense of themselves and their experiences. Clients who are dissociating traumatic experiences may be able to benefit from questioning their long-held core assumptions about themselves that are contributing to their symptoms. For example, they may believe that they are responsible for their abuse, or that it is wrong for them to show anger toward their abusers, or that they can't cope with their painful memories. By

TABLE 1 **Items from the SCID-D-R**

Scale	Items
Amnesia	Have you ever felt as if there were large gaps in your memory?
Depersonalization	Have you ever felt that you were watching yourself from a point outside of your body, as if you were seeing yourself from a distance (or watching a movie of yourself)? Have you ever felt as if a part of your body or your whole being was foreign to you? Have you ever felt as if you were two different people, one going through the motions of life and the other part observing quietly?
Derealization	Have you ever felt as if familiar surroundings or people you knew seemed unfamiliar or unreal? Have you ever felt puzzled as to what is real and what's unreal in your surroundings? Have you ever felt as if your surroundings or other people were fading away?
Identity confusion	Have you ever felt as if there was a struggle going on inside of you? Have you ever felt confused as to who you are?
Identity alteration	Have you ever acted as if you were a completely different person? Have you ever been told by others that you seem like a different person? Have you ever found things in your possession (for instance, shoes) that belong to you, but you could not remember how you got them?

Steinberg, M. (1994). *Structured clinical interview for DSM-IV dissociative disorders—Revised (SCID-D-R).* Washington, DC: American Psychiatric Association.

confronting and then changing these cognitions, clients can gain a sense of control that will allow them to incorporate those memories into their sense of self.

It is also important for clinicians to attend to the comorbidity of a dissociative disorder with other symptoms, including post-traumatic stress disorder (Tsai, Armour, Southwick, & Pietrzak, 2015). Treatment of dissociative disorders often involves not only these disorders themselves, but also associated disorders of mood, anxiety, and post-traumatic stress.

MINI CASE

Depersonalization/Derealization Disorder

Robert entered the psychiatrist's office in a state of extreme agitation, almost panic. He described the terrifying nature of his "nervous attacks," which began several years ago, but had now reached catastrophic proportions. During these "attacks," Robert feels as though he is floating in the air, above his body, watching everything he does, but feeling totally disconnected from his actions. He reports that he feels as if his body is a machine controlled by outside forces: "I look at my hands and feet and wonder what makes them move." However, Robert's thoughts are not delusions. He is aware that his altered perceptions are not normal. The only relief he experiences from his symptoms comes when he strikes himself with a heavy object until the pain finally penetrates his consciousness. His fear of seriously harming himself adds to his main worry that he is losing his mind.

Individuals with somatic symptom disorder suffer from physical ailments beyond those explained by a medical condition.

9.2 Somatic Symptom and Related Disorders

In the group of disorders in which **somatic symptoms** are prominent, people experience physical problems and/or concerns about medical symptoms. The term *somatic* comes from the Greek word *soma,* meaning "body." Somatic symptom disorders are psychological in nature, because although people with these disorders may or may not have a diagnosed medical condition, they seek treatment for both their physical symptoms and associated distressing behaviors, thoughts, and feelings.

Though somatic symptom disorders are relatively rare, somatic symptom disorders may account for as many as 23 percent of people with medically unexplained symptoms (Steinbrecher, Koerber, Frieser, & Hiller, 2011). For example, over half of the patients referred to cardiologists for heart palpitations or chest pain are found, upon physical examination, not to have heart disease (Jonsbu, Dammen, Morken, Lied, Vik-Mo, & Martinsen, 2009).

The disorders in this category are fascinating, particularly as they make us think about the complex interplay between mind and body. They also make us realize that we may not always understand completely the role of physical conditions in contributing to psychological symptoms. These disorders also have an intriguing history, as among them were the antecedents of cases central to Freud's recognition of the role of the unconscious mind in personality.

Somatic Symptom Disorder

People with **somatic symptom disorder** have physical symptoms that may or may not be accountable by a medical condition; they also have maladaptive thoughts, feelings, and behaviors. These symptoms disrupt their everyday lives. People with this disorder think to a disproportionate degree about the seriousness of their symptoms, feel extremely anxious about them, and spend a great deal of time and energy to the symptoms or their concerns about their health.

somatic symptoms
Symptoms involving physical problems and/or concerns about medical symptoms.

somatic symptom disorder
A disorder involving physical symptoms that may or may not be accountable by a medical condition accompanied by maladaptive thoughts, feelings, and behaviors.

Somatic symptom disorder is relatively rare, but is present with higher than expected frequency among patients seeking treatment for chronic pain (Reme, Tangen, Moe, & Eriksen, 2011). In a small number of cases, the individual does suffer from a diagnosable medical condition, but his or her complaints are far in excess of what we customarily associate with the condition, and the person's impairment level is also much more extreme. Although it may appear that people with this diagnosis are intentionally manufacturing symptoms, they actually are not consciously attuned to the ways in which they express these psychological problems physically.

Clients may also experience pain to such a degree that their lives become consumed by the pursuit of relief. A diagnosable medical condition may exist, but the clinician regards the amount and nature of the pain as not accountable by this condition. There are also clients with pain disorder for whom no diagnosable medical condition exists. As a result of their symptoms, people with pain as their main symptom can find themselves in an endless pursuit of relief, spending considerable time and money looking for a cure, but unable to find one because there is no apparent physical cause.

Complicating the picture further in the diagnosis and treatment of somatic symptom disorder is the fact that the physical symptoms associated with these disorders may be linked to anxiety and depressive disorders. One large-scale survey of Dutch adults showed strong relationships between somatic symptoms and anxiety and depressive disorders (Bekhuis et al., 2015).

MINI CASE

Somatic Symptom Disorder, with Predominant Pain

Helen, a 29-year-old woman, is seeking treatment because her physician said there was nothing more he could do for her. When asked about her physical problems, Helen recited a litany of complaints, including frequent episodes when she could not remember what had happened to her and other times when her vision was so blurred that she could not read the words on a printed page. Helen enjoys cooking and doing things around the house, but she becomes easily fatigued and short of breath for no apparent reason. She often is unable to eat the elaborate meals she prepares, because she becomes nauseated and is prone to vomit any food with even a touch of spice. According to Helen's husband, she has lost all interest in sexual intimacy, and they have intercourse only about once every few months, usually at his insistence. Helen complains of painful cramps during her menstrual periods, and at other times says she feels that her "insides are on fire." Because of additional pain in her back, legs, and chest, Helen wants to stay in bed for much of the day. Helen lives in a large, old Victorian house, from which she ventures only infrequently "because I need to be able to lie down when my legs ache."

Illness Anxiety Disorder

People with **illness anxiety disorder** fear or mistakenly believe that normal bodily reactions represent the symptoms of a serious illness. They easily become alarmed about their health and seek unnecessary medical tests and procedures to rule out or treat their exaggerated or imagined illnesses. Their worry is not about the symptoms themselves, but about the possibility that they have a serious disease. In addition to experiencing anxiety over their illness, people with illness anxiety disorder are preoccupied with their mistaken beliefs about the seriousness of their symptoms. They may also turn to nonmedical abuse of prescription drugs, which in turn can expose the individual to harmful side effects as well as to dependence on the medications themselves (Jeffers et al., 2015).

illness anxiety disorder
A somatic symptom disorder characterized by the misinterpretation of normal bodily functions as signs of serious illness.

Conversion Disorder (Functional Neurological Symptom Disorder)

The essential feature of **conversion disorder (functional neurological symptom disorder)** is that the individual experiences a change in a bodily function not due to an underlying medical condition. The forms that the disorder can take range from movement abnormalities, such as difficulty walking or becoming paralyzed, to sensory abnormalities such as inability to hear or see.

The term "conversion" refers to the transformation of psychological conflict to physical symptoms presumed to underlie the disorder. The use of the term "functional neurological symptom disorder" in parentheses represents an alternative way of referring to the disorder that some clinicians may prefer. In some ways, it is more descriptive than "conversion," which has historic roots in Freudian psychoanalysis in which the assumption was made that psychological conflicts "convert" or transfer into what look like neurological symptoms, such as paralysis. "Functional," in this context, refers to abnormal functioning of the central nervous system. It is somewhat awkward to use the complete form of the disorder's name, so we will refer here to "conversion disorder" with the understanding that its formal title includes the parenthetical addition.

Clients with conversion disorder may show a wide range of physical ailments, including "pseudoseizures" (not real seizures, but appearing as such), disorders of movement, paralysis, weakness, disturbances of speech, blindness and other sensory disorders, and cognitive impairment. The symptoms can be so severe that clients are unable to work. Over half are bedridden or require assistive devices. Although clinicians must rule out

conversion disorder (functional neurological symptom disorder)
A somatic symptom disorder involving the translation of unacceptable drives or troubling conflicts into physical symptoms.

MINI CASE

Conversion Disorder, with Sensory Loss

Tiffany, a 32-year-old banker, thought she had already suffered more stress than one person could handle. She had always thought of herself as a person to whom weird things usually happened, and she commonly made more out of situations than was warranted. Driving down a snowy road one night, she accidentally hit an elderly man who was walking on the side of the road, causing a near fatal injury. In the months that followed, she became caught up in lengthy legal proceedings, which distracted her from her work and caused tremendous emotional stress in her life. On awakening one Monday morning, she found herself staggering around the bedroom, unable to see anything other than the shadows of objects in the room. At first, she thought she was just having a hard time waking up. As the morning progressed, however, she realized that she was losing her vision. She waited 2 days before consulting a physician. When she did go for her medical appointment, she had an odd lack of concern about what seemed like such a serious physical condition.

medical diagnoses before assigning a conversion disorder diagnosis, virtually all clients with these symptoms do not have a medical condition (Rosebush & Mazurek, 2011).

Conversion disorder is a rare phenomenon, affecting 1 to 3 percent of those whom clinicians refer for mental health care. The disorder, which often runs in families, generally appears between ages 10 and 35, and is more frequently observed in women and people with less education. Perhaps as many as half of individuals with conversion disorder also suffer from a dissociative disorder (Sar, Akyuz, Kundakci, Kiziltan, & Dogan, 2004). In fact, the *ICD-10* classifies conversion disorders as a form of dissociative disorder.

Clinicians face a significant challenge in diagnosing conversion disorder. They must ensure that a person who shows conversion-like symptoms actually does not have an underlying neurological deficit. The problem is exacerbated by the possibility that psychological factors, such as stress, translate into altered brain functioning, which in turn affects the individual's ability to move the affected body part (Ellenstein, Kranick, & Hallett, 2011). Given the difficulties in diagnosis, *DSM-5* emphasizes the importance of a thorough neurological examination in addition to follow-up to determine whether the symptoms represent an underlying medical condition (Hurwitz, 2004).

Conditions Related to Somatic Symptom Disorders

malingering
The fabrication of physical or psychological symptoms for some ulterior motive.

factitious disorder imposed on self
A disorder in which people fake symptoms or disorders not for the purpose of any particular gain, but because of an inner need to maintain a sick role.

factitious disorder imposed on another
A condition in which a person induces physical symptoms in another person who is under that person's care.

primary gain
The relief from anxiety or responsibility due to the development of physical or psychological symptoms.

Malingering involves deliberately feigning the symptoms of physical illness or psychological disorder for an ulterior motive such as receiving disability or insurance benefits. A diagnosis in *DSM-IV-TR*, malingering is not a diagnosis in *DSM-5*. Researchers believe that inferring the intent of the client should not be part of the diagnostic process (Berry & Nelson, 2010).

In **factitious disorder imposed on self,** people show a pattern of falsifying symptoms that are either physical, psychological, or a combination of the two. The individual falsifies these symptoms not to achieve economic gain, but for the purpose of adopting the sick role. In extreme cases, known more informally as Munchausen's syndrome, the individual's entire existence becomes consumed with the pursuit of medical care in which case it is called factitious disorder imposed on self. The individual may also feign the illness of someone else in cases of **factitious disorder imposed on another** (or Munchausen's syndrome by proxy).

Clinicians assume that clients engage in malingering in order to get a direct benefit, such as paid time off from work, insurance payments, or some other tangible reward. Some of these situations involve what we call **primary gain**—namely the direct benefits of occupying the sick role. The difficult issue that clinicians face in malingering cases is not trying to treat the symptoms, but to detect actual cases.

MINI CASE

Illness Anxiety Disorder, Care-Seeking Type

Beth is a 48-year-old mother of two children, both of whom have recently moved away from home. Within the past year, her menstrual periods have become much heavier and more irregular. Seeking an explanation, Beth began to spend days reading everything she could find on uterine cancer. Although medical books specified menstrual disturbance as a common feature of menopause, one newspaper article mentioned the possibility of uterine cancer. She immediately made an appointment with her gynecologist, who tested her and concluded that her symptoms were almost certainly due to menopause. Convinced that her physician was trying to protect her from knowing "the awful truth," Beth visited one gynecologist after another, in search of someone who would properly diagnose what she was certain was a fatal illness. She decided to give up her job as a department store clerk for two reasons. First, she was concerned that long hours of standing at the cash register would aggravate her medical condition. Second, she felt she could not be tied down by a job that was interfering with her medical appointments.

Factitious disorder presents a different clinical challenge. Clients deliberately feign or exaggerate symptoms, but they are not trying to achieve primary gain. They may be motivated by **secondary gain,** which is the sympathy and attention they receive from other people when they are ill. Unlike people with conversion disorder, people with factitious disorder are consciously producing their symptoms, but their motives are internally rather than externally driven. They "know" they are producing their symptoms, but they don't know why. People with conversion disorder, in other words, believe they are ill and rightfully assume the sick role. People who are malingering know that they are not ill, and therefore, any rewards they receive from sickness are illegally obtained (Kanaan & Wessely, 2010).

secondary gain
The sympathy and attention that a sick person receives from other people.

Theories and Treatment of Somatic Symptom and Related Disorders

The somatic symptom and related disorders have historical roots that go back to the time of Freud and the early psychoanalysts. Many of these psychoanalysts attempted to explain unusual cases by assuming patients' symptoms reflected underlying conflicts. At that time, they referred to conversion disorder as "hysteria" (meaning, literally, "wandering uterus"). They could not find a physiological basis for the symptoms, which tended to disappear after the individual received treatment through hypnosis or psychoanalysis, reinforcing the notion that the symptoms were psychologically based. Current understandings of these disorders tend to focus on anxiety symptoms that we can associate with them, and the cognitive distortions present in clients' thoughts about themselves and their symptoms.

Clinicians will give this diagnosis to individuals who have no physical symptoms, but who have had some form of trauma, either physical or psychological. These symptoms are best understood from a biopsychosocial perspective that takes into account the roles of unconscious conflict, learned behavior, and the body's reaction to stress (Ali et al., 2015). In keeping with Freud's general formulation of hysteria, clinicians working from a psychodynamic approach aim to identify and bring into conscious awareness the underlying conflicts that we associate with the individual's symptoms. Through this process, the client gains insight and self-awareness and becomes able to express emotion directly, rather than through his or her physical manifestation.

Cognitive-behavioral therapists attempt to help their clients with somatic symptom and related disorders identify and change their thoughts linked to their physical symptoms. The underlying model is based on the premise that people with these disorders are subject to cognitive distortions of normal bodily sensations. Once they start to

Hypnotherapy can be effective in helping individuals to recount memories that are too troubling to consciously recall.

exaggerate the importance of their symptoms, they become even more sensitized to internal bodily cues, which in turn leads them to conclude that they are truly ill (Witthoft & Hiller, 2010). In applying cognitive-behavioral therapy to clients with somatic symptom and related disorders, clinicians help their clients gain a more realistic appraisal of their body's reactions. For example, in one study, clients who had no cardiac illness, but who complained of palpitations or chest pain, were exposed to exercise on a treadmill while being taught to interpret their raised heartbeat not as a sign of disease but a normal reaction to exertion (Jonsbu, Dammen, Morken, Moum, & Martinsen, 2011).

Hypnotherapy and medication are two additional approaches that clinicians use specifically for treating conversion disorder. In hypnotherapy, the therapist instructs the hypnotized client to move the paralyzed limb. The therapist then makes the posthypnotic suggestion to enable the client to sustain the movement after the therapist brings the client out of the hypnotic trance. SSRIs are the medication that clinicians most likely use in treating conversion disorder, but there are almost no well-controlled investigations of their effectiveness (Rosebush & Mazurek, 2011).

Medical settings can be a source of significant anxiety for some individuals.

The most promising approach for treating people with illness anxiety involves cognitive-behavioral therapy. Clinicians base this approach on the assumption that underlying the disorder is an unusually high level of **health anxiety,** or undue concern about physical symptoms and illness. This kind of therapy focuses on teaching individuals to restructure their maladaptive beliefs about their physical symptoms and gain more realistic interpretations of their body's reactions. It also combines mindfulness training with cognitive-behavioral therapy. In this approach, clinicians encourage clients to gain an understanding of their symptoms. For example, clients who believe that they have cancer can learn to interpret their problem not as the fact that they have cancer, but that they fear having cancer (Sorensen, Birket-Smith, Wattar, Buemann, & Salkovskis, 2011).

Malingering and factitious disorder differ in important ways. As we discussed earlier, a client may be motivated to engage in malingering due to any one of several external incentives, including a desire to get out of work or school, evade criminal prosecution, obtain drugs, receive remuneration, avoid military service, or escape from an intolerable situation. People with factitious disorder don't know why they have their symptoms, even though they know that they fabricated them. In either case, the treatment of choice involves having the clinician directly confront the client (McDermott, Leamon, Feldman, & Scott, 2009).

What's in the *DSM-5*

Somatic Symptom and Related Disorders

The *DSM-5* brought a number of significant changes to the entire category of what we now call somatic symptom disorders. The authors of the *DSM-5* acknowledge that the terminology for what were called somatoform disorders in *DSM-IV-TR* was potentially confusing. They also recognize that somatic symptom disorders, psychological factors affecting other medical conditions, and factitious disorders all involve the presence of physical symptoms and/or concern about medical illness. Furthermore, they recognize that the mind and body interact, so that clinicians cannot separate physical symptoms from their psychological basis, or vice versa. Further complicating the prior system, according to the *DSM-5* authors, is the fact that it is never entirely possible to determine that a psychological symptom has no physical basis.

The term "illness anxiety disorder" replaced "hypochondriasis." Clinicians will give those individuals who have no physical symptoms but are highly anxious this diagnosis, specifying whether it involves care-seeking.

Conversion disorder now has functional neurological disorder in parentheses following the diagnosis indicating that the individual shows abnormal nervous system functioning. However, to receive the diagnosis, the person's symptoms cannot be explained by a nervous system disease. Individuals will need to have a full neurological examination before health care professionals determine that their symptoms have no neurological basis.

Other than improving the terminology, the *DSM-5* authors are hoping that their revisions will lead to improved data collection on this group of disorders.

Inconsistencies in the diagnostic criteria combine with the shifting landscape from the psychodynamic to the cognitive-behavioral as the main theoretical focus to produce a situation in which there are no solid epidemiological data on a group of disorders whose prevalence may now be more accurately estimated.

health anxiety
Undue concern about physical symptoms and illness.

9.3 Psychological Factors Affecting Other Medical Conditions

So far we have looked at disorders in which individuals are experiencing physical symptoms that do not have a physiological cause. The diagnostic category called **psychological factors affecting other medical conditions** includes conditions in which

psychological factors affecting other medical conditions
Disorder in which clients have a medical disease or symptom that appears to be exacerbated by psychological or behavioral factors.

MINI CASE

Psychological Factors Affecting Other Medical Conditions

Brenda is a 41-year-old manager of a large discount chain store. Despite her success, she struggles with an agitated depression, which causes her to feel impatient and irritable most of the time. She recognizes that her emotional problems relate to issues with her parents, and she resents the fact that she chronically suffers from an inner tension that has always been part of her personality. The youngest in a family of four children, she perceived that throughout her childhood she had to do "twice as much" as her siblings to gain her parents' attention and affection. Now, as an adult, she is caught up in a drive toward success that literally makes her physically sick. She has intense headaches and stomachaches on most days, yet she is reluctant to seek medical help, because she doesn't want to take time away from her work.

TABLE 2 Psychological Factors Affecting Other Medical Conditions

Medical Condition	Possible Psychological Factor
Hypertension (high blood pressure)	Chronic occupational stress increasing the risk of high blood pressure
Asthma	Anxiety exacerbating the individual's respiratory symptoms
Cancer	Denying the need for surgical interventions
Diabetes	Being unwilling to alter lifestyle to monitor glucose levels or reduce intake
Chronic tension headache	Continuing family-related stresses that contribute to worsening of symptoms
Cardiovascular disease	Refusing to visit a cardiac specialist for evaluation despite chest discomfort

a client's physical illness is adversely affected by one or more psychological states. These can include depression, stress, denial of a diagnosis, or engaging in poor or even dangerous health-related behaviors.

In Table 2 we outline several examples of medical conditions that may be affected by psychological factors. Specifying the interaction of psychological factors with medical conditions provides health professionals with a clearer understanding of how the two interact. Presumably, once identified, the clinician can address these issues and work to help the client's medical condition improve.

Relevant Concepts for Understanding Psychological Factors Affecting Other Medical Conditions

Mental disorders, stress, emotional states, personality traits, and poor coping skills are just some of the psychological factors that can affect an individual's medical conditions. This category of disorders acknowledges the complex interactions through which psychological and physical conditions can affect each other.

Stress and Coping

stress
The unpleasant emotional reaction that a person has when an event is perceived as threatening.

stressful life event
An event that disrupts the individual's life.

coping
The process through which people reduce stress.

Within psychology, the term **stress** refers to the unpleasant emotional reaction a person has when he or she perceives an event to be threatening. This emotional reaction may include heightened physiological arousal, reflecting increased reactivity of the sympathetic nervous system. A **stressful life event** is a stressor that disrupts the individual's life. A person's efforts to reduce stress is called **coping.** It is when coping is unsuccessful, and the stress does not subside, that the individual may seek clinical attention for medical or psychological problems that have developed as a consequence of the constant physiological arousal caused by chronic stress.

What are the types of events that qualify as stressors? The most common way to describe stressors is through stressful life event rating scales, which are intended to quantify the degree to which individuals were exposed to experiences that could threaten their health. One of the best known of these is the Social Readjustment Rating Scale (SRRS) (Holmes & Rahe, 1967), which assesses life stress in terms of life change units (LCUs). In developing the LCU index, researchers calculated how strongly each type of

event was associated with physical illness. The rationale behind this measure is that the more an event causes you to have to adjust your life circumstances, the more deleterious it is to your health. The College Undergraduate Stress Scale (CUSS) (Renner & Mackin, 1998) is a good example of a stressful life events scale. Unlike the SRRS, which is used on adults of all ages, the CUSS assesses the kinds of stressors most familiar to traditional-age college students (90 percent of the people in the sample were under age 22). The most stressful event in the CUSS is rape, which has an LCU score of 100. Talking in front of class has a score of 72, however, which is also relatively high. Getting straight As has a moderately high score of 51. The least stressful event on the CUSS is attending an athletic event (LCU score = 20).

Life events scales have merits because they are relatively easy to complete and they present a set of objective criteria allowing us to compare people along scales having set values. However, it is not always easy to quantify stress. You and your best friend may each experience the same potentially stressful event, such as being late for class, but you may be far more perturbed by this situation than your friend. Your day will be far less pleasant than your friend's, and if you were repeatedly late, you might be at risk for a stress-related illness.

Cognitive stress models place greater emphasis on how you interpret events rather than on whether you experienced a given event. According to these models, it's the appraisal of an event as stressful that determines whether it will have a negative impact on your emotional state. Not only do people differ in how they interpret events, the circumstances surrounding the event also affect them. If your friend's professor doesn't take class attendance, but yours does, this would help explain why you feel more stressed about being late than your friend.

As this example shows, stress is in the eye of the beholder, or at least in the beholder's mind. Even a relatively minor event can lead you to experience stress if you interpret it negatively. The cognitive stress model assumes, furthermore, that these "little" events can have a big impact, especially when they build up in a short period of time. Events called **hassles** can have significant effects on health when there are enough of them, and you interpret them negatively. If you are not only late for class, but get into an argument with your friend, stub your toe, spill your coffee, and miss your bus home, you will have as many potentially stress-causing events in one afternoon as someone experiencing a "bigger" life event such as going out on a first date.

On the positive side, you can balance your hassles with what researchers call **uplifts,** which are events on a small scale that boost your feelings of well-being.

hassle
A relatively minor event that can cause stress.

uplifts
Events that boost your feelings of well-being.

This woman's anger-control problems make it difficult for her to deal with everyday situations in a rational, calm manner.

Perhaps you open up your Facebook page and find a pleasant greeting from a former high school acquaintance. The smile this greeting brings to your face can help make up for some of the stress you might have felt at your being late, stubbing your toe, or missing your bus. Uplifts are especially important within the positive psychology movement, which views them as contributing to people's feelings of day-to-day happiness.

It's wonderful when life sends a few uplifts your way, but when it doesn't, you need to find other ways to reduce stress through the use of coping if you are to maintain your mental health. The two basic ways of coping are **problem-focused coping** and **emotion-focused coping** (Lazarus & Folkman, 1984). In problem-focused coping, you attempt to reduce stress by acting to change whatever it is that makes the situation stressful. If you're constantly late for class because the bus is overcrowded and tends to arrive 5 or 10 minutes after it's supposed to, then you would cope by getting an earlier bus, even if it means you have to wake up earlier than necessary. In contrast, in emotion-focused coping, you don't change the situation, but instead change the way you feel about it. Maybe your professor doesn't care if you're a little bit late so you shouldn't be so hard on yourself. Avoidance is another emotion-focused strategy. This coping method is similar to the defense mechanism of denial. Rather than think about a stressful experience, you just put it out of your mind.

problem-focused coping
Coping in which the individual takes action to reduce stress by changing whatever it is about the situation that makes it stressful.

emotion-focused coping
A type of coping in which a person does not change anything about the situation itself, but instead tries to improve feelings about the situation.

Which is the better of the two ways of coping? The answer is, it depends. People cope with some situations more effectively through problem-focused coping. In changeable situations, you are most likely better off if you use problem-focused coping. If you're stressed because your grades are in a slump, rather than not think about the problem, you would be well advised to try to change the situation by studying harder. If you're stressed because you lost your cell phone, and you truly cannot find it, then you may be better off by using emotion-focused coping such as telling yourself you needed a newer model anyhow.

As people get older, they are able to use coping strategies that more effectively alleviate their stress, perhaps because they are better able to tolerate the mixed emotions that come with experiencing life's highs and lows (Schneider & Stone, 2015). In comparing a sample of community-dwelling older adults with college undergraduates, for example, Segal, Hook, and Coolidge (2001) found that younger adults received higher scores on the dysfunctional coping strategies of focusing on and venting emotions, mentally disengaging, and using alcohol and drugs. Older adults, in contrast, were more likely to use impulse control and turn to their religion as coping strategies. These findings are in keeping with those of other researchers (Labouvie-Vief & Diehl, 2000), which indicated that older adults use more problem-focused coping and other strategies that allow them to channel their negative feeling into productive activities. It may in fact be their better use of coping strategies that accounts for their resilience in the face of the stresses associated with caregiving for an ill spouse or other relative (Fortinsky, Tennen, & Steffens, 2013).

Drinking alcohol to cope with stress is a maladaptive coping strategy, as it can cause further problems for the stressed individuals, particularly if they drink to excess.

Coping strategies can play an important role, then, in whether an individual will suffer health problems. A person who is able to manage stress effectively experiences fewer adverse consequences of stress. Furthermore, as you may know from personal experience, situations that create high levels of stress in a person do not always have negative consequences. Some people thrive on a lifestyle filled with challenges and new experiences, feeling energized by being under constant pressure, as shown in a classic study by DeLongis, Folkman, and Lazarus (1988).

Stress plays an important role in a variety of medical conditions through its interaction with immune status and function (Schneiderman, Ironson, & Siegel, 2005). A stressful event can

initiate a set of reactions within the body that lowers its resistance to disease. These reactions can also aggravate the symptoms of a chronic, stress-related physical disorder.

There are a number of paradoxical findings from research on stress, immune functioning, and health. Both too much and too little stress can place the individual at risk for developing poor health outcomes, ranging from heart disease to Alzheimer's disease to some forms of cancer. Having too much stress obviously has negative consequences, but having too little stress means that a person's life lacks challenge and stimulation. Additionally, although having a large social support network has its benefits, if an individual's social network is too large, this may create stress of its own. In terms of personality, having a generally optimistic stance toward life is usually beneficial, but in the face of difficult or long-term stressors, optimism is associated with poorer immune functioning and, ultimately, negative health outcomes (Segerstrom, Roach, Evans, Schipper, & Darville, 2010).

Sociocultural factors also play a role in causing and aggravating stress-related disorders. For example, living in a harsh social environment that threatens a person's safety, interferes with the establishment of social relationships, and involves high levels of conflict, abuse, and violence are conditions related to lower socioeconomic status. Chronic exposure to the stresses of such an environment can lead to a number of changes in hormones that ultimately have deleterious effects on cardiovascular health, interacting with an individual's genetic and physiological risk. Both cardiovascular health and immune system functioning seem to be sensitive to the degree of stress a person experiences as a function of being lower in socioeconomic status. The limbic system, which mediates a person's responses to stress, seems to play a large role in accounting for these connections between social class and health (McEwen & Gianaros, 2010).

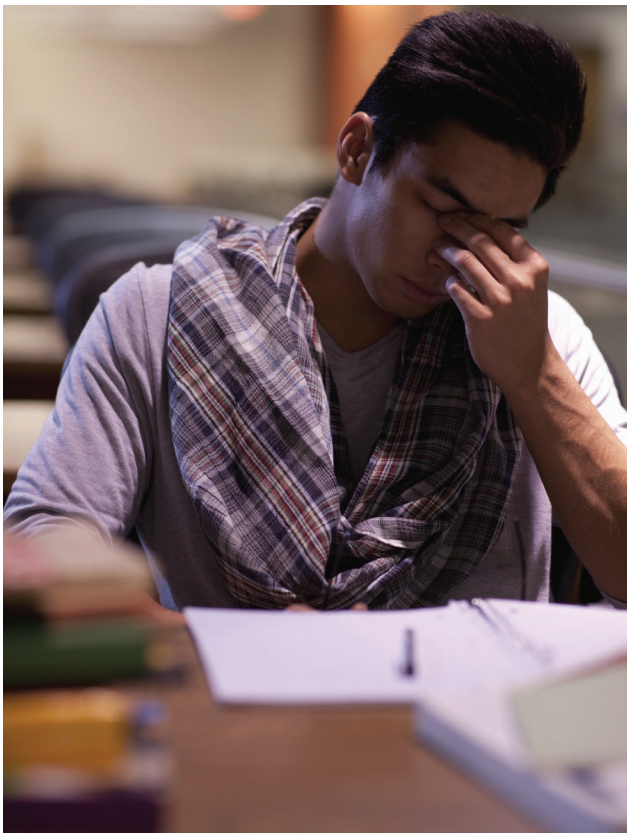
Emotional Expression

Coping with stress can help you control the emotion of anxiety and hence reduce your levels of perceived stress. However, there are times when expressing your emotions can improve your physical and mental well-being. Actively confronting the emotions that arise from an upsetting or traumatic event can have long-term health benefits (Pennebaker, 1997). In one classic study, researchers instructed a group of first-year college students to write about the experience of coming to college. A control group wrote about superficial topics. Those who wrote about coming to college actually reported that they were more homesick than the control subjects. They made fewer visits to physicians, however; and by the end of the year, the students who wrote were doing as well as or better than the control subjects in terms of grade point average and the experience of positive moods. The researchers concluded that confronting feelings and thoughts regarding a stressful experience can have long-lasting positive effects, even though the initial impact of such confrontation may be disruptive (Pennebaker, Colder, & Sharp, 1990).

Pennebaker and his colleagues have expanded their findings to a variety of populations. In a meta-analysis of 146 randomized studies, disclosure had a positive and significant effect for people with a wide range of emotional concerns (Frattaroli, 2006). More recently, researchers have even identified positive mental health effects of writing on social media sites, including blogging (Ko & Kuo, 2009).

It is important, nevertheless, to keep in mind that although the person expressing these feelings may feel better, the person who listens to the retelling of a sad or difficult story may suffer negative emotional consequences (Kellas, Horstman, Willer, & Carr, 2015). This is one of

Children who are bullied at school may suffer long-term psychological consequences.



Stressful life events, such as moving away to college, can be damaging to physical health if the individual has difficulty coping with stress they may be experiencing.

the reasons individuals who work in the helping professions may experience burnout, otherwise known as "compassion fatigue" (West, 2015).

Personality Style

One of the most thoroughly researched areas investigating the connection between personality and health involves the **type A behavior pattern,** a pattern of behaviors that include being hard driving, competitive, impatient, cynical, suspicious of and hostile toward others, and easily irritated (Table 3).

People with a type A behavior pattern experience high levels of emotional arousal that keep their blood pressure and sympathetic nervous system on overdrive, placing them at risk for developing heart disease and at greater risk for heart attacks and stroke. Not only are people with the type A behavior pattern at high risk because their bodies are placed under stress, but their hard-driving and competitive lifestyles often include high-risk behaviors of smoking, drinking alcohol to excess, and failure to exercise (Mainous, Everett, Diaz, Player, Gebregziabher, & Smith, 2010).

Another significant personality risk factor for heart disease occurs among people who experience strong depressive affect, but keep their feelings hidden—the so-called **type D personality.** Unlike the "A" in type A, which is not an acronym, the "D" in type D stands for "distressed." Type D personalities experience emotions that include anxiety, irritation, and depressed mood. These individuals are at increased risk for heart disease due to their tendency to experience negative emotions while inhibiting the expression of these emotions when they are in social

type A behavior pattern
Pattern of behaviors that include being hard driving, competitive, impatient, cynical, suspicious of and hostile toward others, and easily irritated.

type D personality
People who experience emotions that include anxiety, irritation, and depressed mood.

TABLE 3 Are You Type A?

The Jenkins Activity Survey assesses the degree to which a person has a coronary-prone personality and behavior pattern. People with high scores, referred to as Type A, tend to be competitive, impatient, restless, aggressive, and pressured by time and responsibilities. In the items below, you can see which responses would reflect these characteristics.

Do you have trouble finding time to get your hair cut or styled?
Has your spouse or friend ever told you that you eat too fast?
How often do you actually "put words in the person's mouth" in order to speed things up?
Would people you know well agree that you tend to get irritated easily?
How often do you find yourself hurrying to get to places even when there is plenty of time?
At work, do you ever keep two jobs moving forward at the same time by shifting back and forth rapidly from one to the other?

situations. In addition to being at higher risk of becoming ill or dying from heart disease, these individuals have reduced quality of daily life and benefit less from medical treatments. Psychologists think that the link between personality and heart disease for these people is, in part, due to an impaired immune response to stress (Denollet & Pedersen, 2011).

Applications to Behavioral Medicine

Because psychological factors that contribute to a medical condition have such a wide range, clinicians must conduct a careful assessment of how each particular client's health is affected by behavior. The field of **behavioral medicine** applies the growing body of scientific evidence regarding mind-body relationships to helping improve people's physical health by addressing its relationships to the psychological factors of stress, emotions, behavior patterns, and personality. In addition, clinicians working in behavioral medicine often team up with psychologists and other mental health professionals to help clients adopt strategies to learn and maintain behaviors that will maximize their physical functioning. By improving patient compliance with medical illnesses, these clinicians can help clients to achieve better health and avoid further complications (Wilson, 2015).

behavioral medicine
An interdisciplinary approach to medical conditions affected by psychological factors that is rooted in learning theory.

Psychoeducation is an important component of behavioral medicine. Clients need to understand how their behavior influences the development or worsening of the symptoms of chronic illness. Then, the clinician can work with clients to develop specific ways to improve their health habits. For example, diet control and exercise are key to preventing and reducing the serious complications of cardiovascular disease. The clinician can teach clients ways to build these new health habits into their daily regimens. Similarly, the clinician can train people with sleep disorders to improve their sleep habits. People can manage chronic pain, which contributes to depressive symptoms, through strategies such as biofeedback.

Clients can also learn how to manage stress and improve their coping methods. For people who have a personality style that may be contributing to their symptoms, the task becomes more challenging. Psychotherapy provides a useful adjunct to medical care. In the case of people who suffer myocardial infarctions (heart attacks), which often trigger depression, it is crucial for health care personnel to address the client's emotional *and* physical reactions to the experience.

Behavioral medicine is also moving increasingly toward interventions that the profession once considered "alternative" (i.e., alternative to traditional medicine), including mindfulness training, relaxation, and meditation. The clinician teaches clients to monitor without judging their internal bodily states (such as heart rate and breathing), as well as their perceptions, affective states, thoughts, and imagery. By doing so, they can gain self-control over their body's reactions. With regard to their health, by observing their bodily reactions in this objective fashion, clients gain a more differentiated understanding of which aspects of their experiences illness affects and which it does not. Clients can see their ailments as having natural roles and not impeding their ability to enjoy life in general (Carmody, Reed, Kristeller, & Merriam, 2008).

For example, people with a type A behavior pattern can benefit from training aimed at improving awareness of their reactions to stress, methods of coping with stressful situations, and behavioral interventions intended to improve their compliance with medical advice aimed at reducing their cardiovascular risk. Particularly important is a sense of mastery—namely, clients' belief that they have the ability to cope with or control the problems they encounter in life. People who feel they are in greater control over their life circumstances have a reduced risk of developing cardiovascular and related health problems (Roepke & Grant, 2011). Increasingly, clinicians are finding that efforts to improve people's health by addressing only their medical needs will not have the long-term desired effects unless the clinicians also incorporate these psychological issues into treatment.

9.4 Dissociative and Somatic Symptom Disorders: The Biopsychosocial Perspective

Although distinct, the disorders we've covered in this chapter share the features of involving complex interactions between the mind and body, questions about the nature of the self, and distinctions between "real" and "fake" psychological symptoms. We've also examined the role of stress in psychological disorders and in relation to medical illnesses and physical symptoms.

Biology clearly plays a role in making some individuals more vulnerable to psychological disorders, and particularly so in these disorders. A person may have a known or undiagnosed physical condition that certain stressors particularly affect, which then trigger the symptoms for a somatic symptom or related disorder. However, whatever the role of biology, cognitive-behavioral explanations provide useful approaches for treatment. Even people whose medical condition is clearly documented, as in chronic pain disorder, can benefit from learning how to reframe their thoughts about their disorder if not their actual health-related behaviors. At the same time, we are learning more about how stress affects physical functioning, including the impact of social discrimination on chronic conditions such as heart disease and diabetes.

It is quite likely that the mind-body connections involved in these disorders will come under even closer scrutiny as work on *DSM-5* evolves. The historical connections will fade between these so-called "neurotic" disorders that seemed to affect many of Freud's patients. Nevertheless, they will maintain their fascination, if not their nomenclature.

Return to the Case: Rose Marston

Rose underwent 16 weekly individual therapy sessions, focusing on specific CBT techniques such as psychoeducation, self-monitoring techniques where she recorded the number of minutes spent per day thinking about her symptoms, cognitive restructuring techniques, exposure and response prevention, and perceptual retraining exercises. These exercises focused on teaching Rose to look at her body in a more holistic, objective way and taking the focus away from her stomach. During each session, Rose and her therapist discussed what happened during the previous week, reviewed "homework," and set an agenda for the session. Using this highly structured approach, Rose began to feel relief from her symptoms after the first few weeks of treatment. In addition, Rose began to treat her lactose intolerance through a combination of diet control and over-the-counter medication. By the end of the 16 weeks, Rose's pain was gone; and she had reconciled with her boyfriend, recognizing the strain it put on their relationship by her constant concerns over her stomach pain. Rose's depression had also lifted, and she and her clinician agreed that taking an antidepressant would not be necessary. Rose continued to visit her clinician once per month for check-in visits, to revisit her progress and assess for recurrence of symptoms.

Dr. Tobin's reflections: Rose's apparent sensitivity to her rather mild physical symptoms likely contributed to her previous depression. Though her depression had been temporarily treated with antidepressants, it was clear that her concerns continued to persist until the concomitant stressors of losing her boyfriend and her job led to an exacerbation of symptoms. It was helpful in Rose's case that she was highly motivated for treatment, which contributed to her positive treatment outcome. Although individuals with somatic symptom disorder may be uncomfortable disclosing the extent of their symptoms and thoughts about them, Rose's motivation for treatment allowed her to reveal the extent of her thoughts and beliefs about her stomach discomfort. This information allowed her clinician to successfully tailor treatment to her specific concerns. Although Rose will require constant monitoring of her lactose intake, she fortunately will be able to keep her physical symptoms under control, which will ameliorate the source of her psychological preoccupation and distress.

SUMMARY

- This chapter covered three sets of conditions: dissociative disorders, somatic symptom disorders, and psychological factors affecting other medical conditions. In each of these sets of conditions, the body expresses psychological conflict and stress in an unusual fashion.
- Dissociative disorders occur when the human mind seems capable of dissociating, or separating, mental functions. Major forms of dissociative disorders include dissociative identity disorder (DID), dissociative amnesia, depersonalization, derealization, and depersonalization/derealization disorder.
- Among mental health professionals, the general viewpoint regarding dissociative disorders is that some type of traumatic event leads people with these disorders to experience a splitting apart of their conscious experiences, sense of self, or feelings of continuity over time. Clinicians, nevertheless, face a daunting task both in diagnosing and treating an individual's dissociative symptoms.
- Somatic symptom and related disorders are a group of conditions in which an individual's major symptoms involve what the individual experiences as physical problems and/or concerns about medical illness. Illness anxiety disorder involves mistaken fears about normal bodily reactions.
- Somatic symptom disorder involves the expression of psychological issues through bodily symptoms that any known medical condition cannot explain, or as due to the effects of a substance.
- The essential feature of conversion disorder (functional neurological symptom disorder) the individual experiences a change in a bodily function not due to an underlying medical condition. The term "conversion" refers to the presumed transformation of psychological conflict to physical symptoms. The difference between somatic symptom disorder and conversion disorder is that the former involves multiple and recurrent bodily symptoms, rather than a single physical complaint.
- Conditions related to somatic symptom disorders include malingering, the deliberate feigning of symptoms of physical illness or psychological disorder for an ulterior motive such as receiving disability or insurance benefits; and factitious disorder where people show a pattern of falsifying symptoms that are either physical, psychological, or a combination of the two.
- The diagnostic category that we call psychological factors affecting other medical conditions includes conditions in which a client's physical illness is adversely affected by one or more psychological states such as depression, stress, denial of a diagnosis, or engaging in poor or even dangerous health-related behaviors.
- Mental disorders, stress, emotional states, personality traits, and poor coping skills are just some of the psychological factors that can affect an individual's medical conditions. This category of disorders acknowledges the complex interactions through which psychological and physical conditions can affect each other.
- Coping can help regulate the emotion of anxiety and hence reduce stress. However, there are times when expressing emotions can improve both physical and mental well-being. Actively confronting the emotions that arise from an upsetting or traumatic event can have long-term health benefits.
- Because psychological factors that contribute to a medical condition have such a wide range, clinicians must conduct a careful assessment of how each particular client's health is affected by behavior. The field of behavioral medicine applies the growing body of scientific evidence regarding mind-body relationships to helping improve people's physical health by addressing its relationships to the psychological factors of stress, emotions, behavior patterns, and personality.
- Biology clearly plays a role in making some individuals more vulnerable to psychological disorders, and particularly so in these disorders. A person may have a known or undiagnosed physical condition that may be affected by certain stressful life events, which then trigger the symptoms for a somatic symptom disorder. However, whatever the role of biology, cognitive-behavioral explanations provide useful approaches for treatment.

KEY TERMS

Behavioral medicine
Conversion disorder (functional neurological symptom disorder)
Coping
Depersonalization
Depersonalization/derealization disorder
Derealization
Dissociative amnesia
Dissociative identity disorder (DID)
Emotion-focused coping
Factitious disorder imposed on another
Factitious disorder imposed on self
Fugue
Hassle
Health anxiety
Illness anxiety disorder
Malingering
Primary gain
Problem-focused coping
Psychological factors affecting other medical conditions
Secondary gain
Somatic symptom disorder
Somatic symptoms
Stress
Stressful life event
Type A behavior pattern
Type D personality
Uplifts

Feeding and Eating Disorders; Elimination Disorders; Sleep-Wake Disorders; and Disruptive, Impulse-Control, and Conduct Disorders

OUTLINE

Case Report: Rosa Nomirez

Eating Disorders

- Characteristics of Anorexia Nervosa

Real Stories: Portia de Rossi: Anorexia Nervosa and Bulimia Nervosa

- Characteristics of Bulimia Nervosa
- Binge-Eating Disorder
- Theories and Treatment of Eating Disorders

What's in the *DSM-5*: Reclassifying Eating, Elimination, Sleep-Wake, and Disruptive, Impulse Control, and Conduct Disorders

- Avoidant/Restrictive Food Intake Disorder
- Eating Disorders Associated with Childhood

Elimination Disorders

Sleep-Wake Disorders

Disruptive, Impulse-Control, and Conduct Disorders

- Oppositional Defiant Disorder
- Intermittent Explosive Disorder
- Conduct Disorder
- Impulse-Control Disorders
  - Pyromania
  - Kleptomania

You Be the Judge: Legal Implications of Impulse-Control Disorders

Eating, Elimination, Sleep-Wake, and Impulse-Control Disorder: The Biopsychosocial Perspective

Return to the Case: Rosa Nomirez

Summary

Key Terms

Learning Objectives

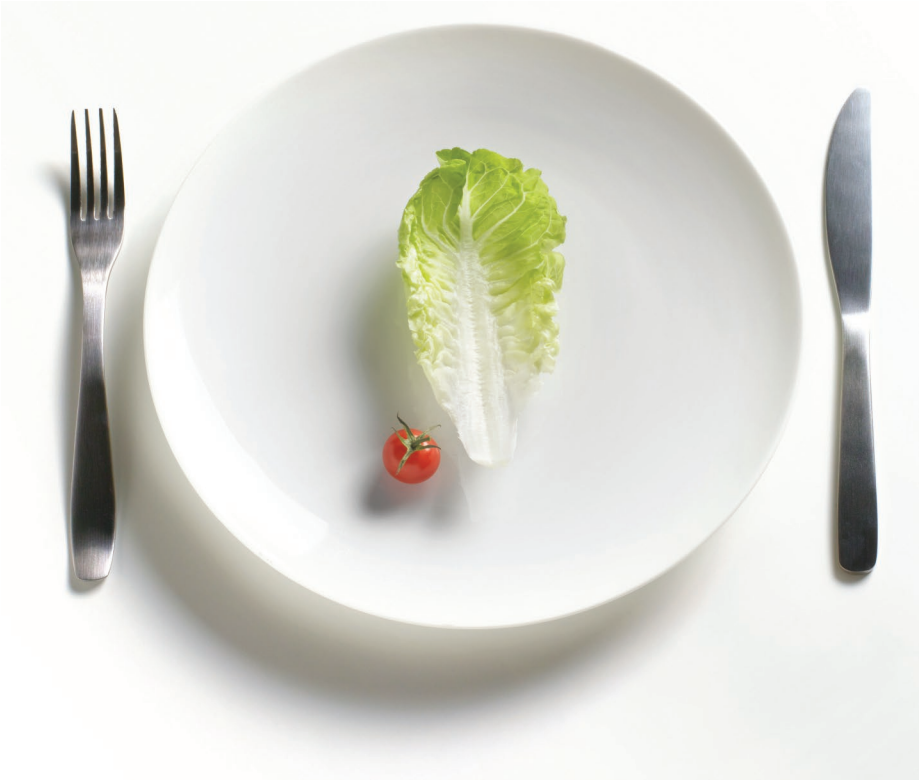
10.1 Identify characteristics, theories, and treatments of eating disorders.

10.2 Understand symptoms and theories of elimination disorders.

10.3 Recognize indicators of sleep-wake disorders.

10.4 Differentiate among disruptive, impulse-control, and conduct disorders.

10.5 Analyze the biopsychosocial model for eating, elimination, sleep-wake, and impulse-control disorders.



CHAPTER 10

Case Report: Rosa Nomirez

Demographic information: 25-year-old Hispanic female.

Presenting problem: Rosa self-referred to a community mental health center for feelings of depression. During the intake evaluation, Rosa stated that she had been feeling down and depressed for several months, and since her depression had not remitted on its own, she decided to seek treatment. She stated this was not an easy decision for her, as she usually was able to handle difficult emotions on her own. Rosa also reported that those close to her were worried about her health and had been urging her for some time to seek treatment, although she stated that she couldn't understand why they were concerned. The clinician noted that Rosa appeared severely underweight and frail. Rosa stated she was feeling depressed, mainly because as she described, "I feel like a fat monster all of the time." Rosa estimated that these feelings originated while she was pregnant with her daughter, now 14 months old. She had stopped working after giving birth in order to focus on raising her daughter, while her husband provided for the family. Rosa stated that she had a difficult time returning to her normal weight after giving birth, and that she believed she still appeared to look pregnant. She remarked, "All I can see in the mirror is my stomach and how enormous it makes me look all over." She reported that she did not know her current weight and that she was afraid to weigh herself for fear that she was continuing to gain weight. She exclaimed, "I feel so ashamed that I am so fat still. I feel like I'll never look normal again."

Rosa reported that she followed a diet consisting of about 300 to 400 calories per day, and that she had been "working her way down" in terms of daily caloric consumption ever since her concerns about her weight began. At that time, Rosa had searched for diet tips on an Internet search engine. She discovered an online community devoted to supporting women who wanted to lose weight and stay thin. These "pro-ana" sites as she described them offered her support from other users, as well as helpful tips for not only how to restrict her caloric intake, but how to hide it from others whose concern she saw as bothersome and interfering with her goals of losing weight. She had been using the sites daily for about 6 months. Her husband discovered the sites on their computer, and recognizing the danger they posed, pleaded with Rosa to stop using them. She stated that she didn't understand why he didn't want her using the sites, as maintaining a low body weight was so important to her, and the thought of gaining weight caused her intense feelings of anxiety.

Although she stated that she rarely felt interested in sex and had not gotten her menstrual period for about 4 months, Rosa explained that she and her husband had been trying to have another child for about 6 months. The clinician asked about any other physiological changes that she had noticed. Rosa stated she felt tired much of the time, but beyond that, she denied any difficulties. "I usually just think about my daughter and about staying thin. There isn't really time to worry about much else." She further stated that while out in public, she often compares her body to others. This had become a source of overwhelming anxiety and so she typically preferred to stay home so she didn't feel "judged for being fat" as she explained.

According to Rosa, her family had been "constantly bothering" her about her weight. "They just don't understand how I feel. They try to force me to eat and it just makes me feel so uncomfortable and depressed. It feels like they are mocking me

Case Report *continued*

because they know how disgusting I am, so I usually just avoid spending time with them now." She reported that her parents emigrated from Colombia when she was an infant. Since then several other relatives have moved close by and although Rosa described the family as close knit, she explained that it was difficult for the older members of her family to understand the differences between Colombian and American culture where she felt a pressure to be thin and attractive. "It's just not that way where they are from, and so they don't know what it's like for me."

Relevant history: Rosa reported that as a teenager she occasionally had episodes of bingeing and purging by vomiting, although she found the effects of the purging aversive. She explained that she has been concerned about her body weight "for as long as I can remember," and that she generally tries to maintain a low body weight. However, her restrictive eating behaviors became more severe following the birth of her daughter. She denied a family history of eating disorders.

Case formulation: Rosa meets diagnostic criteria for anorexia nervosa, binge-eating/purging type. Criterion A states the individual must maintain a body weight significantly lower than what is expected for age and height. With permission, the clinician obtained Rosa's weight from her most recent physician visit, and determined that her weight was below 85 percent of her expected weight—a significant amount lower than what would be minimally expected for a woman her age. She also meets Criterion B because she has been intensely fearful of gaining weight even though she is of lower than average body weight. Rosa meets Criterion C because she fails to recognize the seriousness of her low body weight.

Although Rosa reported often feeling depressed, the clinician determined that her mood symptoms are secondary to the anorexia diagnosis. Essentially, it appears that her feelings of depression are directly related to her heightened concern about her weight, therefore the clinician will not give her an additional diagnosis of depression. It is clear that Rosa's concern about her weight has alienated her from those to whom she is closest, namely her husband and her immediate family.

Treatment plan: Rosa was resistant to the clinician's advice that she should receive treatment for her anorexia. With her permission, the clinician reached out to her husband and family who agreed that treatment was crucial for her. After discussing the matter with her husband, she agreed to present for an initial consultation at a day treatment program that specializes in treating eating disorders. After the evaluation there, Rosa decided that pursuing treatment would be the best decision for her family, and would help reduce her feelings of depression. Rosa agreed to sign a contract to participate in the treatment program for at least 2 months.

Sarah Tobin, PhD

The disorders that we cover in this chapter include eating disorders, elimination disorders, and a range of disorders in which individuals exhibit a lack of control over their impulses. Eating disorders involve difficulties that individuals have regarding food and control over their eating, dieting, or elimination of food. Elimination disorders specifically involve difficulties that affect primarily children or adolescents who are have difficulty controlling the biological functions of urination and defecation, generally due to psychological disturbances. Sleep-wake disorders similarly involve control over biological processes that often have a relationship to psychological functions. Finally, the impulse-control disorders reflect disturbances in the individual's ability to regulate one or more of a range of behaviors related to particular desires, interests, and the expression of emotions.

eating disorders
Diagnosis for people who experience persistent disturbances of eating or eating-related behavior that result in person's altering the consumption or absorption of food.

10.1 Eating Disorders

People who have **eating disorders** experience persistent disturbances of eating or eating-related behavior that result in changes in how they eat or retain their food. These disorders go beyond dieting or occasional overeating, significantly impairing the individual's physical and psychosocial functioning.

Characteristics of Anorexia Nervosa

Clinicians diagnose an individual as having **anorexia nervosa (AN)** when he or she shows three basic types of symptoms: severely restricted eating, which leads to an abnormally low body weight; intense and unrealistic fear of getting fat or gaining weight; and disturbed self-perception of body shape or weight. In other words, people with this eating disorder restrict their food intake, become preoccupied with gaining weight, and feel that they are already overweight even though they may be seriously underweight. *DSM-IV-TR* used "intense fear" of gaining weight as a criterion, but *DSM-5* replaced this subjective assessment with behavior ("persistent behavior that interferes with weight gain"). Within the AN category, the *DSM-5* offers a classification of "restricting type," meaning no binge eating, and "binge-eating/purging type," which requires both forms of disordered eating patterns.

In addition to the psychological consequences of AN, the depletion of nutrients in people who receive the diagnosis leads them to develop a series of serious health changes that can even be life threatening. Over time, their bones, muscles, hair, and nails become weak and brittle; they develop low blood pressure, slowed breathing and pulse; and they become lethargic, sluggish, and easily fatigued. The alterations in their dietary patterns lead to abnormal gastrointestinal system function. Changes in their hormones caused by constant food deprivation can also lead them to become infertile. Perhaps, due to the association of AN with depressive symptoms, they are more likely to have disturbed sexual functioning (Gonidakis, Kravvariti, & Varsou, 2015). Most seriously, chronic food deprivation leads to damage in the body's vital organs and brain, and it is this damage that can prove fatal.

Individuals with anorexia nervosa experience distress associated with feeling "fat" despite having a low body weight.

There are now well-established findings that document the higher risk of mortality in people with AN followed over time. The longer they have the disorder, the greater their risk (Franko et al., 2013). Although the majority of deaths from AN occur in young adults, a Norwegian study of AN-related deaths found that 43 percent of the deaths occurred in women age 65 and older (Reas et al., 2005). Women with AN die not only

anorexia nervosa (AN)
An eating disorder characterized by an inability to maintain normal weight, an intense fear of gaining weight, and distorted body perception.

MINI CASE

Anorexia Nervosa Restricting Type

Kayla is an 18-year-old first-year college student who, since leaving home to go to school, has been losing weight steadily. Initially, Kayla wanted to lose a few pounds, thinking this would make her look sexier. She stopped eating at the cafeteria, because they served too many starchy foods, choosing instead to prepare her own low-calorie meals. Within 2 months, she became obsessed with dieting and exercise and with a fear that she might gain weight and become fat. She stopped menstruating, and her weight dropped from 110 to 80 pounds. Regardless of the repeated expressions of concern by her friends that she appeared emaciated, Kayla insisted that she was fat. When Kayla went home for Thanksgiving break, her parents were so alarmed that they insisted that she go for professional help.

REAL STORIES

Portia de Rossi: Anorexia Nervosa and Bulimia Nervosa

Born in Australia as Amanda Lee Rogers, actress Portia de Rossi has come a long way since she began her professional career at the age of 12 as a fashion model. That was the time, as she recalls in her memoir, *Unbearable Lightness: A Story of Loss and Gain*, when she began to focus obsessively on her weight. In the book, she writes that from the time she started to embark on a modeling career at an early age, "I'd never known a day where my weight wasn't the determining factor for my self-esteem. My weight was my mood, and the more effort I put into starving myself to get it to an acceptable level, the more satisfaction I would feel as the restriction and the denial built into an incredible sense of accomplishment."

After her father unexpectedly passed away when she was 9 years old, Portia and her older brother were raised by her mother. Although her mother supported her quest for perfection and helped her along in her rise to fame, Portia does not blame her for creating pressure to lose weight, writing, "it has always felt internal." She describes this internal drive as a "drill sergeant of a voice" that she developed, which ordered her to keep pushing herself to lose weight and to keep a strict record of her food intake and exercise.

As a teenager, Portia remembers getting "ready" for photo shoots, which consisted of losing weight in a short amount of time before the shoot. With her mother's help, Portia would restrict her diet severely or not eat at all in the days leading up to the shoots. As she recalls, "Me losing weight before a job was like an athlete training for a competition." Before long, Portia's intense focus on dieting before photo shoots became a constant presence in her life. After unsuccessfully trying diet pills to maintain her weight, Portia followed the example which her fellow models set and began bingeing and purging. She writes that this seemed like the best solution at the time, given that she loved to reward herself after each modeling job with bingeing on junk food, an act that provided emotional nourishment to counteract her negative feelings about herself. However, this pattern became more and more destructive as she started to schedule more frequent modeling jobs, and had less time between each to get, as she puts it, "back on track" or to compensate from any weight gained after a period of bingeing.

After a few years of modeling, Portia discovered her love of acting. She recalls initially loving acting as she was able to escape from herself for a while. After a few high-profile appearances in Australian films, Portia moved to Los Angeles, where she eventually had her big break. At age 25, Portia joined the cast of the popular television series *Ally McBeal*, playing Nelle Porter, the gutsy and outspoken new member of the law firm that the show portrayed. One of the first things she did when she landed the job was to purchase a treadmill to put in her dressing room, as she had seen her cast mates do, so she could work out during her lunch breaks.

Although she was proud of her accomplishment, joining the show marked a new chapter in her life in which she began to experience immense pressure to be thin, along with the pressure that she felt from herself to blend into the Hollywood crowd. In addition to feeling pressure to be thin, Portia was faced with the realization that she was homosexual. She became plagued by fear that the public would find out about her sexuality thus marring her image as a Hollywood star. As she hid this part of herself, she continued to struggle with her weight throughout her tenure at *Ally McBeal*.

Portia remembers that though she enjoyed her work on the show's set, intense feelings of insecurity continued to plague her. Ironically, the hallmark of the character that she played was the confidence that she exuded, and Portia struggled to maintain this image on the show. Compounding her suffering was the fact that she did not share her feelings with anyone, and she remembers driving home from the set every day and crying to herself for hours.

When she started on *Ally McBeal*, Portia was bingeing and purging frequently. However, as is common in the case of those with bulimia, this did not achieve her desired body weight, and she felt undeserving of her success. One incident on the set of a commercial she was to shoot for a beauty campaign catapulted her into what would eventually become anorexia.

Portia de Rossi

Portia was mortified when she was unable to fit into any of the suits that the stylists provided for her. She recalls feeling crushed when the stylists announced that she was a size 8. After this incident, Portia began seeing a nutritionist, who provided her with a list of healthy foods to eat and required her to fill out a daily food diary. The nutritionist, Suzanne, also taught Portia to measure her food portions with a scale in order to achieve successful weight loss. Portia was excited to have some direction with her dieting, although she soon took the nutritionist's recommendations to an unhealthy extreme. "Suzanne had set my calorie intake for optimum weight loss at 1,400 calories a day. I reset it to 1,000. Problem solved." This daily calorie count began to dwindle as Portia continued to lose weight. Her weight loss never left her feeling satisfied and she constantly lowered her goal weight. She began exercising frequently throughout the day, including on her drive to see her nutritionist when she would pull over so she could go for a jog as sitting in the car for a prolonged period of time made her feel anxious. Although she was faithfully seeing her

nutritionist, she concealed her extreme food restriction, creating a fake food diary that mimicked what her food intake should have been.

As her weight plummeted, Portia was encouraged by the positive media attention that she was receiving, including magazine covers, and constant paparazzi coverage. Her friends' and family's reaction, however, was much different. While visiting Portia in Los Angeles, her best friend commented that she appeared too thin. Portia recalls her reaction to this statement. "That's funny: too thin. Just this morning on the set I had to clench my buttocks as I walked through the law office on a full-length lens because if I walked normally the part where my hips meet my thighs bulged out rhythmically with each step: left fat bulge, right fat bulge, left fat bulge, and cue dialogue, 'You wanted to see me?' Too thin." This highlights the extreme and unrealistic standards Portia placed on her appearance, and that also drove her to the depths of anorexia.

Portia's weight continued to plunge, thanks to a combination of severe calorie restriction (down to a few hundred calories per day) and extreme amounts of exercise. She utilized several tricks such as keeping her apartment at 60 degrees so her body would burn more calories and not using toothpaste in order to avoid "accidentally" ingesting excess calories. She also stopped menstruating. Portia's weight loss did not go unnoticed by the media, although she didn't understand why there was cause for concern. As she writes, "Some of them said that I was anorexic. It wasn't true. At 100 pounds I was way too heavy to be anorexic."

With this distorted mindset that is typical to those suffering from anorexia nervosa, Portia continued on her path to weight loss until she was down to a frightening 82 pounds. At the time, she was shooting her first major Hollywood film as a leading actress in *Who Is Cletis Tout?* She ran into major physical difficulties while shooting the film, which required her to perform in many action shots. Due to her dietary restriction and low body weight, her joints ached to the point where she could barely move without extreme agony. She eventually collapsed while shooting a particularly challenging scene, and received immediate medical attention. The results of her medical tests indicated that she had osteoporosis, cirrhosis of the liver, and lupus. For the first time, Portia was forced to confront the reality of her obsession with weight loss. Portia had nearly starved herself to death, and so began her long and difficult journey toward recovery.

In the book, Portia equates anorexia to her first love. "We met and were instantly attracted to each other. We spent every moment of the day together . . . losing anorexia was painful–like losing your sense of purpose. I no longer knew what to do without it to consider . . . Without anorexia, I had nothing. Without it, I was nothing. I wasn't even a failure; I simply felt like I didn't exist." As she began to eat more and gain weight, she struggled once again with bulimia due to her feelings of guilt over eating foods that she had restricted herself from for over a year. Her treatment regimen included seeing a therapist, taking hormone replacement pills and antidepressants to help reduce her obsession with food. In 10 months, she gained 80 pounds. As Portia slowly recovered, she also came to terms with her sexuality. From living with a girlfriend, she learned how to eat what she wanted rather than constantly restricting her cravings, which she recognized as leading to obsessive dieting behaviors. By the time she started dating her now wife, Ellen DeGeneres, in 2004, Portia had fully recovered from anorexia. She now enjoys a healthy and active lifestyle, free from the constraints of her eating disorder. "I never wanted to think about food and weight ever again," she writes. "For me, that's the definition of recovered."

from the complications of their disorder, but from suicide. The highest rates of suicide attempts occur in women who have comorbid depression and the binge-eating/purging form of the disorder (Forcano et al., 2011).

At the heart of AN experience is a core disturbance in an individual's body image. People with AN believe that their bodies are larger than they really are, which in turn, they believe, makes them unattractive. Women with the restrictive form of AN appear not to value thinness so much as they are repelled by the idea of being overweight (Cserjési et al., 2010).

Underlying the symptoms of AN may be differing ways of processing food-related cues. In one innovative study, women with AN and women who had recovered from AN were compared in fMRI responses to food-related cues with healthy controls after a night of fasting. Even those who were no longer symptomatic still showed lowered activation in the food reward centers and higher activation of inhibitory control areas of the brain, suggesting that the disorder creates lingering effects in the ways that individuals process food-related cues (Sanders et al., 2015).

The lifetime prevalence of AN is 0.9 percent for women and 0.3 percent for men. In addition, people with anorexia nervosa have higher rates of mood, anxiety, impulse-control, and substance use disorders. The majority of individuals who develop anorexia nervosa between their early teenage years and their early twenties have the disorder for just under 2 years. Men have 25 percent lower lifetime prevalence than women (Hudson, Hiripi, Pope, & Kessler, 2007).

Characteristics of Bulimia Nervosa

bulimia nervosa
An eating disorder involving alternation between the extremes of eating large amounts of food in a short time, and then compensating for the added calories either by vomiting or other extreme actions to avoid gaining weight.

binge eating
The ingestion of large amounts of food during a short period of time, even after reaching a point of feeling full, and a lack of control over what or how much is eaten.

purging
Eliminating food through unnatural methods, such as vomiting or the excessive use of laxatives.

People with the eating disorder **bulimia nervosa** engage in **binge eating,** during which they rapidly eat an inordinately excessive amount of food, perhaps amounting to several thousand calories in a sitting. During these episodes, they feel a lack of control, which makes them feel that they cannot stop eating or regulate how much they eat. Following the binge, they then engage in **purging,** during which they try to rid themselves of their excess caloric consumption through methods such as self-induced vomiting, taking laxatives or diuretics, and engaging in fasting or excessive exercise. To receive a bulimia nervosa diagnosis, these episodes must not occur exclusively during episodes of anorexia nervosa.

People with bulimia may engage in binge eating and purging once per week (Wilson & Sysko, 2009). Formerly, clinicians assigning a diagnosis of bulimia nervosa distinguished between subtypes called "purging" or "nonpurging." In *DSM-IV-TR,* people who were diagnosed with the purging type were the ones who would induce vomiting, administer an enema, or take laxatives or diuretics. Those who received the nonpurging diagnosis were seen as trying to compensate for what they ate by fasting or engaging in excessive exercise. The *DSM-5* authors found evidence that this was not a valid distinction and removed the subtypes (van Hoeken, Veling, Sinke, Mitchell, & Hoek, 2009).

The stress they place on their bodies leads individuals with bulimia nervosa to develop a number of medical problems. The most serious of these occur with purging. For example, ipecac syrup, the medication that people use to induce vomiting, has severe toxic effects when one takes it regularly and in large doses. People who induce vomiting frequently also suffer from dental decay because the regurgitated material is highly acidic. The laxatives, diuretics, and diet pills that people with bulimia use can also have toxic effects. Some people with bulimia nervosa also engage in harmful behaviors, such as using enemas, regurgitating and then rechewing their food, or overusing saunas in efforts to lose weight. In addition to the effects of dehydration that bingeing and purging cause, the bulimic individual runs the risk of permanent gastrointestinal damage, fluid retention in the hands and feet, and heart muscle destruction or heart valve collapse.

The lifetime prevalence of bulimia nervosa is 1.5 percent among women and 0.5 percent among men. Researchers estimate the prevalence of bulimia nervosa at any one time at 1.3 percent among college women, but binge eating (8.5 percent), fasting (8.1 percent), and excessive exercise (14.9 percent) are far more common. The majority (59.7 percent) of college women have concerns about their weight or body shape. These estimates have remained relatively stable over the 15-year period from 1990 to 2004 (Crowther, Armey, Luce, Dalton, & Leahey, 2008).

Disordered eating patterns in college tend to improve over time but do not disappear completely. A 20-year follow-up of a college student sample of men and women showed that 75 percent no longer had symptoms in early midlife; however, 4.5 percent still had a clinically significant eating disorder (Keel, Gravener, Joiner Jr, & Haedt, 2010). The

MINI CASE

Bulimia Nervosa

Elena is a 26-year-old dance teacher who has struggled with her weight since adolescence. A particular problem for Elena has been her love of high-calorie carbohydrates. She regularly binges on a variety of sweets and then forces herself to vomit. Over the years, Elena has developed a number of physical problems from the frequent cycles of bingeing and purging. She evaluates the quality of her days in terms of how "fat" or "thin" she appears to herself in the mirror.

nature of the eating disorder may also change over time. In a study of middle-aged and older adult women seeking help with eating disorders, bulimia nervosa was less prevalent than in younger samples, but other forms of disordered eating continued to persist (Elran-Barak et al., 2015).

Although bulimia nervosa receives more attention among and is more prevalent in women, men also experience the disorder. An online survey of over 6,500 members of a health maintenance organization revealed that substantial percentages of men engaged in periods of uncontrolled eating (20 percent), binge eating at least once a week (8 percent), fasting (4 percent), laxatives (3 percent), exercise (6 percent), and body checking (9 percent). Women were more likely than men to show almost all of these behaviors, but there were no significant sex differences in the use of laxatives and exercise to avoid weight gain after a period of binge eating (Striegel-Moore et al., 2009).

Binge-Eating Disorder

Binge-eating disorder is a new diagnosis added to *DSM-5* that includes individuals who engage in binge eating, lack control over their eating, and engage in binges for at least twice a week for 6 months. To qualify as binge-eating disorder, the binges must occur with a large food intake, eating past the point of feeling full or hungry, eating while alone, and feeling self-disgust or guilt after overeating. Because the binge eating does not occur in association with compensatory behaviors, it is possible that individuals with this disorder gain a significant amount of weight.

A binge is a loss of control when eating that involves consumption of a large amount of (usually unhealthy) food in a short amount of time. Individuals with bulimia nervosa will purge following a binge, in order to avoid gaining weight from the binge.

Theories and Treatment of Eating Disorders

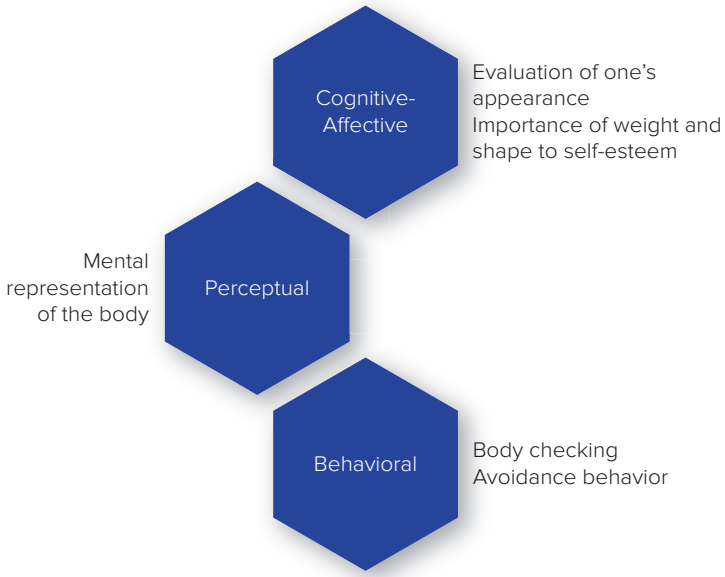
Eating disorders reflect a complex set of interactions among an individual's genetic vulnerability, experiences with eating, body image, and exposure to sociocultural influences. From a biological point of view, researchers are particularly interested in the role of dopamine, which is involved in feelings of reward and pleasure including those related to eating. According to this view, binge eaters feel relief from depression and anxiety, which in turn reinforces the binge-eating behavior. Like people who are dependent on substances, binge eaters experience withdrawal symptoms in between bingeing, continue to binge even though they know it is harmful, feel compelled to engage in the behavior, and feel deprived when they cannot binge. Purging, in turn, would also have positively rewarding properties to these individuals who place a great deal of value on their ability to stay thin (Broft et al., 2015).

Researchers continue to seek a better understanding of the role of genetics in anorexia nervosa. This search will be aided by future studies using genome-wide association studies (GWAS) and, primarily, having access to larger data sets (Brandys, de Kovel, Kas, van Elburg, & Adan, 2015).

Although clinicians have used SSRIs to treat individuals with anorexia nervosa, these medications appear to have limited effectiveness until the clients who receive them have reached acceptable weight levels (Holtkamp et al., 2005). Similarly, SSRIs have limited effectiveness in treating bulimia nervosa (Herpertz et al., 2011). However, obese individuals with binge-eating disorder (i.e., nonpurging bulimia) may benefit from a 6-month treatment with SSRIs (Leombruni, Pierò, Lavagnino, Brustolin, Campisi, & Fassino, 2008).

binge-eating disorder
An eating disorder in which individuals engage in binge eating, lack control over their eating, and engage in binges for at least twice a week for 6 months.

FIGURE 1 Components of Body Image



Given the mixed evidence for pharmacological interventions for eating disorders, clinicians regard psychotherapeutic methods as the methods of choice. Psychological perspectives to eating disorders focus on the core eating disorders' symptoms of disturbances in body image, a collection of several components (Figure 1). The cognitive-affective component involves attitudes and affects about one's own body. The cognitive-affective component of body image includes evaluation of one's own appearance (satisfaction or dissatisfaction) and the importance of weight and shape for an individual's self-esteem. The perceptual component of body image includes the way individuals mentally represent their bodies. Individuals with eating disorders typically overestimate their own body size. The behavioral component includes body checking, such as frequent weighing or measuring body parts, and avoidance, which is the wearing of baggy clothing or avoiding social situations that expose the individual's body to viewing by others (Ahrberg, Trojca, Nasrawi, & Vocks, 2011).

Psychological treatments for eating disorders that follow this model take a multifaceted approach to targeting changes in body image. The primary aim of treatment involves identifying and changing the individual's maladaptive assumptions that occur with his or her body shape and weight. In addition, clinicians attempt to reduce the frequency of such maladaptive behaviors as body checking and avoidance (Hrabosky, 2011). In cognitive-behavioral therapy, clinicians attempt to change what are selective biases in people with eating disorders that lead them to focus on the parts of their bodies they dislike. Second, by using exposure therapy in which clients view their own bodies ("mirror confrontation"), clinicians attempt to reduce the negative emotions that they would ordinarily experience. Behavioral interventions focus on reducing the frequency of body checking. Third, clinicians can address the component of body image involving size overestimation by helping clients view their bodies more holistically in front of a mirror, teaching them mindfulness techniques to reduce their negative cognitions and affect about their bodies, and giving them psychoeducation about the ways that their beliefs reinforce their negative body image (Delinsky, 2011).

Within the sociocultural perspective, clinicians use interventions incorporating a family component for clients with eating disorders who are still in their teens and who have had symptoms for only a brief time (Ciao, Accurso, Fitzsimmons-Craft, & Le Grange, 2015). In the so-called "Maudsley model," families enter treatment for 10 to 20 sessions over a 6- to 12-month period. In the first phase of treatment, parents completely take charge of their child's eating and weight while they receive coaching in finding effective means of doing so. Gradually, the child can regain self-autonomy. Although the

Maudsley model has not withstood the test of controlled studies in terms of effectiveness compared to individual therapy, there are reasons for adopting this approach, particularly because of its widespread availability (Wilson, Grilo, & Vitousek, 2007).

Avoidant/ Restrictive Food Intake Disorder

In **avoidant/restrictive food intake disorder,** individuals show an apparent lack of interest in eating or food. They do so because they are concerned about the aversive consequences. In addition, they may avoid food based on its sensory characteristics (color, smell, texture, temperature, or taste). People may develop this disorder as the result of a conditioned negative response to having an aversive experience while eating, such as choking.

Previously included as a feeding disorder of infancy or early childhood in the *DSM-IV-TR*, this diagnosis is now applicable to individuals of any age who do not have another eating disorder or concurrent medical condition, or who are following culturally prescribed eating restrictions. As a result of their disorder, they lose a significant amount of weight (or fail to achieve expected weight gain), show a significant nutritional deficiency, become dependent on feeding through a stomach tube or oral nutritional supplements, and show marked interference with their psychosocial functioning.

As a result of adding this disorder to *DSM-5,* researchers believe that the frequency of eating disorder "not otherwise specified" will be cut in half, leading to better chances of appropriate diagnosis and treatment (Ornstein et al., 2013). Young adults seem particularly prone to this disorder, with one study estimating that 25 percent of college-age women and 20 percent of college-age men engage in significant restricted eating (Quick & Byrd-Bredbenner, 2012). Social norms may reinforce this behavior, as certain peer networks appear prone to setting expectations of restricted eating habits (Howland, Hunger, & Mann, 2012).

avoidant/restrictive food intake disorder
A disorder in which individuals avoid eating out of concern about aversive consequences or restrict intake of food with specific sensory characteristics.

Eating Disorders Associated with Childhood

The authors of *DSM-5* moved the *DSM-IV-TR* eating disorders of infancy and childhood to the overall category of eating disorders in adolescents and adults. Researchers in the field hoped that reclassifying these disorders would allow them to evaluate more systematically the incidence, etiology, and treatment effectiveness of these disorders (Williams, Riegel, & Kerwin, 2009).

What's in the *DSM-5*

Reclassifying Eating, Elimination, Sleep-Wake, and Disruptive, Impulse Control, and Conduct Disorders

DSM-5 reflects a number of changes across categories of the disorders we present in this chapter. In addition, diagnoses were added and removed to be consistent with emerging research in these important psychological disorders.

With regard to eating disorders, the most significant change in *DSM-5* was to move all the eating disorders into a new category called "Feeding and Eating Disorders" that also include feeding disorders of childhood. Another major change by the *DSM-5* authors was to eliminate the two subtypes of bulimia nervosa (with and without purging).

A new category called "Binge-Eating Disorder," which was in the appendix of *DSM-IV-TR*, was added to eating disorders based on a comprehensive literature review (Wonderlich, Gordon, Mitchell, Crosby, & Engel, 2009) that showed there was sufficient validity to the diagnosis to justify its inclusion. The *DSM-5* authors decided to include binge-eating disorder to reduce the number of diagnoses given for eating disorder "not otherwise specified."

The feeding disorders pica and rumination disorder, formerly in the *DSM-IV-TR* section of disorders of childhood, were moved into the same category as eating disorders. Elimination disorders became its own chapter.

Sleep-wake disorders received a major overhaul, as the *DSM-5* authors worked to develop a classification system that would be in greater conformity with the system used by sleep specialists. The *DSM-5* work group on sleep disorders took a "lumping vs. splitting" approach which was to put together related disorders into a single category and separate disorders that warranted their own distinct diagnoses.

Finally, in the area of disruptive, impulse-control, and conduct disorders, the *DSM-5* authors moved disorders that were in the section on childhood into one chapter that also includes disorders of adulthood in which individuals have problems in regulating their emotions and/or behaviors. As you can see in this chapter, these disorders cut across the divisions in *DSM-IV-TR* in which impulse-control and childhood antisocial-like disorders were treated separately. The authors believe that these disorders are linked by dysfunctions in regulation, and therefore conceptually and practically belong together.

pica
A condition in which a person eats inedible substances, such as dirt or feces; commonly associated with mental retardation.

Children with **pica** eat inedible substances, such as paint, string, hair, animal droppings, and paper. This is a serious disorder because even one incidence can cause the child to experience significant medical consequences due to lead poisoning or injury to the gastrointestinal tract. Pica is the most serious cause of self-injury to occur in people with intellectual developmental disabilities. Clinicians treating pica must use not only a behavioral treatment strategy to reduce the individual's injurious behaviors, but also institute prevention by ridding the home of potentially dangerous substances (Williams, Kirkpatrick-Sanchez, Enzinna, Dunn, & Borden-Karasack, 2009). In one study, the parents of children who ate holiday decorations were trained to reinforce the children for playing, instead, with toys (Mitteer, Romani, & Greer, 2015).

rumination disorder
An eating disorder in which the infant or child regurgitates food after it has been swallowed and then either spits it out or reswallows it.

In **rumination disorder,** the infant or child regurgitates and rechews food after swallowing it. Researchers investigating rumination disorder (when it was included, with feeding disorder, as a disorder of childhood) identified five common disturbances in these children: (1) delayed or absent development of feeding and eating skills, (2) difficulty managing or tolerating food or drink, (3) reluctance to eat food based on taste, texture, and other sensory factors, (4) lack of appetite or interest in food, and (5) the use of feeding behaviors to comfort, self-soothe, or self-stimulate. Twenty-five to 45 percent of developmentally normal children, and 80 percent of those who are intellectually disabled, have feeding problems to varying degrees. Because of the many variations in the way clinicians report these disturbances, epidemiologists lack exact estimates of their prevalence. Further complicating the clinical picture is the fact that many factors can contribute to eating problems in children, ranging from a choking experience to medical background, temperament, and physiological abnormalities (Bryant-Waugh, Markham, Kreipe, & Walsh, 2010).

10.2 Elimination Disorders

elimination disorders
Disorders characterized by age-inappropriate incontinence, beginning in childhood.

enuresis
An elimination disorder in which the child is incontinent of urine and urinates in clothes or in bed after the age when the child is expected to be continent.

encopresis
An elimination disorder in which the child is incontinent of feces and has bowel movements either in clothes or in another inappropriate place.

Elimination disorders are characterized by age-inappropriate incontinence and are generally diagnosed in childhood. Individuals with **enuresis** wet the bed or urinate in their clothing after they have reached the age of 5 years, when they should be completely toilet trained. To receive this diagnosis, the child must show symptoms of enuresis for three consecutive months. In **encopresis,** a child who is at least 4 years old repeatedly has bowel movements either in his or her clothes or in another inappropriate place.

Approximately 20 to 25 percent of 4-year-old children still wet the bed, and 30 percent of children 3 years old still soil (von Gontard, 2011). By the age of 5, enuresis affects approximately 5 to 10 percent of the population and continues to decrease until the prevalence is about 1 percent in individuals 15 years and older. Boys are more likely than girls to experience this condition (Brown, Pope, & Brown, 2011) and over the past 15 years, there is a trend for children to be diagnosed at younger ages (Kushnir, Kushnir, & Sadeh, 2013).

There are subtypes of enuresis based on the time of day when the child inappropriately passes urine (daytime only, night only, or both). The subtypes of encopresis distinguish between children who have constipation and then become incontinent due to overflow, and those who do not have constipation and overflow of feces. Researchers believe that these distinctions are important because they can differentiate which children do and do not have a physiological basis for their symptoms (von Gontard, 2011).

As you can imagine, these disorders can have a negative impact on a child's subsequent adjustment due to their impact on a child's self-esteem. The best interventions for enuresis involve a multifaceted approach involving the urine alarm. Contact with urine triggers the urine alarm, leading the child to experience a small aversive stimulus. As a result of this stimulus, the child develops a conditioned avoidance response that can trigger muscular contractions in the external sphincter of the bladder. Other methods

can be combined with this system, but it clearly has a central role in treatment (Brown et al., 2011).

If children have the retentive form of encopresis, they can benefit from behavioral training that rewards them for increasing their fluid intake, ensuring that they include time on the toilet as part of their daily schedules, and incorporating more fiber in their diet. To be effective, such training should encourage children to increase healthy fluids, such as water, and not fluids high in sugar content, such as juice or soda (Kuhl, Hoodin, Rice, Felt, Rausch, & Patton, 2010). Another more psychologically oriented approach focuses on unresolved anger that a child may be expressing in response to family issues including parental conflict, the arrival of a newborn sibling, and an older sibling who torments the child. Treatment that addresses these family system issues can help to reduce the child's symptoms by reducing the family stresses (Reid & Bahar, 2006).

10.3 Sleep-Wake Disorders

A great deal of progress is being made in the science of sleep and treatment of sleep-wake disturbances, so much so that the sleep medicine is now a field in its own right. Researchers and clinicians in sleep medicine typically take a biopsychosocial approach, examining genetic and neurophysiological contributions (e.g., Barclay & Gregory, 2013), psychological interactions, and social and cultural factors that impinge on the individual's sleep quality and quantity. In addition, people with sleep-wake disorders may also have other psychological disorders or medical illnesses. Therefore, clinicians need to perform a thorough evaluation when clients present with sleep-related disturbance. By the same token, having their sleep-wake disorder symptoms treated may help improve the overall quality of life of people who have these disorders (Morin, Savard, & Ouellet, 2013).

DSM-5 organizes the sleep-wake disorders into what the authors believe is a clinically useful system that has a basis in empirical research. This system combines sets of related disorders from the *DSM-IV-TR* in some cases and splits apart others that are best understood as separate entities. Sleep specialists have a more fine-grained diagnostic system than the *DSM-5* criteria, meaning that a client seeking help from a sleep clinic may have a slightly different diagnosis than that provided by *DSM-5.*

The *DSM-5* diagnostic criteria for sleep-wake disorders also reflect progress in the availability of technology in assessment and differential diagnosis. Many of these diagnoses now use **polysomnography,** which is a sleep study that records brain waves, blood oxygen levels, heart rate, breathing, eye movements, and leg movements.

polysomnography
A sleep study that records brain waves, blood oxygen levels, heart rate, breathing, eye movements, and leg movements.

We summarize the major categories of sleep-wake disorders in Table 1. As you can see, they fall into the categories of insomnia disorder/narcolepsy/hypersomnolence disorder, breathing sleep-related sleep disorders, circadian rhythm disorders, and parasomnias. To be diagnosable, symptoms must be present for a significant period of time, occur relatively frequently, and cause the individual to experience distress.

These disorders affect many individuals, perhaps as many as 30 percent of adults in the general population in the case of insomnia alone (Cole, 2011). If you are like many undergraduates, you most likely have already been affected by one or more of these disorders given the typical environment of the college dormitory or student-populated apartment building in which noise in the night hours interferes with both sleep quality and quantity.

Treatments for sleep-wake disorders vary considerably depending on the nature of the disorder. Cognitive-behavioral therapy is regarded as highly efficacious for insomnia disorder (Smith, Huang, & Manber, 2005). New technologies are making it increasingly possible for individuals with certain sleep-wake disorders to manage their own treatment in the home. For example, continuous positive airway pressure (CPAP) machines for treating sleep apnea are less obtrusive and more affordable than they were in the past (Sutherland & Cistulli, 2015).

TABLE 1 Sleep-Wake Disorders

Disorder (or Category)	Specific Disorders within Category	Predominant Symptoms
Insomnia Disorder		Difficulty initiating or maintaining sleep, along with early-morning awakening.
Narcolepsy		Recurrent periods of an irrepressible need to sleep, lapsing into sleep, or napping within the same day. Diagnosis also requires either episodes of jaw-opening or losing facial muscle tone while laughing or showing abnormal CSF or sleep disturbances on polysomnography.
Hypersomnolence Disorder		Recurrent periods of sleep or lapses into sleep during the day, prolonged main sleep episodes, or difficulty being fully awake after abruptly awakening.
Breathing Sleep-Related Disorders	Obstructive Sleep Apnea Hypopnea	Frequent episodes of **apnea** and **hypopnea** while sleeping as indicated on polysomnography along with either snoring, snorting/gasping, or breathing pauses during sleep and daytime sleepiness, fatigue, or unrefreshing sleep.
	Central Sleep Apnea	Frequent episodes of apnea while asleep.
	Sleep-Related Hypoventilation	Episodes of decreased breathing (ventilation) while asleep.
Circadian Rhythm Sleep-Wake Disorders		Persistent patterns of sleep disruption due primarily to altered circadian rhythm or misalignment between the individual's internal circadian rhythm and the sleep-wake schedule required by the person's environment, or work or social schedule. Includes delayed sleep phase type (delay in timing of major sleep period), advanced sleep phase type (sleep-wake cycles that are several hours earlier or conventional), irregular sleep-wake type, non-24-hour sleep-wake type, and shift work type.
Parasomnias	Non-rapid Eye Movement Sleep Arousal Disorder	Recurrent episodes of incomplete awakening from sleep accompanied by either **sleepwalking** or **sleep terrors,** and not associated with **rapid eye movements (REMs).**
	Nightmare Disorder	Repeated occurrences of extended, dysphoric, and well-remembered dreams that typically involve threats to one's life.
	Rapid Eye Movement Sleep Behavior Disorder	Frequent episodes of arousal during sleep associated with speaking and/or motor behaviors occurring during REM sleep.
	Restless Legs Syndrome (RLS)	An urge to move the legs along with uncomfortable and unpleasant sensations in the legs, urges that begin or worsen during periods of rest or inactivity that are partially or totally relieved by movement, and are worse or only occur in the evening or night.

MINI CASE

Samuel, Obstructive Sleep Apnea Hypopnea

Samuel is a 68-year-old married grocery store manager who seeks marriage counseling because his wife has decided she no longer wants to put up with his snoring and is insisting that they sleep in separate bedrooms. In addition, he constantly feels fatigued and sleepy during the day. The counselor sends Samuel to a sleep specialist who conducts a polysomnography, showing that Samuel goes into periods of not breathing on average every 4 minutes. Samuel is now being evaluated for treatment by the sleep specialist, who is exploring options, including a mechanical device that fits over the nose, to allow Samuel and his wife to resume their previous sleeping patterns in the same bed.

10.4 Disruptive, Impulse-Control, and Conduct Disorders

This grouping of disorders includes diagnoses assigned to individuals who have difficulties regulating their emotions and behavior, whose disorder violates the rights of others. Although people with a variety of other disorders also experience difficulties in self-regulating their behavior, these disorders share the quality of bringing the individuals into significant conflict with social norms or authority figures. In other words, an individual with one of these disorders is likely to "get in trouble," to put it simply.

These disorders do not necessarily share an underlying cause, and the degree to which the self-regulation difficulties relate to emotions or behavior also varies. Nevertheless, they share a tendency for individuals with these disorders to exhibit externalizing symptoms. They fall into the end of an internalizing-externalizing spectrum characterized by lack of inhibition ("disinhibition") and constraint along with high levels of negative emotionality. Again, to put it simply, individuals with these disorders are likely to be found "acting out."

apnea
Total absence of airflow.

hypopnea
Reduction in airflow.

sleepwalking
Rising from bed during sleep and walking about while seemingly asleep

sleep terrors
Abrupt terror arousals from sleep usually beginning with a panicky scream.

rapid eye movements (REM)
Phase during sleep involving frequent movements of eyes behind closed eyelids; EEG's similar to those while awake.

Oppositional Defiant Disorder

Most children go through periods of negativism and mild defiance, particularly in adolescence, and most parents complain of occasional hostility or argumentativeness in their children; however, what if such behaviors are present most of the time? Children and adolescents with **oppositional defiant disorder** display angry or irritable mood, argumentative or defiant behavior, and vindictiveness that results in significant family or school problems. This disorder is much more extreme than the typical childhood or adolescent rebelliousness, and it is more than a phase. Youths with this disorder repeatedly lose their temper, argue, refuse to do what they are told, and deliberately annoy other people. They are touchy, resentful, belligerent, spiteful, and self-righteous. Rather than seeing themselves as the cause of their problems, they blame other people or insist that they are victims of circumstances. Some young people who behave in this way are more oppositional with their parents than with outsiders, but most have problems in every sphere. To the extent that their behavior interferes with their school performance and social relationships, they lose the respect of teachers and the friendship of peers. These losses can lead them to feel inadequate and depressed.

oppositional defiant disorder
A disorder characterized by angry or irritable mood, argumentative or defiant behavior, and vindictiveness that results in significant family or school problems.

Oppositional defiant disorder typically becomes evident between ages 8 and 12. Preadolescent boys are more likely to develop this disorder than are girls of the same age, but after puberty it tends to be equally common in males and females. In some cases, oppositional defiant disorder progresses to conduct disorder; in fact, most children with conduct disorder have histories of oppositional defiance. However, many children with oppositional defiant disorder outgrow the disorder by the time they reach adolescence,

Boys who are diagnosed with oppositional defiant disorder may go on to develop antisocial personality disorder, though many will grow out of the disorder by the time they reach late adolescence.

as long as they do not have another disorder such as ADHD (Mannuzza, Klein, & Moulton, 2008).

Clinicians apply some of the interventions for treating young people with ADHD when working with individuals with oppositional defiant disorder or conduct disorder. Clinicians treating conduct disorder face even greater challenges than those who treat individuals with ADHD because alcoholism and abuse characterize the home environment of many children with conduct disorder. Although not true for all children with oppositional defiant disorder, many (particularly boys) will unfortunately move toward developing antisocial personality disorder in adulthood; a small percentage of these individuals will engage in serious criminal behavior (Loeber & Burke, 2011). Girls with oppositional defiant disorder are at higher risk of developing depression, particularly if they show signs of inability to regulate their emotions and a tendency toward defiance (Hipwell et al., 2011).

A combination of behavioral, cognitive, and social learning approaches is the most useful strategy in working with youths with disruptive behavior disorders (Brown et al., 2008). The goal of treatment is to help the youth learn appropriate behaviors, such as cooperation and self-control, and to unlearn problem behaviors, such as aggression, stealing, and lying. Therapy focuses on reinforcement, behavioral contracting, modeling, and relaxation training and may take place in the context of peer therapy groups and parent training. Unfortunately, professional intervention with youths who have disruptive behavior disorders often occurs during adolescence, a developmental stage that some experts in this field consider too late. Behavioral interventions that begin during childhood are usually more promising.

Intermittent Explosive Disorder

intermittent explosive disorder
An impulse-control disorder involving an inability to hold back urges to express strong angry feelings and associated violent behaviors.

People with **intermittent explosive disorder** are unable to hold back their urges to express strong angry feelings and associated violent behaviors. They can have angry outbursts that are either verbal (temper tantrums, tirades, arguments) or physical outbursts in which individuals become assaultive or destructive in ways that are out of proportion to any stress or provocation. These physical outbursts, on at least three occasions in a 12-month period, may cause damage to the individual, other people, or property. However, even if individuals show verbal or physical aggression without causing harm, they may still receive this diagnosis.

The rage shown by people with this disorder is out of proportion to any particular provocation or stress, and their actions are not premeditated. Afterward, they feel either significantly distressed, suffer interpersonal or occupational consequences, or may suffer financial or legal consequences. The magnitude of their aggressive outbursts

MINI CASE

Intermittent Explosive Disorder

Ed, a 28-year-old high-school teacher, has unprovoked, violent outbursts of aggressive and assaultive behavior. During these episodes, Ed throws whatever objects he can get his hands on and yells profanities. He soon calms down, though, and feels intense regret for whatever damage he has caused, explaining that he didn't know what came over him. In the most recent episode, he threw a coffeepot at another teacher in the faculty lounge, inflicting serious injury. After the ambulance took the injured man to the hospital, Ed's supervisor called the police. Ed was taken into custody and immediately suspended from his job.

Individuals with intermittent explosive disorder may suffer negative consequences in their interpersonal relationships due to their frequent, and unprovoked, aggressive outbursts.

are out of proportion to the provocation for their anger. In addition, the outbursts are not premeditated.

An estimated 4 to 7 percent of people in the U.S. population have intermittent explosive disorder; of these, 70 percent have at least three outbursts per year with an average of 27 on a yearly basis (Kessler et al., 2006). People with this disorder are more vulnerable to a number of threats to their physical health, including coronary heart disease, hypertension, stroke, diabetes, arthritis, back/neck pain, ulcer, headaches, and other chronic pain (McCloskey, Kleabir, Berman, Chen, & Coccaro, 2010). People with this disorder often have co-occurring bipolar disorder, personality disorder such as antisocial or borderline, substance use disorder (particularly alcohol), and cognitive disorders.

Intermittent explosive disorder appears to have a strong familial component not accounted for by any comorbid conditions associated with the disorder (Coccaro, 2010). Researchers believe that the disorder may result from abnormalities in the serotonin system causing a loss of the ability to inhibit movement (Coccaro, Lee, & Kavoussi, 2010). Other studies show altered EEG patterns that predispose individuals to these explosive outbursts (Bars, Heyrend, Simpson, & Munger, 2001).

Faulty cognitions further contribute to the individual's development of intermittent explosive disorder. People with this disorder have a set of negative beliefs that other people wish to harm them, beliefs that they may have acquired through harsh punishments they received as children from their parents or caregivers. They feel that, therefore, their violence is justified. In addition, they may have learned through modeling that aggression is the way to cope with conflict or frustration. Adding to these psychological processes is the sanctioning of violence associated with the masculine gender role, a view that would explain in part the greater prevalence of this disorder in men.

Given the possible role of serotonergic abnormalities in this disorder, researchers have investigated the utility of SSRIs in treatment. Though effective in reducing aggressive behaviors, however, SSRIs only result in full or partial remission in less than 50 percent of cases (Coccaro, Lee, & Kavoussi, 2009). Mood stabilizers used in the treatment of bipolar disorder (lithium, oxcarbazepine, carbamazepine) also have some effects in reducing aggressive behavior but there are few well-controlled studies (Jones et al., 2011).

Cognitive-behavioral therapy can also be beneficial for individuals with this disorder. In one approach, a variant of anger management therapy uses relaxation training, cognitive

restructuring, hierarchical imaginal exposure, and relapse prevention for a 12-week period in individual or group modalities. A controlled investigation of this model of therapy showed improvements in levels of anger, aggression, and depression that persisted for at least 3 months following treatment (McCloskey, Noblett, Deffenbacher, Gollan, & Coccaro, 2008).

Based upon this perspective, cognitive-behavioral therapy focuses on reducing anger and aggression as well as improving the individual's social skills (Hudspeth et al., 2015).

In one approach, a variant of anger management therapy uses relaxation training, cognitive restructuring, hierarchical imaginal exposure, and relapse prevention for a 12-week period in individual or group modalities. A controlled investigation of this model of therapy showed improvements in levels of anger, aggression, and depression that persisted for at least 3 months following treatment (McCloskey, Noblett, Deffenbacher, Gollan, & Coccaro, 2008).

Conduct Disorder

conduct disorder
An impulse-control disorder that involves repeated violations of the rights of others and society's norms and laws.

Individuals with **conduct disorder** violate the rights of others and society's norms or laws. Their delinquent behaviors include being aggressive to people and animals such as bullying and acts of animal cruelty, destruction of property, deceitfulness or theft, and serious violations of rules such as school truancy or running away from home.

Clinicians differentiate between conduct disorder with childhood onset (prior to age 10) and conduct disorder with adolescent onset (Brown et al., 2008). Conduct disorder also varies in severity. More serious cases involve arrest and stable delinquent behavior and mild cases of conduct disorder involve pranks, insignificant lying, or group mischief.

Around the world, rates of conduct disorder are estimated at 3.2 percent, with remarkable consistency across countries, although definitions of the disorder do seem to vary from country to country (Canino, Polanczyk, Bauermeister, Rohde, & Frick, 2010).

Predisposing conditions to the development of conduct disorder include being raised in harsh environments involving trauma, abuse, and neglect (Wang & Kenny, 2014). Genetic vulnerability may further exacerbate the risk of growing up in such households. In one study, 1,100 5-year-old twin pairs and their families were compared as a function of the contributions of genetics and physical maltreatment by parents. Among identical twins whose co-twin had conduct problems (i.e., those at high genetic risk), the probability of a conduct disorder diagnosis was nearly 25 percent when their parents physically maltreated them. In contrast, those children at low genetic risk who were subject to physical maltreatment had only a 2 percent chance of developing conduct disorder (Jaffee et al., 2005). The specific gene that seems to be involved in conduct disorder is not yet known, but genetic researchers are optimistic about the potential of GWAS to identify common variants associated with conduct and other disorders involving behavioral dysregulation (Derringer et al., 2015).

Unfortunately, whatever the causes, we know that aggressive and antisocial children are likely to have serious problems as adults. In a classic longitudinal study, only one-sixth of the original sample was completely free of psychological disorders in adulthood. More than one-fourth had antisocial personality disorder (Robins, 1966). Subsequent studies have confirmed this pessimistic outlook, with results indicating that at least 50 percent of children with conduct disorder develop antisocial personality disorder (see the chapter "Personality Disorders"), a likelihood that increases further in the presence of other diagnoses, such as major depressive disorder (Fombonne, Wostear, Cooper, Harrington, & Rutter, 2001).

Impulse-Control Disorders

impulse-control disorders
Psychological disorders in which people repeatedly engage in behaviors that are potentially harmful, feeling unable to stop themselves and experiencing a sense of desperation if their attempts to carry out the behaviors are thwarted.

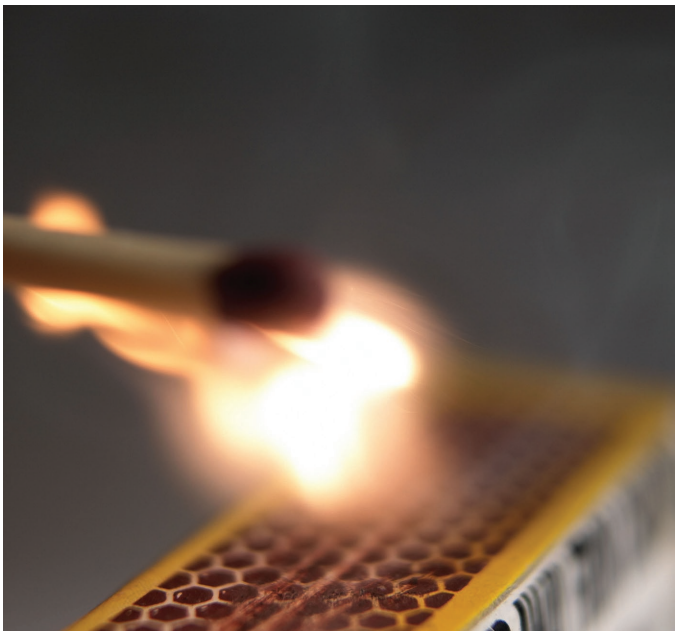
People with **impulse-control disorders** engage in repetitive behaviors, often ones that are harmful, that they feel are beyond their control. Before they act on their impulses, these individuals experience tension and anxiety that they can relieve only by following

through on their impulses. After acting on their impulses, they experience a sense of pleasure or gratification, although later they may regret that they engaged in the behavior.

Pyromania

People with **pyromania** deliberately set fires, feeling tension and arousal before they commit the act. They are fascinated with and curious about fire and its situational contexts, and derive pleasure, gratification, or relief when setting or witnessing fires or while participating in their aftermath. To be diagnosed with pyromania, the individual must not set fires for monetary reasons or have other medical or psychiatric conditions. Arson, by contrast, is deliberate firesetting intended to produce financial gain, and an arsonist does not experience the relief shown by people with pyromania.

The majority of people with pyromania are male. Pyromania appears to be rare, however, even among arsonists. Among a sample of 90 repeated offenders, Finnish researchers found that only 3 met the *DSM-IV-TR* criteria for pyromania (Lindberg, Holi, Tani, & Virkkunen, 2005). Slightly higher percentages were reported in one study of hospitalized psychiatric patients, in which 3.4 percent had current symptoms and 5.9 percent had lifetime symptoms consistent with a diagnosis of pyromania (Grant, Levine, Kim, & Potenza, 2005).



Individuals with pyromania are often fixated with every aspect of firesetting, including lighting a match.

Pyromania appears to be a chronic condition if the individual does not receive treatment. Some individuals with pyromania may discontinue the firesetting and instead switch to another addictive or impulsive behavior such as kleptomania or gambling disorder. An intensive study of 21 participants with a lifetime history of pyromania described the most likely triggers for their behavior as stress, boredom, feelings of inadequacy, and interpersonal conflict (Grant & Kim, 2007).

As is true for the other impulse-control disorders, pyromania may reflect abnormalities in dopamine functioning in areas of the brain involving behavioral addictions. Nevertheless, treatment for pyromania that follows the cognitive-behavioral model seems to show the most promise. The techniques used in cognitive-behavioral therapy for pyromania include imaginal exposure and response prevention, cognitive restructuring of responding to urges, and relaxation training (Grant, 2006b).

pyromania
An impulse-control disorder involving the persistent and compelling urge to start fires.

Kleptomania

People with the impulse-control disorder **kleptomania** are driven by a persistent urge to steal. Unlike shoplifters or thieves, they don't actually wish to have the object, or the money that it's worth. Instead, they seek excitement from the act of stealing. Despite this, people with kleptomania would rather not be driven to this behavior and feel that their urge is unpleasant, unwanted, intrusive, and senseless. Because they don't really want or need the items that they steal, these people don't have specific uses for them and may give or throw them away.

kleptomania
An impulse-control disorder that involves the persistent urge to steal.

In order to receive a diagnosis of kleptomania, clinicians cannot better account for the individual's stealing by antisocial personality disorder, conduct disorder, or bipolar disorder (in a manic episode). There is overlap among the symptoms of kleptomania and mood, anxiety, and other impulse-control disorders, making it particularly important that clinicians engage in a thorough process of differential diagnosis (Grant, 2006a).

A woman with kleptomania feels the irresistible urge to steal even small, inexpensive items while walking through a cosmetics store.

Kleptomania has a number of significant effects on the individual's life, not the least of which is the fear or actuality of arrest. In one study of 101 adults (73 percent female), 69 percent

You Be the Judge

Legal Implications of Impulse-Control Disorders

By definition, impulse-control disorders are defined as involving irresistible urges. Individuals with disorders such as kleptomania and pyromania engage in the illegal acts of, respectively, stealing and firesetting. Individuals with intermittent explosive disorder may also commit illegal acts during one of their violent outbursts. When people with these disorders encounter the justice system, then, the question arises regarding whether we should regard them as having a disorder or whether we should view their behavior as a form of illegal and deviant behavior similar to psychopathy.

People with kleptomania commit acts of stealing in response to a failure to resist impulses. The stealing may give them momentary relief from their anxiety-driven urge, but ultimately it leads only to significant distress and dysfunction in their everyday lives. A key difference between kleptomania and antisocial personality disorder lies in the feelings of guilt and remorse that accompany stealing. People with kleptomania feel intense regret; moreover, they do not seek to acquire the items that they steal for any particular monetary reason (Aboujaoude, Gamel, & Koran, 2004). Similarly, individuals with pyromania, by definition, do not seek monetary reward from their actions. Those with intermittent explosive disorder do not seek to commit violent acts, but are responding to irresistible urges. People with pathological gambling steal or cheat not for the sake of material gain, but in order to support their gambling habit.

According to one view, we should not consider impulse-control disorders to be the same as "volitional" disorders, which should excuse an individual from moral and legal responsibility for his or her actions. A cognitive impairment that minimizes or negates memory for the negative consequences of the person's previous addictive behaviors causes the volitional disorder. Once the behavior begins, it increases the extent of the impairment (Campbell, 2003).

The terminology that the mental health profession uses to describe kleptomania and pyromania imply, however, that the individuals with these disorders are somehow attracted to the opportunities to steal and start fires. Many people outside the mental health professions do not understand the nature of these disorders. In the case of pyromania, fire agency personnel, insurance investigators, law enforcement, and even mental health professionals may fail to appreciate fully the diagnostic criteria for the disorder. Another popular belief and erroneous belief is that serial arsonists are pyromaniacs. In fact, clinicians diagnose pyromania in a very small percent of chronic firesetters. We often view people with pyromania as deriving sexual pleasure from their behavior. In reality, this occurs in only a minority of cases. According to Doley (2003), the lack of accurate information about pyromania means that it is not possible to determine whether people with pyromania even exist, let alone are responsible for their behavior.

Q: *You be the judge:* Should we treat people with impulse-control disorders, whose behavior may be illegal and potentially harmful to others, as criminals or as having psychological disorders?

were arrested and 21 percent were incarcerated. Over half were arrested on two or more occasions. Their symptoms started when they were 19 years old, on average, and they shoplifted at least twice a week. The majority stole items of clothing, household goods, and groceries. To a lesser extent, they also stole from their friends, relatives, and places of employment. This study replicated those of smaller-scale investigations in reporting that people with kleptomania are likely to have high lifetime prevalence rates of co-occurring depressive disorders (43 percent), anxiety disorders (25 percent), other impulse-control disorders (42 percent), and drug abuse or dependence (18 percent).

MINI CASE

Kleptomania

Gloria is a 45-year-old, well-dressed and attractive executive with a comfortable salary and a busy lifestyle. For the past few years, she has been under considerable stress and has worked long hours as the result of reorganizations in her company. As a teenager, Gloria occasionally took small, inexpensive items, such as hair barrettes and nail polish, from the drugstore, even though she could afford to pay for them. Lately, Gloria has started shoplifting again. This time, her behavior has an intensity that she cannot control. During her lunch hour, Gloria often visits one of the large department stores near her office building, walks around until she finds something that catches her eye, and then slips it into her purse or pocket. Although she has sworn to herself that she will never steal again, every few days she finds the tension so great that she cannot stay out of the stores.

Suicide attempts are common among people with kleptomania (Grant, Odlaug, Davis, & Kim, 2009).

One reason kleptomania fits into the impulse-control disorders is that people with this disorder feel an urge or state of craving prior to stealing and a sense of gratification after they steal. Researchers believe that these features of kleptomania also bear similarities to substance dependence.

Individuals with kleptomania report that they need to engage in increasingly riskier behavior in order to experience the same gratification they did early in their development of the disorder. They also experience symptoms similar to withdrawal, in that in between episodes they experience insomnia, agitation, and irritability. Studies of the neurobiology of kleptomania suggest that, like substance use disorders, it occurs with altered dopamine, serotonin, and opioid receptor functions as well as changes in brain structures similar to those in people with cocaine dependence (Grant, Odlaug, & Kim, 2010).

Individuals with kleptomania may struggle with their symptoms for years before seeking treatment (Grant, Odlaug, Medeiros, Christianine, & Tavares, 2015), perhaps because they fear prosecution or because they are ashamed of their illegal yet uncontrollable actions. Naltrexone, a therapeutic medication used to treat individuals with substance dependence, is one approach that appears to have had some effectiveness (Grant, Kim, & Odlaug, 2009). Cognitive-behavioral treatments also are effective. These include covert sensitization, imaginal desensitization, systematic desensitization, aversion therapy, relaxation training, and helping clients find alternative sources of satisfaction (Hodgins & Peden, 2008).

10.5 Eating, Elimination, Sleep-Wake, and Impulse-Control Disorder: The Biopsychosocial Perspective

The disorders we have covered in this chapter represent a wide range of symptoms involving a combination of biological causes, emotional difficulties, and sociocultural influences. A biopsychosocial approach therefore seems appropriate in understanding each of these. Moreover, these disorders have a developmental course. Eating and oppositional/conduct disorders appear to originate early in life. Over the course of adulthood, individuals may develop impulse-control disorders, and late in life, physiological changes may predispose older adults to sleep-wake disorders.

In the case of each category of disorder, clients can benefit from a multifaceted approach in which clinicians take into account these developmental and biopsychosocial influences. Some disorders, such as those in the sleep-wake category, may best be diagnosed through physiological tests such as polysomnography, even though treatment may focus on behavioral control of sleep. Individuals with symptoms of eating disorders should also be evaluated medically, but effective treatment also requires a multipronged and team approach among mental health and medical professionals. The psychological and sociocultural components of impulse-control disorders tend to be more prominent in both diagnosis and treatment, although there may be biological contributions to each of these as well.

This wide range of disorders provides an excellent example of why a broad-ranging and integrative approach that takes a lifespan view can be so important in understanding and treating psychological disorders. As research in these areas progresses, it is likely that clients in the future will benefit increasingly from interventions that take advantage of this multifaceted view.

Return to the Case: Rosa Nomirez

Rosa maintained her involvement in the day treatment program, which consisted of twice weekly individual psychotherapy and several group therapy sessions every week. She saw a nutritionist who helped teach her the dangers of restricting her diet, and as a condition of the treatment she maintained a diet of at least 1,500 calories per day. She struggled with the change in her diet at first, which caused much anxiety for Rosa because she was concerned about becoming overweight. Her work in therapy and group therapy was aimed at maintaining a healthy body image and decreasing her unrealistic beliefs about being overweight.

As the weeks progressed, Rosa continued to gain weight and her distorted body image began to ameliorate. Her husband and family, once a source of tension and anxiety, became an important factor in her recovery from anorexia through their strong support and encouragement. Although Rosa continued to be concerned about becoming overweight, she learned the importance of nutrition and took on a more realistic view of her body. Rosa's depression remitted after the first few weeks of treatment, and she decided to stay in the program for a total of 3 months. After leaving the day treatment program, Rosa continued to see her therapist on a weekly basis.

Dr. Tobin's reflections: It is rare for an individual like Rosa to present to treatment due to actual concern about weight loss, given the typically distorted view that these individuals have that they are overweight, even when by objective standards they are in fact severely underweight. Indeed, she ignored her family's encouragement to obtain treatment in this regard. Had she been an adolescent, it would have been acceptable for her family to bring her into treatment. In this case, however, it was Rosa's experience of depression that motivated her to seek treatment. Although she was experiencing some symptoms of depression, this is not atypical for individuals suffering from an eating disorder and her symptoms did not warrant an independent diagnosis of depression. Although Rosa had experienced some eating disordered behaviors as a teenager, she was able to maintain a normal weight throughout much of her young adulthood. This fluctuating pattern is quite typical in the case of eating disorders. By her report, she continued to maintain a negative body image, although this did not manifest in any symptoms until she became pregnant with her daughter and faced the reality of actual weight gain. This served as a stressor that triggered a pattern of restrictive dieting that led to extreme weight loss.

Finally, the cultural aspect of this case is important to consider. Rosa's family came from a culture much less fixated on body weight and physical appearance. The gap between Rosa's experiences growing up in American society where there is pressure for women to maintain a low body weight, and her family's culture, was a great source of tension for her. Her family was unable to relate to her struggles with weight and body image, which served to increase her feelings of isolation. These differences represent the reality of the emphasis on physical appearance that is more prominent in more developed countries such as the United States, which leads to higher rates of eating disorders in these countries.

SUMMARY

- People with anorexia nervosa experience four kinds of symptoms: (1) they refuse or are unable to maintain normal weight; (2) they have an intense fear of gaining weight or becoming fat, even though they may be grossly underweight; (3) they have a distorted perception of the weight or shape of their body; and (4) they experience amenorrhea, if postpubertal. People with bulimia nervosa alternate between eating large amounts of food in a short time (binge eating) and then compensating for the added calories by vomiting or performing other extreme actions (purging). Binge-eating and avoidant/restrictive food intake disorder are additional forms of eating disorders. Pica and rumination disorder are associated with childhood. Biochemical abnormalities in the norepinephrine and serotonin neurotransmitter systems, perhaps with a genetic basis, are thought to be involved in eating disorders. The psychological perspective views eating disorders as developing in people who suffer a great deal of inner turmoil and pain, and who become obsessed with body issues, often turning to food for comfort and nurturance. According to cognitive theories, over time, people with eating disorders become trapped in their pathological patterns because of resistance to change. Within the sociocultural perspective, eating disorders have been explained in terms of family systems theories. Treatment of eating disorders requires a combination of approaches. While medications, particularly those affecting serotonin, are sometimes prescribed, it is also clear that psychotherapy is necessary, particularly that using cognitive-behavioral and interpersonal techniques. Family therapy, particularly when the client is a teen, can also be an important component of an intervention plan.
- Elimination disorders are most common in children younger than age 15, but they can be diagnosed in individuals of any age. Enuresis involves incontinence of urine, and encopresis involves incontinence of feces.
- Sleep-wake disorders include insomnia, narcolepsy, hypersomnolence, breathing sleep-related disorders, circadian rhythm sleep-wake disorders, and parasomnias. Each of these disorders is characterized by a severe disturbance in sleeping patterns. Insomnia can be identified by an inability to fall asleep or to remain sleeping, while narcolepsy and hypersomnolence involve sleeping too frequently and at inappropriate times. Breathing sleep-related disorders and circadian rhythm sleep-wake disorders, as well as parasomnias, can be characterized by abnormal bodily movements or behaviors, which can disrupt sleep or waking cycles.
- People with disruptive, impulse-control, and conduct disorders repeatedly engage in behaviors that are potentially harmful, feeling unable to stop themselves and experiencing a sense of desperation if they are thwarted from carrying out their impulsive behavior. Oppositional defiant disorder is characterized by angry or irritable mood, argumentative or defiant behavior, and vindictiveness that results in significant family or school problems.
- People with intermittent explosive disorder feel a recurrent inability to resist assaultive or destructive acts of aggression. Theorists propose that an interaction of biological and environmental factors leads to this condition. In terms of biology, serotonin seems to be implicated. In terms of psychological and sociocultural factors, theorists focus on the reinforcing qualities of emotional outbursts, as well as the effects of such behaviors on family systems and intimate relationships. Treatment may involve the prescription of medication, although psychotherapeutic methods would also be included in the intervention.
- People with pyromania are driven by the intense desire to prepare, set, and watch fires. This disorder seems to be rooted in childhood problems and firesetting behavior. In adulthood, people with pyromania typically have various dysfunctional characteristics, such as problems with substance abuse as well as relationship difficulties. Some treatment programs focus on children showing early signs of developing this disorder. With adults, various approaches are used, with the aim of focusing on the client's broader psychological problems, such as low self-esteem, depression, communication problems, and inability to control anger.
- People with kleptomania are driven by a persistent urge to steal, not because they wish to have the stolen objects but because they experience a thrill while engaging in the act of stealing. In addition to recommending medication, clinicians commonly treat people with kleptomania with behavioral treatments, such as covert sensitization, to help them control the urge to steal.

KEY TERMS

Anorexia nervosa (AN)
Apnea
Avoidant/restrictive food intake disorder
Binge eating
Binge-eating disorder
Bulimia nervosa
Conduct disorder
Eating disorders
Elimination disorders
Encopresis
Enuresis
Hypopnea
Impulse-control disorders
Intermittent explosive disorder
Kleptomania
Oppositional defiant disorder
Pica
Polysomnography
Purging
Pyromania
Rapid eye movements (REM)
Rumination disorder
Sleep terrors
Sleepwalking

Paraphilic Disorders, Sexual Dysfunctions, and Gender Dysphoria

OUTLINE

- Case Report: Shaun Boyden
- What Patterns of Sexual Behavior Represent Psychological Disorders?
- Paraphilic Disorders
  - Pedophilic Disorder
  - Exhibitionistic Disorder
  - Voyeuristic Disorder
  - Fetishistic Disorder
  - Frotteuristic Disorder
  - Sexual Masochism and Sexual Sadism Disorders
  - Transvestic Disorder
  - Theories and Treatment of Paraphilic Disorders
    - Biological Perspectives
    - Psychological Perspectives
- You Be the Judge: Treatment for Sex Offenders
- Sexual Dysfunctions
  - Arousal Disorders
  - Disorders Involving Orgasm
  - Disorders Involving Pain
  - Theories and Treatment of Sexual Dysfunctions
- What's in the *DSM-5*: The Reorganization of Sexual Disorders
    - Biological Perspectives
    - Psychological Perspectives
- Real Stories: Sue William Silverman: Sex Addiction
- Gender Dysphoria
  - Theories and Treatment of Gender Dysphoria
- Paraphilic Disorders, Sexual Dysfunctions, and Gender Dysphoria: The Biopsychosocial Perspective
- Return to the Case: Shaun Boyden
- Summary
- Key Terms

Learning Objectives

11.1 Identify the patterns of sexual behaviors that represent psychological disorders.

11.2 Compare and contrast paraphilic disorders and theories of their development.

11.3 Recognize symptoms of sexual dysfunction and understand treatment methods for these dysfunctions.

11.4 Comprehend theories and symptoms of gender dysphoria.

11.5 Explain the biopsychosocial perspective of paraphilic disorders, sexual dysfunctions, and gender dysphoria.

CHAPTER 11

Case Report: Shaun Boyden

Demographic information: 48-year-old Caucasian male.

Presenting problem: Shaun underwent a court-ordered psychological evaluation after his arrest for kidnapping and sexually assaulting a 7-year-old boy. This was Shaun's first encounter with the legal system and his first psychological evaluation. During the evaluation, Shaun admitted that from the time he was 16 years old, he had been stalking young children, sometimes having sex with them. He reported that although his desires to have sex with children never caused any distress, the fantasies, thoughts, and desires were often so intense that he felt driven to act upon them.

At the time of the evaluation, Shaun had been married for 8 years, and stated that his wife was unaware of his abnormal sexual urges. He explained that he and his wife rarely had sex, and when they did he would have to fantasize about children in order to become aroused. He only enjoyed intercourse when it involved children.

Shaun described that while he was growing up, he was rarely interested in girls, and noticed that when he reached puberty at 16, he began to have sexual fantasies about children and became sexually aroused when he was around them, especially young boys. Eventually his attraction became exclusive to boys. Unsure of whether his peers were experiencing the same feelings, Shaun kept his powerful attraction to children to himself and distracted himself by dating women. However, as he grew older he found it more and more difficult to ignore his strong feelings and urges. Shaun graduated from high school and went on to college, where he received a degree in computer engineering. Throughout college he dated women, but recalls that he was never able to be truly sexually aroused around them. At this point he began to fantasize about young boys in order to achieve arousal and orgasm.

After graduating from college, Shaun began his first serious relationship with a woman, the mother of a 3-year-old boy. His girlfriend often left Shaun to look after her son. Shaun reported that when his girlfriend's son was about 5 years old, he molested him for the first time, no longer able to control the urges he felt when he was alone with the boy. The molestations continued for 5 years, until Shaun's relationship with the mother ended. During that time, his girlfriend never found out about his behavior with her son. The breakup was very difficult for Shaun because he found he had grown dependent on the satisfaction he achieved from intercourse with the boy and he worried how he would be able to achieve this in the future. Shaun reported that he only worried about the moral implications of his having intercourse with his girlfriend's son a few times over the course of their relationship. He remarked that though he realized it was illegal, it came so naturally to him that he rarely worried about any of the possible consequences. However, due to the demands of his job, it was difficult for Shaun to find time to come into contact with children enough so that he would be able to be alone with them.

Three years after his previous relationship ended, Shaun started dating his future wife, Anne. He gleaned much satisfaction and stability from the relationship with Anne, and found that his urges to have sex with children severely dwindled for the first few years of their marriage. After about 5 years of marriage, Anne and Shaun began to fight frequently, and Shaun often felt anxious and worried. Anne wanted to have children, but Shaun

Case Report *continued*

was staunchly opposed. He knew that he would not be able to resist his urges. As their fighting got worse, Shaun noticed that his fantasies about children returned and he began to think of ways in which he could come into contact with children.

Shaun eventually quit his job at an engineering firm and took a job as an assistant at a day care center, after convincing his wife that he needed to work in a less stressful setting than the company where he had worked for years. He was hesitant to start acting on his urges at his new job right away, although he found his anxiety growing worse the more time he spent around children. He found himself using most of his free time to plan ways in which he could be alone with one of them. Finally, the day care supervisor assigned Shaun to take a 7-year-old boy home after the parent was unable to retrieve him. Suspicious of a lone car in a dark parking lot, a police officer approached, and found that Shaun had molested the boy. The officer arrested Shaun and charged him with kidnapping and sexual assault of a minor.

Relevant history: Shaun had been experiencing his pedophilic urges since the age of 16. He reported that he had been sexually abused "a few times" by his father when he was 5 or 6 years old, although he was unable to recall many details.

Case formulation: As with many individuals diagnosed with pedophilic disorder, Shaun presented as a "normal" individual with no criminal history or evidence of psychological disturbance. Although he sometimes appeared mildly anxious to other people, his co-workers remarked that they never would have believed that he was a pedophile. Shaun had successfully been keeping his urges and fantasies to himself, and until he was caught by the police officer, he had maintained the cover of a normal life. It was clear from the evaluation, however, that Shaun met all the necessary criteria for pedophilic disorder, and had acted on his urges many times. Since his attractions were limited to young boys, his diagnosis specifies this.

Treatment plan: Shaun agreed to begin attending weekly psychotherapy sessions targeting his pedophilic urges by using cognitive-behavioral techniques. Shaun was also prescribed antiandrogen medication, which aims to reduce sexual urges.

Sarah Tobin, PhD

11.1 What Patterns of Sexual Behavior Represent Psychological Disorders?

When it comes to sexuality, deciding which patterns of behavior represent psychological disorders becomes more complicated, perhaps, than in other areas of human behavior. When evaluating the "normality" of a given sexual behavior, the context is extremely important, as are customs and mores, which change over time. Attitudes and behaviors related to sexuality are continually evolving. For example, although not a sexual disorder, addiction to sex over the Internet is becoming progressively prevalent, and clinicians are increasingly seeing clients with Internet-related problems. A survey of more than 1,500 mental health professionals revealed 11 categories of problematic behavior among their clients, with the second most prevalent involving Internet pornography (Figure 1).

For decades, there was little scientific research on sexual disorders. In 1886, the Austro-German psychiatrist Richard Freiherr von Krafft-Ebing wrote a comprehensive treatise called *Psychopathia Sexualis* (1886/1950), in which he documented a variety of forms of what he called "sexual perversity," which also linked sexual fantasy and the compulsion to kill.

The three individuals credited with paving the way for contemporary research on human sexuality were Alfred Kinsey, William Masters, and Virginia Johnson. Kinsey was the first to conduct a large-scale survey of sexual behavior in the United States

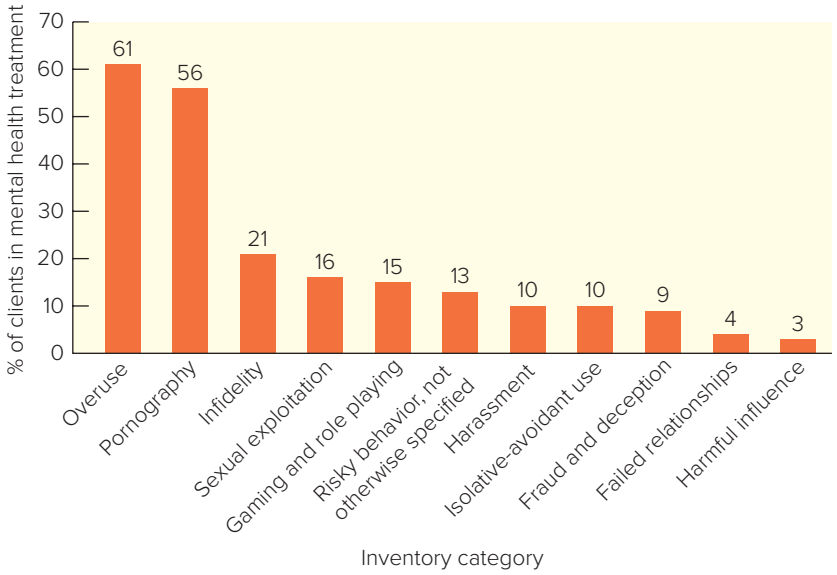


FIGURE 1 Percentage of Clinicians Reporting Client-Related Problematic Internet Experiences

Mitchell, K. J., Becker-Blease, K. A., & Finkelhor, D. (2005). Inventory of problematic internet experiences encountered in clinical practice. *Professional Psychology: Research and Practice, 36,* 489–509. American Psychological Association.

(1948; 1953). Masters and Johnson (1966, 1970) were the first investigators to study sexual behavior in the laboratory.

In the intervening decades, psychologists, along with specialists in the emerging field of sexual medicine, have continued to expand our knowledge of human sexual behavior, but there is much still for us to learn.

Alfred Kinsey pioneered a revolutionary study about sexual behaviors that changed the way Americans viewed norms about human sexuality.

William Masters and Virginia Johnson were among the first researchers to take the study of human sexual behaviors into the lab.

11.2 Paraphilic Disorders

paraphilias
Behaviors in which an individual has recurrent, intense sexually arousing fantasies, sexual urges, or behaviors involving (1) nonhuman objects, (2) children or other nonconsenting persons, or (3) the suffering or humiliation of self or partner.

paraphilic disorder
Diagnosis in which a paraphilia causes distress and impairment.

The term *paraphilia* (*para* meaning "faulty" or "abnormal," and *philia* meaning "attraction") literally means a deviation involving the object of a person's sexual attraction. **Paraphilias** are behaviors in which an individual has recurrent, intense sexually arousing fantasies, sexual urges, or behaviors involving (1) nonhuman objects, (2) children or other nonconsenting persons, or (3) the suffering or humiliation of self or partner (Cantor, Blanchard, & Barbaree, 2009). Clinicians diagnose **paraphilic disorder** when the paraphilia causes intense distress and impairment (Table 1).

Thus, a person's "nonnormative" (i.e., unusual) sexual behavior is not pathological in and of itself. Only when these fantasies, urges, or behaviors involve "recurrent and intense sexual arousal" that cannot be achieved in another fashion are they regarded as symptoms of a psychological disorder. The DSM, in addition to the ICD, are increasingly moving away from regarding deviation from heterosexual intercourse as a criterion for a paraphilic disorder (Giami, 2015).

The essential feature of a paraphilic disorder, then, is that people with one of these disorders are so psychologically dependent on the target of their desire that they are unable to experience sexual arousal unless this target is present in some form. Even if people with these disorders do not actually fulfill their urges or fantasies, they are obsessed with thoughts about carrying them out. Their attraction can become so strong and compelling that they lose sight of any goals other than achieving sexual fulfillment in this specific way.

During periods in which the individual feels especially stressed, the symptoms may become more intense. However, paraphilic disorders are not fleeting whims or daydreams. Each represents a condition that the individual receives a diagnosis for only if it has lasted for at least 6 months.

The life course of paraphilic disorders is that they begin in adolescence and tend to be chronic; however, there may be reductions in later life in the urges to commit acts that others consider sexually deviant (Barbaree & Blanchard, 2008). Paraphilic disorders also are more prevalent in men than women (Långström & Seto, 2006). Because people do not voluntarily report that they have them, researchers are unable to draw conclusions about their prevalence from epidemiological surveys. Having a paraphilic disorder is not illegal, but acting on paraphilic urges may be illegal. As a result, the person who reports having such a disorder runs the risk of being arrested, convicted, and then required to

TABLE 1 **Paraphilic Disorders**

Disorder	Characteristics
Pedophilic disorder	Sexual arousal for children or adolescents
Exhibitionistic disorder	Derive sexual arousal from exposing their genitals to unsuspecting stranger
Voyeuristic disorder	Derive sexual pleasure from observing nudity or sexual activity of others
Fetishistic disorder and partialism	Fetishism is sexual arousal from an object Partialism is sexual arousal from a part of the body
Frotteuristic disorder	Sexual urges and sexually arousing fantasies of rubbing against or fondling a nonconsenting person
Sexual masochism and sexual sadism	Masochism is being aroused by being made to suffer Sadism is being aroused by inflicting suffering on another person
Transvestic disorder	Engages in cross-dressing associated with intense distress or impairment

MINI CASE

Pedophilic Disorder Nonexclusive Type

Shortly following his marriage, Kirk began developing an inappropriately close relationship with Amy, his 8-year-old stepdaughter. It seemed to start out innocently, when he took extra time to give her bubble baths and backrubs. But, after only 2 months of living in the same house, Kirk's behavior went outside the boundary of common parental physical affection. After his wife left for work early each morning, Kirk invited Amy into his bed on the pretext that she could watch cartoons on the television in his bedroom. Kirk would begin stroking Amy's hair and gradually proceed to more sexually explicit behavior, encouraging her to touch his genitals, saying that it would be "good" for her to learn about what "daddies" are like. Confused and frightened, Amy did as she was told. Kirk reinforced compliance to his demands by threatening Amy that, if she told anyone about their secret, he would deny everything and he would severely beat her. This behavior continued for more than 2 years, until one day Kirk's wife returned home unexpectedly and caught him engaging in this behavior.

register as a sex offender. In addition to the feelings of shame such individuals may experience, these very real consequences add to the stigma of psychological disorders in general to cause people with paraphilic disorders to avoid identifying themselves as such, even as anonymous survey participants.

We will examine the specific diagnostic criteria along with current literature on the paraphilic disorders. In reality, there is considerable overlap among them in terms of their association with each other and with other psychological disorders, substance use, and sexual risk taking or novelty seeking.

pedophilic disorder
A paraphilic disorder in which an adult is sexually aroused by children or adolescents.

Pedophilic Disorder

People diagnosed with **pedophilic disorder** are sexually aroused by children or adolescents. Clinicians use this diagnosis for adults who are at least 18 years of age and at least 5 years older than the children to whom they are attracted. The key feature of this disorder is that the individual experiences sexual arousal when with children that may be equal to, if not greater than, that which he or she experiences with individuals who are physically mature. Note, too, that this diagnosis includes people who have acted upon their urges with children as well as those whose attraction is represented by their viewing Internet pornography involving children but who do not act on those urges (Berlin, 2014).

As mentioned, it is difficult to obtain prevalence data on paraphilic disorders, and particularly pedophilic disorder given the illegality of the behavior. Perhaps the best estimate comes from a study in which researchers examined its prevalence through an online survey. If they could be assured of not getting caught, 6 percent of men and 2 percent of women stated that they would have sex with a child. The likelihood of these same individuals viewing Internet sex with children was somewhat higher, with 9 percent of men and 3 percent of women stating they would view child pornography. For both men and women, interest in sex with children was associated with higher rates of antisocial or criminal behavior, as well as higher rates of abuse in childhood (Wurtele, Simons, & Moreno, 2014).

The data on the prevalence of child sexual abuse cases in the United States provide another potential source of prevalence data

Individuals with pedophilic disorder suffer from uncontrollable urges to engage in sexual activity with young children.

MINI CASE

Exhibitionistic Disorder, Sexually Aroused by Exposing Genitals to Physically Mature Individuals

Ernie is in jail for the fourth time in the past 2 years for public exposure. As Ernie explained to the court psychologist who interviewed him, he has "flashed" much more often than he has been apprehended. In each case, he has chosen as his victim an unsuspecting college-age woman, and he jumps out at her from behind a doorway, a tree, or a car parked at the sidewalk. He has never touched any of these girls, instead fleeing the scene after having exposed himself. On some occasions, he masturbates immediately after the exposure, fantasizing that his victim was swept off her feet by his sexual prowess and pleaded for him to make love to her. This time, his latest victim responded by calling the police to track him down. Ernie felt crushed and humiliated by an overwhelming sense of his sexual inadequacy.

on pedophilic disorder. Based on estimates of cases of sexual abuse, the number of children per year in the United States alone numbers slightly over 135,000 (Sedlak et al., 2010).

Another way to approximate the prevalence of pedophilia is to use reports of sexual assault involving children. This yields an estimate of nearly two-thirds who are under the age of 18. The most frequent form of sexual assault is forcible fondling (45 percent) followed in frequency by forcible rape (42 percent). Compared to older victims, those who are 18 and under are more likely to be victimized in a residence and most cases of sexual assault against children occur in the afternoon. Nearly all offenders reported to the law (96 percent) are male; the most frequently reported ages range from 15 to 20 years (Snyder, 2000).

Exhibitionistic Disorder

exhibitionistic disorder
A paraphilic disorder in which a person has intense sexual urges and arousing fantasies involving the exposure of genitals to a stranger.

People who engage in exhibitionism have fantasies, urges, and behaviors suggesting that they derive sexual arousal from exposing their genitals to an unsuspecting stranger. In **exhibitionistic disorder,** these fantasies, urges, and behaviors cause significant distress or impairment.

Exhibitionistic disorder begins early in adulthood and persists throughout life. In one study of a small sample of male outpatients with this disorder (Grant, 2005), researchers found that almost all also had another psychiatric disorder including major depressive disorder and substance abuse. Over half experienced suicidal thoughts. This was one of the few studies in a clinical setting of people with the disorder who were not criminal offenders. In another investigation of men from a police sample, approximately one-quarter also suffered from another psychological disorder (Bader, Schoeneman-Morris, Scalora, & Casady, 2008). The data from these samples are consistent with the findings from the Swedish national sample of nonclinical, noncriminal offenders, whose exhibitionism was also related to the presence of other psychological disorders (Långström & Seto, 2006).

The existence of comorbid conditions such as major depressive disorder and substance abuse, along with the reluctance of people with the disorder to come forward, present numerous challenges both for developing an understanding of the causes of the disorder and for planning its treatment (Murphy & Page, 2008). The most important step in treatment is accurately assessing both the disorder itself and these comorbid conditions (Morin & Levenson, 2008).

Voyeuristic Disorder

People who engage in voyeurism derive sexual pleasure from observing the nudity or sexual activity of others who are unaware of being watched. Correspondingly, people

Some people obtain sexual excitement by engaging in voyeuristic activities, such as looking at unsuspecting victims with binoculars.

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voyeuristic disorder
A paraphilic disorder in which the individual has a compulsion to derive sexual gratification from observing the nudity or sexual activity of others.

fetishistic disorder
A paraphilic disorder in which the individual is preoccupied with an object and depends on this object rather than sexual intimacy with a partner for achieving sexual gratification.

partialism
A paraphilic disorder in which the person is interested solely in sexual gratification from a specific body part, such as feet.

with **voyeuristic disorder** are sexually aroused by observing an unsuspecting person who is naked, in the process of disrobing, or engaging in sexual activity. Voyeurism is the most common of the paraphilic disorders. Related as well to exhibitionism, people with either of these disorders are also likely to engage in sadomasochistic behaviors and cross-dressing (Långström, 2010; Långström & Seto, 2006). Unlike exhibitionistic disorder, law officials are unlikely to apprehend individuals with this disorder and these individuals are even less likely to seek treatment.

Fetishistic Disorder

People with **fetishistic disorder** are aroused by an object not specifically intended to be used in a sexual context. There is a wide range of objects and a number of different body parts that people with fetishistic disorder can develop. However, they do not include articles of clothing associated with cross-dressing or objects such as vibrators that people use in tactile genital stimulation. In a related disorder, **partialism,** the individual is sexually aroused by the presence of a specific body part. Again, as with all paraphilic disorders, the attraction to objects or body parts must be recurrent, intense, and have lasted at least 6 months.

In a large-scale Internet study, Swedish researchers investigated the frequency of specific fetishes among 381 "Yahoo! Groups" devoted to the topic (Scorolli, Ghirlanda, Enquist, Zattoni, & Jannini, 2007). The research team counted numbers of groups, numbers of members of groups, and numbers of messages within groups. Nearly half of all fetishes tallied in this manner involved the feet and toes, and of all preferred objects, people were most likely to choose objects worn on the legs or feet.

In trying to interpret these findings, the study's authors noted that they are consistent with Freud's view that feet represent the penis. A preference for feet and foot-related objects may, according to this view, reflect leftover feelings from childhood associated with the Oedipus complex. A far simpler behavioral explanation is that the person acquired foot and other fetishes through simple conditioning of a learned response of sexual release with the presence of the specific body part or object.

Individuals with a fetish gain sexual excitement from everyday, nonsexual objects such as feet.

© Image Source/Getty Images

MINI CASE

Fetishistic Disorder, Nonliving Objects

For several years, Johann has been breaking into cars and stealing boots or shoes, and he has come close to being caught on several occasions. Johann takes great pleasure in the excitement that he experiences each time he engages in the ritualistic behavior of procuring a shoe or boot and going to a secret place to fondle it and masturbate. In his home, he has a closet filled with dozens of women's shoes, and he chooses from this selection the particular shoe with which he will masturbate. Sometimes he sits in a shoe store and keeps watch for women trying on shoes. After a woman tries on and rejects a particular pair, Johann scoops the pair of shoes from the floor and takes them to the register, explaining to the clerk that the shoes are a gift for his wife. With great eagerness and anticipation, he rushes home to engage once again in his masturbatory ritual.

Frotteuristic Disorder

frotteuristic disorder
A paraphilic disorder in which the individual has intense sexual urges and sexually arousing fantasies of rubbing against or fondling an unsuspecting stranger.

The term "frotteurism" derives from the French word *frotter* (meaning "to rub") and *frotteur* (the person who does the rubbing). The person with **frotteuristic disorder** has recurrent, intense sexual urges and sexually arousing fantasies of rubbing against or fondling a nonconsenting person. Among men diagnosed with paraphilic disorders, approximately 10 to 14 percent have committed acts of frotteurism (Långström, 2010).

Men with frotteuristic disorder seek out crowded places in which they can safely rub up against their unsuspecting victims such as in a crowded rush-hour subway train. Should they be caught, the perpetrators can pretend that they did not mean to commit the act and can disappear into the crowd. Because this behavior is so difficult to detect, and it is not typically reported to authorities by its victims, there is very little known about the disorder.

Sexual Masochism and Sexual Sadism Disorders

sexual masochism disorder
A paraphilic disorder marked by an attraction to achieving sexual gratification by having painful stimulation applied to one's own body.

sexual sadism disorder
A paraphilic disorder in which sexual gratification is derived from activities that harm, or from urges to harm, another person.

The term "masochism" refers to seeking pleasure from being in pain. People with **sexual masochism disorder** are sexually aroused by being beaten, bound, or otherwise made to suffer. Conversely, people with **sexual sadism disorder** become sexually aroused from the physical or psychological suffering of another person. *DSM-5* does not classify bondage, domination, and sadomasochism (BDSM) as a disorder in and of itself.

As is true for several of the paraphilic disorders, there is very little in the way of scientific research on sexual masochism and sexual sadism disorders. People with these disorders tend not to seek treatment because they feel no need to change, and because they often occur in the context of a consensual relationship. Even among consenting

MINI CASE

Frotteuristic Disorder

Bruce, who works as a delivery messenger in a large city, rides the subway throughout the day. He thrives on the opportunity to ride crowded subways, where he becomes sexually stimulated by rubbing up against unsuspecting women. Having developed some cagey techniques, Bruce is often able to take advantage of women without their comprehending what he is doing. As the day proceeds, his level of sexual excitation grows, so that by the evening rush hour he targets a particularly attractive woman and only at that point in the day allows himself to reach orgasm.

MINI CASE

Sexual Sadism and Sexual Masochism Disorders

For a number of years, Jalen has insisted that his wife, Camille, submit him to demeaning and abusive sexual behavior. In the early years of their relationship, Jalen's requests involved relatively innocent pleas that Camille pinch him and bite his chest while they were sexually intimate. Over time, however, his requests for pain increased and the nature of the pain changed. At present, they engage in what they call "special sessions," during which Camille handcuffs Jalen to the bed and inflicts various forms of torture. Camille goes along with Jalen's requests that she surprise him with new ways of inflicting pain, so she has developed a repertoire of behaviors, ranging from burning Jalen's skin with matches to cutting him with razor blades. Camille and Jalen have no interest in sexual intimacy other than that involving pain.

adults, sexual masochism and sadism take place shrouded in secrecy. Interestingly, men and women with masochistic sexual interests respond similarly to masochistic and conventional sexual stimuli rather than showing specificity to masochistic stimuli alone (Chivers, Roy, Grimbos, Cantor, & Seto, 2014).

transvestic disorder
Diagnosis applied to individuals who engage in transvestic behavior and have the symptoms of a paraphilic disorder.

Transvestic Disorder

Transvestism, also called "cross-dressing," refers to the behavior of dressing in the clothing of the other sex. The term most commonly refers to men, who are the large majority of individuals who show this behavior. A clinician would diagnose an individual with **transvestic disorder** only if he showed the symptoms of a paraphilic disorder, namely distress or impairment. Psychologists would consider a man who frequently cross-dresses and derives sexual pleasure from this behavior a transvestite, but they would not diagnose him with a disorder (Blanchard, 2010). It is interesting to note that *DSM-IV-TR* limited this behavior to heterosexual males, but *DSM-5* opened the diagnosis to women or gay men who have this sexual interest.

Transvestism is considered a psychological disorder only when it causes the individual to feel distress as a result of the cross-dressing behaviors. Transvestism is also distinct from transgenderism in that individuals who engage in cross-dressing typically identify with their biological gender.

Theories and Treatment of Paraphilic Disorders

As we mentioned at the outset of this section, deciding what is "normal" in the area of sexuality is an issue fraught with difficulty and controversy. Critics argued against including several of the paraphilic disorders in *DSM-5* because they feel that to do so pathologizes sexual behavior that happens to be infrequent. Moreover, they maintained that breaking the law is not a sufficient basis for determining that an individual engaging in a paraphilic behavior has a psychological disorder. This criticism is particularly leveled at the diagnoses of exhibitionistic, voyeuristic, and frotteuristic disorder, which don't involve "victims" in the same sense as do the other paraphilic disorders (Hinderliter, 2010).

Researchers and advocates within the field of sexual sadism and sexual masochism were critical of including these disorders in *DSM-5* at all, arguing instead that they do not share the qualities of the other paraphilic disorders because they involve consenting adults (Wright, 2010). The *DSM* authors, they believe, should base their decisions about psychiatric diagnoses on empirical evidence

MINI CASE

Transvestic Disorder, with Autogynephilia

In the evenings, when his wife leaves the house for her part-time job, Phil often goes to a secret hiding place in his workshop. In a locked cabinet, Phil keeps a small wardrobe of women's underwear, stockings, high heels, makeup, a wig, and dresses. Closing all the blinds in the house and taking the phone off the hook, Phil dresses in these clothes and fantasizes that he is being pursued by several men. After about 2 hours, he usually masturbates to the point of orgasm, as he imagines that a sexual partner is pursuing him. Following this ritual, he secretly packs up the women's clothes and puts them away. Though primarily limiting his cross-dressing activities to the evenings, he thinks about it frequently during the day, which causes him to become sexually excited and to wish that he could get away from work, go home, and put on his special clothes. Knowing that he cannot, he wears women's underwear under his work clothes, and he sneaks off to the men's room to masturbate in response to the sexual stimulation he derives from feeling the silky sensation against his body.

rather than on political or moral considerations (Shindel & Moser, 2011). The present system, though imperfect, nevertheless satisfies some of its critics in that behaviors such as BDSM in and of themselves are not regarded as disorders (Wright, 2014).

To be sure, there are many challenges facing researchers who attempt to understand the causes of a disorder that leads to so much damage and has so many legal ramifications. Apart from identifying people with the disorder, the problem is made far more difficult because even those who are available for scrutiny by researchers may not represent the population from which they are drawn. For example, most of the people who are available for studying disorders involving criminal acts such as pedophilic disorder are likely to have been arrested. Others who were not arrested are simply not available for study. The problem of unrepresentative samples means that prevalence estimate data are likely to be biased and unreliable.

The main point to keep in mind is that by defining the disorders in this area as involving intense distress or impairment, authors of the *DSM-5* hoped to avoid the issue of judging on a behavior's normality and instead base the criteria for a disorder on an individual's subjective experience of distress or degree of impairment in everyday life.

Biological Perspectives Most of what we know about paraphilic disorders is based on research involving people with pedophilic disorder, perhaps because they are most likely to enter the criminal justice system and thus be available for study. Clearly, this disorder has its own unique features, but researchers believe that information about how individuals develop this disorder may be helpful in understanding others.

From a biological perspective, paraphilic disorders involve a combination of influences including genetic, hormonal, and sensory factors in interaction with cognitive, cultural, and contextual influences (Guay, 2009). One theory of pedophilic disorders is that it results from early neurodevelopmental disorders, involving particularly the temporal lobe, which researchers believe is involved in sexual arousal. However, these changes could also be the result of early physical abuse or sexual victimization. Researchers have also identified altered serotonin levels in people with this disorder; however, these alterations may also be related to the presence of other psychological disorders that these individuals have not directly connected to a paraphilic disorder (Hall, 2007).

Castration is a biologically based treatment for men with paraphilic disorder, particularly pedophilic disorder. It is obviously a radical procedure, but is conducted when there are no alternatives. Men who receive this treatment become unable to produce

testosterone, a result accomplished either through surgical castration (removal of the testes) or chemical castration, in which the individual receives medications that suppress the production of testosterone. The cost of chemical castration, also known as antilibidinal psychopharmacological intervention, is high, ranging from $5,000 to $20,000 U.S. dollars per year. Due to the expense of this maintenance treatment, the state of Texas continues to use surgical castration as the only option. Eight other states in the United States can order offenders to submit to chemical or surgical castration.

Although castration might seem to be an effective method, one-third of castrated males can continue to engage in intercourse. There are also side effects that may increase the individual's risk of cancer or heart disease (Guay, 2009). Finally, as you can imagine, there are significant ethical issues involved that must be balanced against the need to protect the public from sex offenders (Thibaut, De La Barra, Gordon, Cosyns, & Bradford, 2010).

Clinicians treating paraphilic disorders based on the biological perspective may instead use psychotherapeutic medications intended to alter the individual's neurotransmitter levels. Researchers have tested the effectiveness of antidepressants, including fluoxetine, sertraline, phenelzine, and mirtazapine for nearly all of the paraphilic disorders. The other categories of tested psychotherapeutic medications include anticonvulsants, anxiolytics, mood stabilizers, neuroleptics, and opioid antagonists.

Medications that involve GABA or glutamate receptors are another biological approach. These may work by decreasing the activity of dopamine, a neurotransmitter involved in sexual arousal (Hall, 2007). Unfortunately, most of these studies, including those involving chemical castration, are based on small samples lacking experimental controls. Moreover, many of the participants in these studies had more than one paraphilic disorder and/or another psychiatric diagnosis. However, for individuals who are at moderate or high risk of reoffending, the available data support the use of SSRIs in combination with female hormones that produce a form of chemical castration (Guay, 2009).

Psychological Perspectives

Freud's psychoanalytic understanding of the paraphilic disorders was the dominant psychological perspective throughout the twentieth century. He believed that these disorders were perversions representing both biological and psychological factors in early development (Thibaut et al., 2010). According to John Money (1973/1996), in contrast, paraphilias are the expression of **lovemaps**—the representations of an individual's sexual fantasies and preferred practices. People form lovemaps early in life, during what Money considers a critical period of development: the late childhood years, when an individual first begins to discover and test ideas regarding sexuality. "Misprints" in this process can result in the establishment of sexual habits and practices that deviate from the norm. A paraphilia, according to this view, is due to a lovemap gone awry. The individual is, in a sense, programmed to act out fantasies that are socially unacceptable and potentially harmful.

lovemap
The representations of an individual's sexual fantasies and preferred practices.

The majority of the psychological literature on paraphilic disorders focuses on pedophilic disorder. A common theme in this literature is the idea of a "victim-to-abuser cycle" or "abused-abusers phenomena," meaning that abusers were themselves abused at some point in their lives, probably when they were young. Arguing against these explanations is the fact that most abuse victims do not go on to abuse or molest children. On the other hand, some people with pedophilic disorder who were abused as children show an age preference that matches their age when they were abused, suggesting that they are replicating the behaviors that were directed toward them as children.

Treatments within the psychological perspective seem most effective when combining individual with group therapy. In the group context, in particular, empathy training can help these individuals understand how their victims are feeling. Adding to the equation

The World Federation of Societies of Biological Psychiatry has proposed guidelines for the treatment of people with paraphilic disorder that are staged according to the severity of the individual's symptoms.

within the psychological perspective, clinicians may also train clients in learning to control their sexual impulses. Relapse prevention, much as it is used in treating clients with addictive disorders, helps clients accept that even if they slip, this does not mean that they cannot overcome their disorder. Clinicians no longer recommend a method used in the past known as aversion training, in which they teach clients to associate negative outcomes with sexual attraction toward children and masturbatory reconditioning to change their orientation away from children (Hall, 2007).

The World Federation of Societies of Biological Psychiatry has proposed guidelines for the treatment of people with paraphilic disorder that combine hormonal with psychological interventions, staging the treatments according to the severity of the individual's symptoms. Rather than eliminate sexual urges, the aim of treatment is to control sexual fantasies, compulsions, and behavior without impact on the individual's conventional sexual activity and sexual desire.

Psychotherapy is the recommended treatment at the first level, particularly CBT (Assumpção, Garcia, Garcia, Bradford, & Thibaut, 2014). If unsuccessful, clinicians add psychotherapeutic medications (SSRIs). At increasing levels of severity defined according to whether treatment is effective or not, clinicians add hormonal treatment starting with antiandrogens, progressing to progesterone, and finally, neurohormones that act on the areas in the pituitary gland that control the release of sex hormones. At this point in treatment, appropriate only for the most severe cases, the goal is complete suppression of sexual desire and activity (Thibaut et al., 2010).

Currently, researchers believe that the most effective treatment involves a combination of hormonal drugs intended to reduce androgen (male sex hormone levels) and psychotherapy (Hughes, 2007). Even so, under the best of circumstances, it appears that the most that we can hope for is that the individuals can manage their urges, but they cannot change their attraction to children (Hall, 2007).

Another focus of treatment may be clinicians themselves. Due to stigmatization of people with these disorders, particularly pedophilic disorder, clinicians may be less willing to offer them treatment. In one such intervention, researchers presented therapists in training with a 10-minute video that effectively challenged typical myths about pedophilia such as the idea that it is a choice and that people with this disorder act upon their urges (Jahnke, Philipp, & Hoyer, 2015).

You Be the Judge

Treatment for Sex Offenders

The paraphilic disorders present an ethical challenge to psychologists because of their potential link to the harm of others, particularly children and young teenagers. Treatment must be balanced with a range of ethical dilemmas involving the rights of the clients, including confidentiality, informed consent, and the right to self-determination. These rights must also be balanced against the clinician's duty to prevent harm, both to others and to the client. Since treatment is often court mandated, the question becomes whether this represents punishment rather than therapy.

Social workers David Prescott and Jill Levenson (2010), both of whom have extensive background in treating sex offenders, suggest that clinicians can conduct mandated treatment in a manner that is consistent with the clinician's code of ethics. Mandated treatment, rather than representing punishment, they argue, is intended to assist offenders to correct the behaviors that were of harm to others and themselves. Moreover, the ethical standards that clinicians abide by regarding confidentiality are consistent with the "duty to warn" component of sex offender therapy: "Mandatory reporting trumps privilege" (Prescott & Levenson, 2010, p. 278). Second, regarding the issue of the client's right to self-determination, sex offenders are not the only individuals whom the law mandates to receive therapy. Child abusers and drivers arrested for operating a vehicle while intoxicated are two examples, but there are other cases in which the justice system gives family members, for example, an ultimatum to receive treatment for such behaviors as compulsive gambling.

Individuals who choose to work with sex offenders, according to Prescott and Levenson (2010), do so out of compassion and a desire to rehabilitate their clients so that they can become functioning members of society. They have found a way to empathize with clients who have committed sexually violent acts without judging the offenders and overcome the "natural human reaction" of "disdain" (p. 282) to these individuals.

Q: *You be the judge:* Do you agree that the principles of human rights and the ethical guidelines presented by professional associations serve to protect sex offenders when they enter into therapy? Should the justice system even offer sex offender therapy or should these individuals simply be incarcerated? On the other hand, is rehabilitation a realistic goal, as Prescott and Levenson claim, or are sex offenders beyond help?

11.3 Sexual Dysfunctions

Sexual arousal leads to a set of physiological changes throughout the body often culminating in orgasm. A **sexual dysfunction** involves a marked divergence of an individual's response in the sexual response cycle along with feelings of significant distress or impairment. To consider it a sexual dysfunction, clinicians must not be able to attribute this divergence to psychological disorder, effects of a substance such as a drug of abuse or medication, or a general medical condition.

sexual dysfunction
An abnormality in an individual's sexual responsiveness and reactions.

Clinicians rate a person's sexual dysfunction according to whether it is lifelong or acquired, and generalized or situational. An individual with a lifelong dysfunction has experienced it since he or she became sexually active. People with acquired sexual dysfunctions were at some earlier point asymptomatic. Those dysfunctions that are situational occur with only certain types of sexual stimulation, situations, or partners. Generalized dysfunctions affect the individual in all sexual situations.

Legendary researchers Masters and Johnson (1966, 1970) were the first scientists to observe systematically the sexual responses of men and women under controlled laboratory

conditions. Through their work, they identified four phases of the sexual response cycle—excitement (arousal), plateau, orgasm, and resolution.

During the excitement (or arousal) stage, the individual's sexual interest heightens, and the body prepares for sexual intercourse (vaginal lubrication in the female, penile erection in the male). Sexual excitement continues to build during the plateau phase, and during the orgasm phase the individual experiences muscular contractions in the genital area that bring intense sensations of pleasure. The resolution phase is a period of return to a physiologically normal state. People differ in their typical patterns of sexual activity; some people progress more readily through the phases and others progress at a slower pace. Not every sexual encounter necessarily involves all phases, however, and arousal and desire may arise simultaneously from the processing of sexual stimuli (Basson, 2001).

Physiological factors and chronic health conditions are strongly related to the risk of developing sexual disorders. We will outline these where they apply to the specific disorders later in this section, but there are a number of conditions that influence the development of these disorders, including diabetes, cardiovascular disease, other genitourinary diseases, psychological disorders, other chronic diseases, and smoking. In the case of some of these medical conditions, it is the medication and not the condition itself that places the individual at risk. For example, medications that treat high blood pressure can have the side effect of lowering sexual responsiveness in men (Lewis et al., 2010).

Not surprisingly, perhaps, there are few reliable prevalence data on these disorders (Lewis et al., 2010). Not only have definitions of many of these disorders changed periodically, leading to differing estimates (e.g., McCabe & Connaughton, 2014), but people are reluctant to report that they are experiencing symptoms. Only recently are researchers systematically beginning to arrive at measurable criteria based on the unique assessment methods that they require. Fortunately, work toward the *DSM-5* led to improved and more rigorous diagnostic procedures that eventually will lead to more reliable data sources.

In a research context, the Female Sexual Function Index (Rosen et al., 2000) is an empirical measure used in a number of studies to investigate prevalence of sexual dysfunctions in women and as a measure of the efficacy of treatment. The FSFI is a 19-item multidimensional self-report scale that asks questions related to sexual functioning within the past month, with subscales related to specific domains of lubrication, desire, subjective arousal, orgasm, satisfaction, and pain associated with intercourse. Respondents rate their answers on a Likert-type scale to assess the severity of problems associated with these areas. One example item is, "Over the past 4 weeks, when you had sexual stimulation or intercourse, how difficult was it for you to reach orgasm (climax)?" with possible responses of "No sexual activity; Extremely difficult or impossible; Very difficult; Difficult; Slightly difficult; Not difficult."

MINI CASE

Female Interest/Arousal Disorder, Acquired

With the pressures of managing a full-time advertising job and raising 3-year-old twins, Carol says that she has "no time or energy" for sexual relations with her husband, Bob. In fact, they have not been sexually intimate since the birth of their children. Initially, Bob tried to be understanding and to respect the fact that Carol was recovering from a very difficult pregnancy and delivery. As the months went by, however, he became increasingly impatient and critical. The more he pressured Carol for sexual closeness, the more angry and depressed she became. Carol feels that she loves Bob, but she does not think about sex and can't imagine ever being sexual again. She is saddened by the effect that this change has had on her marriage, but feels little motivation to try to change.

Arousal Disorders

People whose sexual disorders occur during the initial phases of the sexual response cycle have low or no sexual desire, or are unable to achieve physiological arousal. As a result, they may avoid having or be unable to have sexual intercourse.

The man with **male hypoactive sexual desire disorder** has an abnormally low level of sexual activity or may have no interest in sexual activity. In addition, a man with this disorder either has relatively few or no sexual fantasies. A woman with **female sexual interest/arousal disorder** is interested in having intercourse, but her body does not physiologically respond during the arousal phase. The *DSM-5* merged female hypoactive desire dysfunction and female arousal dysfunction into a single syndrome called female sexual interest/arousal disorder because the two dysfunctions could not reliably be distinguished.

male hypoactive sexual desire disorder
A sexual dysfunction in which the individual has an abnormally low level of interest in sexual activity.

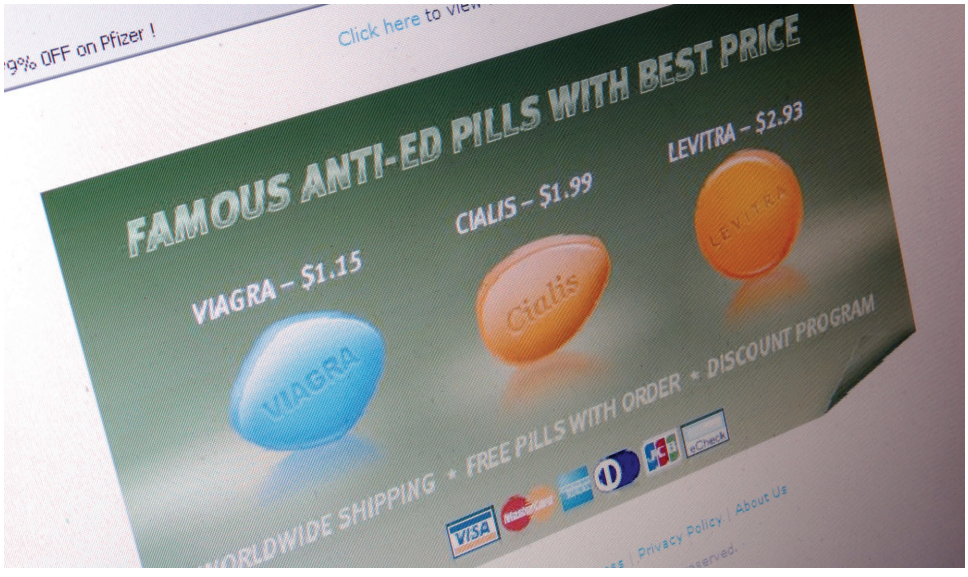
female sexual interest/arousal disorder
A sexual dysfunction characterized by a persistent or recurrent inability to attain or maintain normal physiological and psychological arousal responses during sexual activity.

In *DSM-IV-TR*, the definition of this disorder referred to "desire" instead of interest/arousal. This presented a challenge in the diagnosis of women, according to researchers in this field. Some reports indicate that low sexual desire is relatively prevalent among women, with estimates in some samples ranging as high as 55 percent, although the majority of studies from around the world place the prevalence at closer to 40 percent. In general, the percent of women who are distressed about having low sex desire is far lower than is true for men. Therefore, if a sexual dysfunction was defined for women as involving low levels of desire, it would apply to a large percentage of women, and not necessarily those who were truly distressed.

Because low sexual desire seems to be relatively common, the issue for diagnosing women is that loss of desire might not be the best or only criterion to use to decide who has a sexual dysfunction. *DSM-5* therefore defines this disorder as one involving loss of sexual interest across a range of behaviors instead of only loss of interest. The behaviors that suggest low sexual interest include lower levels of arousal, fewer erotic thoughts, less enjoyment of sexual activity, and less intense sensations during sexual activity (Brotto, 2010).

Men with **erectile disorder** cannot attain or maintain an erection during sexual activity that is sufficient to allow them to initiate or maintain sexual activity. Even if they are able to achieve an erection, they are unable to penetrate or to experience pleasure during a sexual encounter. Although once thought of as either physiologically or psychologically caused, clinicians and researchers now understand erectile disorder as having multiple causes that they cannot clearly separate into these two categories (Segraves, 2010). A very rough estimate of the prevalence of erectile disorder is 26 to 28 per 1,000 man-years, with higher rates among older men (Lewis et al., 2010).

erectile disorder
Sexual dysfunction in which a man cannot attain or maintain an erection during sexual activity that is sufficient to allow him to initiate or maintain sexual activity.



Advertisements for male erectile enhancement drugs such as this are widely found on the Internet.

MINI CASE

Erectile Disorder, Acquired

Kai is 34 years old and has been dating the same woman for more than a year. This is his first serious relationship and the first person with whom he has been sexually intimate. During the past 6 months, they have frequently tried to have intercourse, but each time they have become frustrated by Kai's inability to maintain an erection for more than a few minutes. Every time this happens, Kai becomes very upset, despite his girlfriend's reassurance that things will work out better next time. His anxiety level heightens every time he thinks about the fact that he is in his midthirties, sexually active for the first time in his life, and encountering such frustrating difficulties. He fears he is "impotent" and will never have a normal sex life.

Disorders Involving Orgasm

female orgasmic disorder
A sexual dysfunction in which a woman experiences problems having an orgasm during sexual activity.

Inability to achieve orgasm, a distressing delay in achieving orgasm, or reduced intensity of orgasm constitutes **female orgasmic disorder.** Although previous versions of the *DSM* regarded orgasm resulting from clitoral stimulation as distinct from that resulting from intercourse, the *DSM-IV-TR* removed this criterion, recognizing that women can experience orgasm through a wide variety of types of stimulation. The *DSM-5* similarly does not distinguish between sources of orgasm in defining the criteria for this disorder. These changes reflect the recognition that not all women similarly experience the sexual response cycle described by Masters and Johnson (1966).

The factors relating to a woman's reporting of female orgasmic disorder include stress, anxiety, depression, relationship satisfaction, and age-related changes in the genital area that can lead to pain, discomfort, irritation, or bleeding (Laumann & Waite, 2008). Size and location of the clitoris may also relate to a woman's ability to achieve orgasm (Oakley et al., 2014).

delayed ejaculation
A sexual dysfunction in which a man experiences problems having an orgasm during sexual activity; also known as inhibited male orgasm.

premature (early) ejaculation
A sexual dysfunction in which a man reaches orgasm well before he wishes to, perhaps even prior to penetration.

In general, women are more likely than men to report sexual difficulties involving the subjective quality of the experience. Men are more likely to report physical problems in achieving or maintaining erection.

Men with a marked delay in ejaculation or who rarely, if at all, experience ejaculations have **delayed ejaculation.** Men with **premature (early) ejaculation** reach orgasm in a sexual encounter with minimal sexual stimulation before, on, or shortly after penetration and before wishing to do so (within 1 minute). Regardless of what we call these disorders, clinicians prefer to apply a psychiatric diagnosis only when the individual is

MINI CASE

Female Orgasmic Disorder, Lifelong

Like many of her friends, when Margaret was a teenager she often wondered what intercourse and orgasm would feel like. When she later became sexually active in college, Margaret realized that she was probably still missing something, since she did not feel "rockets going off" as she had imagined. In fact, she never could experience orgasm when she was with a man in any kind of sexual activity. When Margaret fell in love with Howard, she fervently hoped that things would improve. However, even though he made her feel more sensual pleasure than anyone else, her response to him always stopped just short of climax. She approached every sexual encounter with anxiety, and, afterward, tended to feel depressed and inadequate. To avoid making Howard worry, however, Margaret decided it would be better to fake orgasm than to be honest with him. After 5 years together, she still has not told him that she is not experiencing orgasms, and she feels too embarrassed to seek professional help, despite her ongoing distress.

MINI CASE

Premature (Early) Ejaculation, Lifelong

Jeremy is a 45-year-old investment broker who has struggled with the problem of premature ejaculation for as long as he can remember. Since his first experience with sexual intercourse as a college student, he has been unable to control his orgasms. He customarily ejaculates seconds after penetration. Because of this problem, his relationships over the years have been strained and difficult. In each instance, the person he was dating at the time became frustrated, and Jeremy felt too embarrassed to continue the relationship. For a period lasting several years, he avoided sexual relations completely, knowing that each experience of failure would leave him feeling depressed and furious.

distressed about the condition. The prevalence rate for premature ejaculation varies widely, from 8 to 30 percent, and seems to depend on age group and country (Lewis et al., 2010).

The distinction between the nature of orgasmic difficulties for men and women led a group of clinicians and social scientists called "The Working Group for a New View of Women's Sexual Problems" to criticize the *DSM* for failing to take into account the greater focus in women on relational aspects of sexuality and individual variations in women's sexual experiences. They proposed that the profession define sexual problems as difficulties in any aspect of sexuality—emotional, physical, or relational. Researchers also believe that more work is needed to understand the experiences of women from a variety of cultures, across different age groups, and from women of differing sexual orientations (Graham, 2010).

Other critics argue that the term "distress" does not accurately capture the subjective experience of women's difficulties in having orgasm. Using the focus group method, researchers found that "frustration" more aptly characterized the feelings of women who experienced problems with orgasm (Kingsberg et al., 2013).

Disorders Involving Pain

Clinicians diagnose sexual pain disorders, which involve the experience of difficulty in a sexual relationship due to painful sensations in the genitals from intercourse, **genito-pelvic pain/penetration disorder.** Genito-pelvic pain/penetration can affect both males and females. The individual experiences recurrent or persistent genital pain before, during, or after sexual intercourse.

genito-pelvic pain/penetration disorder
A sexual dysfunction affecting both males and females that involves recurrent or persistent genital pain before, during, or after sexual intercourse.

Prior to *DSM-5,* clinicians had to choose between disorders involving vaginismus, or involuntary spasms of the muscles outside the vagina, and dyspareunia, or pain associated with intercourse. Although clinically these were considered difficult to differentiate, some researchers now believe that the two conditions differ importantly on the dimension of fear. Women with vaginismus have greater fear and avoidance of penetration, even for a gynecological exam (Lahaie, Amsel, Khalifé, Boyer, Faaborg-Andersen, & Binik, 2015). This could be an important distinction in terms of treatment implications, but for now, the two conditions remain within the same diagnostic category.

Theories and Treatment of Sexual Dysfunctions

We can best view sexual dysfunctions as an interaction of complex physiological, psychological, and sociocultural factors, and as such are well suited to understanding from a biopsychosocial perspective. Reflecting this theoretical background, in attempting to

What's in the *DSM-5*

The Reorganization of Sexual Disorders

The sexual disorders underwent major rethinking in the *DSM-5*. The most significant changes involved declaring that clinicians do not consider paraphilias disorders unless they involve distress or impairment. This change recognizes the continuum along which sexual behavior falls and removes the stigma attached to sexual behaviors that do not cause distress or impairment or harm to others.

The sexual dysfunctions also became redefined in *DSM-5*. Hypoactive sexual desire disorder is diagnosed only in men; women receive a diagnosis of hypoactive sexual interest/arousal. The previously separate disorders of vaginismus (inability to allow penetration) and dyspareunia (pain with intercourse) were combined into one disorder, called genito-pelvic pain/penetration disorder, because they are difficult to distinguish from one another.

In other changes, the term "early" was added in parentheses after "premature" ejaculation, and male orgasmic disorder was relabeled "delayed" ejaculation. Both of these terms reflect a desire, once again, to destigmatize a variant on human sexuality.

Finally, the relabeling of what was called "gender identity disorder" in *DSM-IV-TR* to the new term of "gender dysphoria," along with other changes within this category, provide a revamped view of these disorders that not only is more consistent with the research evidence, but also brings a greater understanding to people who experience the emotional distress of a mismatch between their biological sex and their own sense of identity.

Though based on empirical evidence, then, the *DSM-5* changes in the area of sexual disorders also clarify in important ways the many varieties of "normal" human sexuality. As these changes take hold in the psychological and psychiatric communities, they will provide directions for successful approaches to the treatment of people whose sexuality causes them to experience distress.

help a client with a sexual dysfunction, the clinician must first conduct a comprehensive assessment that includes a physical examination and psychological testing, including the client's partner, if appropriate. In addition, the clinician must assess the individual's use of substances including not only drugs and alcohol, but also all medications, including psychotherapeutic ones.

Biological Perspectives

Perhaps one of the best-researched sexual dysfunctions is erectile disorder. In 1970, Masters and Johnson claimed that virtually all men (95 percent) with erectile disorder (ED) had psychological difficulties such as anxiety and job stress, boredom with long-term sexual partners, and other relationship issues. Since that time, researchers have arrived at very different conclusions as a result of new and more sophisticated assessment devices sensitive to the presence of physiological abnormalities.

Health care professionals view more than half the cases of erectile disorder as attributable to physical problems of a vascular, neurological, or hormonal nature, or to impaired functioning caused by drugs, alcohol, and smoking. Thus, clinicians treating men with erectile disorder may first consider physiological contributions to the individual's symptoms before concluding that psychological factors are the cause.

Medications to treat erectile disorder include the prescription drugs Viagra, Levitra, and Cialis. These are all in the category of phosphodiesterase (PDE) inhibitors, which work by increasing blood flow to the penis during sexual stimulation. What makes such medications appealing is the fact that they are so much less invasive than previous treatments for erectile disorder, such as surgery and implants, and so much less awkward than vacuum pumps or penile injections. These medications work when accompanied by the experience of sexual excitement, unlike other

MINI CASE

Genito-Pelvic Pain/Penetration Disorder, Lifelong

Shirley is a 31-year-old single woman who has attempted to have sex with many different men over the past 10 years. Despite her ability to achieve orgasm through masturbation, she has found herself unable to tolerate penetration during intercourse. In her own mind, she feels a sense of readiness, but her vaginal muscles inevitably tighten up and her partner is unable to penetrate. It is clear to Shirley that this problem has its roots in a traumatic childhood experience. She was sexually abused by an older cousin. Although she recognizes that she should seek professional help, Shirley is too embarrassed and has convinced herself that the problem will go away if she can find the right man who will understand her problems.

treatments in which the man achieves an erection artificially and independent of what is going on sexually with the man or his partner.

Hormonal changes that can influence sexuality take place with the climacteric, the gradual loss of reproductive potential that occurs in men and women. For women, these changes occur during years before and after menopause, when the woman's monthly menstrual cycle ceases and estrogen production declines. For men, the corresponding changes involve decreasing production of testosterone across the years of middle and later adulthood.

The lowering of estrogen levels throughout the period of the menopause can lead the woman to experience a number of physical symptoms that affect her sexuality, including vaginal dryness and gradual shrinking of vaginal size and muscle tone. These changes themselves do not affect the woman's ability for arousal during sexual activity, however. Women also experience a decline in free testosterone, the male sex hormone, but it is not clear whether this decline is related to changes in sexual desire and satisfaction. A variety of chronic diseases can also interfere with a woman's sexual desire and response including diabetes, spinal cord injury, multiple sclerosis, hypothyroidism (low thyroid levels), and the aftermath of cancer surgery involving the uterus. Medications that act on the serotonin and dopamine systems can also interfere with sexual responsiveness in women (Both, Laan, & Schultz, 2010).

Sexual dysfunctions can be disruptive and frustrating for intimate couples.

The treatment of female sexual interest/arousal disorder that follows from the biological perspective incorporates hormonal replacement therapy (estrogen and progesterone), estrogen cream applied directly to the vagina, and testosterone therapy (Traish, Feeley, & Guay, 2009). Doctors may also give women a PDE inhibitor (i.e., "female" Viagra), but its efficacy remains undemonstrated (Both et al., 2010). This is not to be confused with flibanserin, approved by the FDA in 2015 under the trade name Addyi. Though also dubbed the "female Viagra," it actually works by a different mechanism than PDE inhibitors and is meant to increase a woman's interest in sexual activity.

Genito-pelvic pain/penetration disorder presents a different set of challenges. From a biological perspective, the physical symptoms can come from a variety of sources, including disturbances in the muscle fibers in the pelvic area (called the "pelvic floor"). When treating these disorders, however, the clinician may be unable to trace the exact cause of the individual's pain. The best approach appears to be multifaceted, including application of corticosteroids and physical therapy to promote muscle relaxation and improved blood circulation. The clinician may also use electrical nerve stimulation to relieve the individual's pain and prescribe pharmacological agents such as amitriptylene and pregabalin (Lyrica®) (Bergeron, Morin, & Lord, 2010).

The prescription drug, Addyi, dubbed the "female Viagra," is intended to increase a woman's interest in sexual activity.

Psychological Perspectives Recognizing the role of physiological factors, the psychological perspective emphasizes the further contributing effects, if not causal role, of cognitions, emotions, and attitudes toward sexuality. We have already seen that women with vaginismus experience fear regarding penetration of the vagina.

Learned associations between sexual stimuli and pleasurable feelings can play an important role in sexual excitability. In the case of erectile disorder, one team of researchers identified as a predisposing factor a man's belief in the "macho myth" of

REAL STORIES

Sue William Silverman: Sex Addiction

In *Love Sick: One Woman's Journey Through Sexual Addiction*, author Sue William Silverman tells the story of her battle with sexual addiction, and documents her stay at an intensive, 28-day inpatient hospital treatment program where she begins to battle her addiction for the first time. Sue joined the treatment program only at the urging of her therapist, Ted, who had recognized that her addiction had slowly been destroying every aspect of her life.

The hospital unit that Sue attended was populated with other women struggling with sexual addiction. She describes, "The only other time I was surrounded by women (girls, really) was when I lived in a college dorm. Except I didn't feel surrounded by girls then, either. For my attention was always drawn outside my bay window, to men disturbing the nights of Boston." Sue's interactions with the other women helped her gain a different perspective on her addiction, in seeing how other women were affected by sexual addiction from a more objective point of view.

In the hospital, Sue is required to maintain a rigid, daily schedule that includes group and individual therapy with Ted, regular meal times, and time for personal reflection. Much like Alcoholics Anonymous, she is required to go through a 12-step program toward recovery. As Sue makes her way through the workbook she uses throughout treatment, she reflects on many past sexual encounters with men and how she repeatedly sought out sexual affection in the hope of feeling a sense of genuine fulfillment, though the encounters only left her needing more.

Sue realizes that as a result of her constant need for sexual fulfillment and a propensity to shift her identity based on which man's attention she was seeking, she never took the time to understand her own identity. She describes that rather than her true self, it was a different version of herself–an addict persona, who had sought out all those men. She writes, "When I'm fully in the power of that addict-woman, when I am *most* sick, I am, ironically, totally capable of swimming, going to parties, socializing: *being what appears to be normal.* Yes, all these years I've convinced not only myself, but also others, that my behavior is normal because, in the strength of the addiction, I can *seem* normal. . . . Now, however, when the addiction is receding, when I'm in withdrawal, even though I'm getting better, everything scares me and I appear to be a wreck. Except I'm not; I'm in the process of becoming normal." She is in the process of not only recovering from her addiction, but becoming herself.

Author Sue William Silverman chronicles her struggle with sexual addiction in *Love Sick: One Woman's Journey Through Sexual Addiction.*

Courtesy of Sue William Silverman/www.SueWilliamSilverman.com

In the book, Sue describes how therapy helped her to recognize the danger of her addiction and the consequences of her behaviors. "For months, like a mantra, my therapist has told me, 'These men are killing you.' I don't know if he means emotionally, spiritually, or physically. I don't ask. He explains that I confuse sex with love, compulsively repeating this destructive pattern with one man after another. I do this because as a girl I learned that sex is love from my father, the first dangerous man who sexually misloved me." Sue explains that her father sexually abused her from the time she was a young girl until she left home to go to college in Boston. Once she was in college, Sue found herself spending the majority of her time thinking about and seeking out men for sex. She began a string of sexual affairs that continued until the time she entered the hospital. Each affair began soon after meeting each man, and she would attain an intense feeling of satisfaction during each sexual encounter, followed by feelings of emptiness and then the immediate desire to seek out another sexual encounter.

"The intensity is an addict's 'high,'" my therapist says. "Not love." To numb the shame and fear associated both with the past and with my current sexual behavior, I medicate, paradoxically, by using sex, he explains. "But sometimes that 'high' stops working. Usually after a scary binge."

Sue also suffered from eating disordered behavior, and was dangerously thin when she entered the treatment program. Some of the therapy groups in the treatment program focused on the connection between her body image and her addiction, and she reflects on her thoughts about her body: ". . . But *it* is not *me*–although my body is part of me–the thinner, the better. Less body, less trouble. No body. *No* trouble. If no man is able to see my body, then I won't have to keep having sex."

Throughout the book Sue talks about her marriage, which at the time of her entering treatment had dissolved to the point where she and her husband barely

spoke and slept in separate bedrooms. She writes that she married her husband as a way to seek out normalcy and stability. Her husband, Andrew, is not aware of her battles with sexual addiction, and when she comes to the inpatient program she only tells him that she is seeking treatment for depression. Sue visits with her husband briefly while she is in the hospital, and their relationship offers her a sense of security that helps her through the difficulty of becoming, and staying, sober. In the program Sue finds that she longs to achieve a sense of balance and stability in her life. She calls it "a state of nothingness: I won't be drunk; nor will I have to struggle so hard to be sober." Although with her therapist, she comes to realize that stability means more than not giving into her addictive behaviors, but finding out who she is and genuinely being that person.

When she leaves the hospital, Sue continues to attend individual therapy and a weekly Sex Addicts Anonymous group. Through the strength and insight that she attained in the hospital, Sue begins the slow process of recovery. The book ends by describing Sue's first day at home from the hospital. Although she finds herself missing the safety of the unit and the women she came to know, she finds comfort in doing ordinary things like making dinner with her husband and begins to plan for her future. "Now I must learn that love is where I carve out my own life," she writes.

sexual infallibility. Their belief in this myth makes them more prone to developing dysfunctional thoughts (e.g., "I'm incompetent") when they have an unsuccessful sexual experience. Once the man activates these thoughts, they impair his ability to process erotic stimuli and have sexual thoughts and images. By turning his attentional focus away from the encounter and toward his feelings of incompetence and sadness, he then is less able to achieve and maintain an erection during future sexual encounters (Nobre, 2010).

Women's preoccupation with body image is known to interfere with their sexual functioning, perhaps interacting with attitudes toward sexuality in general (Lemer, Salafia, & Benson, 2013). Researchers have also identified a man's self-image about the size of his genitals as a factor in erectile dysfunction. Among a sample of military personnel aged 40 and under, men with lower genital self-image had higher rates of sexual anxiety which, in turn, was related to higher rates of erectile dysfunction (Wilcox, Redmond, & Davis, 2015).

In addition to discomfort with their bodies, individuals may hold negative "sexual self-schemas" such as feeling unloved, inadequate, and unworthy. They then transfer these self-schemas onto sexual situations, causing them to become anxious when they feel that an inability to achieve an orgasm will cause their partner to become tired. This belief in their own incompetence in sexual situations understandably inhibits their enjoyment (Nobre & Pinto-Gouveia, 2009). The Questionnaire of Cognitive Schema Activation in Sexual Context: Male Version is a brief test that presents the respondent with four different scenarios that illustrate common sexual dysfunctions. For instance, one of the items presents a scenario in which the individual experiences premature ejaculation during intercourse. Respondents are instructed to rate how often each of the scenarios has happened to them and then to select from a given list of emotions those that represent their primary emotions while experiencing their most frequent sexual dysfunction. Depending on how the individual responds to the questions, the test can identify a number of different self-schemas related to sexual functioning.

The quality of the relationship may also contribute to sexual dysfunction, particularly for women, whose sexual desire is sensitive to interpersonal factors, including the frequency of positive interactions (Both et al., 2010). Researchers are also discovering the cognitive factors involved in genito-pelvic pain/penetration disorder that compound the physical causes, making women with this disorder highly sensitized even to words related to sex (Thaler, Meana, & Lanti, 2009). This greater sensitivity about pain and having low levels of self-efficacy.

The core treatment of sexual dysfunctions involving disturbances of arousal and orgasm follows from the principles that Masters and Johnson (1970) established, namely, treating both partners in a couple, reducing anxiety about sexual performance, and developing specific skills such as **sensate focus,** in which the interaction is not intended to lead to orgasm, but to experience pleasurable sensations during the phases prior to orgasm. This procedure reduces the couple's anxiety levels until eventually they are able to focus not on their feelings of inadequacy but instead on the sexual encounter itself. Clinicians may also teach the partners to masturbate or to incorporate methods of sexual stimulation other than intercourse, such as clitoral stimulation alone.

sensate focus
Method of treating sexual dysfunction in which the interaction is not intended to lead to orgasm, but to experience pleasurable sensations during the phases prior to orgasm.

Expanding on these methods, therapists rely upon principles derived from cognitive-behavioral therapy that focus on the individual's thoughts that can inhibit sexual arousal and desire. As we saw earlier, distorted body image and negative sexual self-concept can interfere with sexual satisfaction. Restructuring those cognitions could therefore help alleviate sexual dysfunction symptoms.

In addition, clinicians often involve the partner, encouraging both to communicate more effectively and have more positive intimate experiences (Both et al., 2010). For sexual pain disorders, cognitive-behavioral therapy alone does not seem to be effective, but is most beneficial when integrated with muscle relaxation, biofeedback, and education (Bergeron et al., 2010). Women can learn to train or retrain their pelvic muscles to reduce painful muscle contractions during intercourse as well as to decrease their anxiety levels and self-consciousness.

11.4 Gender Dysphoria

biological sex
The sex determined by a person's chromosomes.

gender identity
A person's inner sense of maleness or femaleness.

gender dysphoria
Distress that may accompany the incongruence between a person's experienced or expressed gender and that person's assigned gender.

transsexualism
A term sometimes used to refer to gender dysphoria, specifically pertaining to individuals choosing to undergo sex reassignment surgery.

We turn now to disorders that involve difficulties that individuals experience due to feeling a mismatch between their **biological sex** (i.e., the sex determined by their chromosomes) and their inner sense of maleness or femaleness, called **gender identity.** In the *DSM-5,* the term **gender dysphoria** refers to distress that may accompany the incongruence between a person's experienced or expressed gender and that person's assigned gender.

Not everyone experiences distress as the result of this incongruence but, importantly, many people are distressed if they are unable to receive treatment through hormones and/or surgery. Thus, in the current criteria for disorder, the individual experiences identification with the other sex. The feeling that they are "in the wrong body" causes feelings of discomfort and a sense of inappropriateness about their assigned gender. Both of these conditions must be present for a clinician to assign the diagnosis. Thus, the clinical problem is the dysphoria, not the individual's gender identity.

Another term that relates to the feeling of cross-gender identification is **transsexualism,** which also refers to this phenomenon in which a person has an inner feeling of belonging to the other sex (individuals who experience this may be referred to as "trans"). The term is generally considered equivalent to transgenderism.

MINI CASE

Gender Dysphoria

Dale describes himself as a woman living in a man's body. His memories back to age 4 are of feeling discomfort with his assigned sex. When he was a young child, people often mistook him for a girl, because his mannerisms, style of play, and clothes were stereotypically feminine. He was glad he had an ambiguous name, and throughout adolescence he led others to believe he really was a girl. Schoolmates teased him at times, but this did not bother him, because he took pride in his feminine attributes. Dale's parents became increasingly alarmed, and they sent him to a psychologist when he was 15. The psychologist recognized that Dale had gender dysphoria, and she explained to Dale that he could not pursue sex reassignment surgery until adulthood, because a surgeon would insist that Dale have the maturity and life experience necessary for making such a dramatic decision. Now, at age 25, Dale is about to follow through on his wish to have the body of a woman and is consulting sex reassignment specialists at a major medical school to prepare for the surgery. After an initial evaluation, the psychologist told Dale that he needed to begin a presurgery evaluation process that would last at least 18 months. During this time, he would live publicly as a woman. This would involve dressing as a woman and changing all documentation that referred to him as a male (such as voting records, credit card applications, and driver's license). He would have to enter psychotherapy to evaluate his psychological health and readiness for surgery. Dale also had to begin taking hormones that would cause him to develop female secondary sex characteristics. After successfully completing the evaluation process, Dale would be able to enter the next phase of the sex reassignment process, which would start the transformation of his physical characteristics.

Some people with gender dysphoria disorders wish to live as members of the other sex, and they act and dress accordingly. Unlike individuals with transvestic disorder, these people do not derive sexual gratification from cross-dressing.

The *DSM-5* authors presented a strong case for using the term gender dysphoria to replace gender identity disorder, with the specification of whether the individual is a child or post-adolescent. One reason for this proposed change was to take away the stigma attached to the label of the condition as a "disorder."

Having cross-gender identification does not necessarily imply that an individual is distressed or has a "disorder" (Cohen-Kettenis & Pfafflin, 2010). Only if that person feels dysphoria toward having the sexual makeup with which he or she was born would a diagnosis be applied. Moreover, although some groups would advocate for the notion of removing gender dysphoria entirely from the diagnostic nomenclature, to do so could potentially preclude individuals who wish to seek sex reassignment surgery from insurance coverage because there would be no diagnosis for the clinician to give (Corneil, Eisfeld, & Botzer, 2010).

A small number of individuals with gender dysphoria seek sex reassignment surgery. The procedure is lengthy, expensive, and carries with it a number of stringent conditions, such as requiring that the individual receive a comprehensive psychological assessment and course of psychotherapy prior to acceptance for surgery. However, based on a 5-year follow-up investigation of 42 Swedish adults, the results appear to lead to favorable outcomes, and in this study, none of the participants regretted their decision (Johansson, Sundbom, Höjerback, & Bodlund, 2010).

Theories and Treatment of Gender Dysphoria

The psychology of the transgender experience is undergoing radical shifts. Whereas in the past, the profession equated transgenderism with a "disorder," the new terminology is reflecting a theoretical perspective that does not focus specifically on what is "wrong" with people whose self-identification differs from their biological characteristics or social roles.

Clinicians who work with transgender individuals experiencing gender dysphoria take a three-pronged approach to psychotherapy, with the first prong being psychotherapy, the second hormonal treatment, and lastly, in a small number of cases, sex reassignment surgery. Ideally, according to the World Professional Association for Transgender Health (WPATH), clinicians would provide an assessment of a client's well-being without regard to diagnostic criteria. However, because a clinician must make a diagnosis so that clients can receive insurance, the clinicians take on a "gatekeeper" role of negotiating payments for treatment, potentially interfering with their ability to establish healthy therapeutic relationships (Corneil et al., 2010). This three-pronged approach appears in the American Psychological Association's Standards of Care for the Treatment of Gender Identity Disorders (written before the *DSM-5* was published), and here in Table 2.

Given that clinicians will continue to treat individuals with gender dysphoria, however, new approaches are emerging based on transgender theory that emphasizes a more fluid view of gender than the binary male-female dichotomy (Nagoshi & Brzuzy, 2010). Clinicians can begin by using the gender terminology that the client prefers. Rather than assume that people's motivations, behaviors, and attitudes are based on their socially defined identities, clinicians furthermore can recognize that these categories are conditional. For example, the clinician can avoid using terms like "real" or "biological" gender.

After initially coming out as a lesbian and then as transgender, Chaz Bono underwent the process of female-to-male gender conversion between 2008 and 2010.

TABLE 2 APA Standards of Care for the Treatment of Gender Identity Disorders

Guidelines for Providers	Mental Health Professional	Physician Prescribing Hormones	Surgeon Performing Sex Reassignment Surgery
Competence	• Master's or doctoral degree • Documented supervised training in psychotherapy • Specialized training in the treatment of sexual disorders • Continuing education in the treatment of gender identity disorders	• Well versed in the relevant medical and psychological aspects of treating patients with gender identity disorders	• Board-certified urologist, gynecologist, plastic or general surgeon competent in urological diagnosis • Documented supervised training in sex reassignment surgery • Continuing education in sex reassignment surgery

Guidelines for Applicants	Eligibility Criteria	Readiness Criteria
Hormone therapy	• Legal age of majority • Completion of 3 months of real-life experience OR psychotherapy for a duration specified by a mental health professional (usually 3 months) • Demonstrable knowledge of effects and side effects, social benefits, and risks of hormones and documented informed consent	• Further consolidation of gender identity during psychotherapy or the real-life experience • Progress in mastering other identified problems leading to stable mental health • The patient is likely to take hormones in a responsible manner
Female-to-male chest surgery	• Legal age of majority • Completion of 3 months of real-life experience OR psychotherapy for a duration specified by a mental health professional (usually 3 months) • Demonstrable knowledge of the potential risks and benefits of chest surgery and documented informed consent	• Further consolidation of gender identity during psychotherapy or the real-life experience • Progress in mastering other identified problems leading to stable mental health
Male-to-female breast surgery	• Legal age of majority • Completion of 3 months of real-life experience OR psychotherapy for a duration specified by a mental health professional (usually 3 months) • Hormonal breast development has been achieved (usually after 18 months) • Demonstrable knowledge of the potential risks and benefits of breast surgery and documented informed consent	• Further consolidation of gender identity during psychotherapy or the real-life experience • Progress in mastering other identified problems leading to stable mental health
Genital reconstructive surgery and surgery affecting the reproductive system	• Legal age of majority • At least 12 months of continuous full-time real-life experience • At least 12 months of continuous hormone therapy • Demonstrable knowledge of the cost, required lengths of hospitalizations, likely complications, and postsurgical rehabilitation requirements of the various surgical approaches and documented informed consent • Awareness of different competent surgeons	• Demonstrable progress in consolidating one's gender identity • Demonstrable progress in dealing with work, family, and interpersonal issues resulting in a significantly better state of mental health

SOURCE: APA Standards of Care for the Treatment of Gender Identity Disorders.

Even though transgenderism itself is depathologized in *DSM-5*, clients will, nevertheless, continue to face **transphobia,** the negative stereotyping and fear of transgender individuals. Providing transgender individuals with social support may also improve their feelings of well-being (Davey, Bouman, Arcelus, & Meyer, 2014).

transphobia
The negative stereotyping and fear of transgender individuals.

Rather than recommend sex reassignment surgery to help clients cope with social pressures to conform to one gender or another, clinicians can instead let their clients create their own gender identities. Through this process, transgender individuals can explore more openly and without bias their multiple, intersecting identities.

11.5 Paraphilic Disorders, Sexual Dysfunctions, and Gender Dysphoria: The Biopsychosocial Perspective

The sexual disorders constitute three discrete sets of difficulties involving varying aspects of sexual functioning and behavior. Although there are many unanswered questions concerning their causes, we need a biopsychosocial perspective to understand how individuals acquire and maintain these diverse problems over time. Moreover, researchers and clinicians are increasingly developing models that incorporate integrated treatment. Professionals in the area of sexual medicine are expanding the scope of their work. The growing research base that the *DSM-5* authors used reflects not only expansion of the empirical approaches to sexual disorders, but adoption of a broader, more inclusive, and socioculturally sensitive approach to their understanding and treatment.

Return to the Case: Shaun Boyden

As is evident in Shaun's case, individuals with pedophilic disorder often do not feel distressed as a result of their urges. Thus, the first issue to address in psychotherapy was to engage Shaun in therapy by helping him realize the harm he had done through his actions; in other words, making his disorder "ego-dystonic." Essentially, the point was to make it difficult for Shaun to continue to deny the problems his urges caused. Some of the consequences addressed were the emotional trauma he had caused the children he had molested, the negative impact on his marriage, and perhaps most salient to Shaun at the time, legal ramifications. Therapy also focused on Shaun's distorted thinking about children, and used empathy training and sexual impulse control training. Further, Anne had decided to stay with Shaun and they began to attend couples therapy to work on their relationship.

Though at first Shaun was hesitant to put forth any effort in therapy, he was eventually able to realize the harm he had done to others with his actions. With that realization, he was able to begin working toward controlling his urges and fantasies about children. In combination with the antiandrogen medication, therapy began to help Shaun effectively cut down on his frequent fantasies, and he began to experience fewer and fewer urges to have sex with children. Though Shaun began to recognize that he would have to work to control his urges throughout the rest of his life, he was able to accept that his disorder was harmful to others and to his relationship with his wife.

Dr. Tobin's reflections: Shaun's story is similar to that of many other individuals with pedophilic disorder. Though at some level he realized what he was doing to children was immoral and illegal, his thoughts and actions were not associated with a sense of distress. Like others with pedophilic disorder, Shaun had to develop special plans for getting access to children, and his pedophilic behavior became more intense at times of stress, such as when his relationship with his wife was going through a difficult period. Shaun's history of sexual abuse from his own father was likely a contributing factor to his disorder, and once Shaun's symptoms have significantly reduced, it may be appropriate to explore the impact of this history.

Sarah Tobin, PhD

SUMMARY

- When it comes to sexual behavior, the distinction between normal and abnormal becomes even more complicated, perhaps, than in other areas of human behavior. When evaluating the normality of a given sexual behavior, the context is extremely important, as are customs and mores, which change over time.
- Paraphilias are behaviors in which an individual has recurrent, intense sexually arousing fantasies, sexual urges, or behaviors involving (1) nonhuman objects, (2) children or other nonconsenting persons, or (3) the suffering or humiliation of self or partner.
- When a paraphilia causes intense distress and impairment, clinicians may diagnose paraphilic disorder. Paraphilic disorders include voyeuristic disorder, fetishistic disorder, frotteuristic disorder, sexual masochism and sadism, and transvestic disorder.
- Critics of the *DSM* argued against including several of the paraphilic disorders in *DSM-5* because to do so pathologizes nonnormative sexual behavior. By defining these disorders as resulting in intense distress or impairment, the authors of the *DSM-5* hope to avoid judging a behavior's "normality" and instead base the criteria for a disorder on an individual's subjective experience of distress or degree of impairment in everyday life.
- From a biological perspective, paraphilic disorders involve a combination of influences including genetic, hormonal, and sensory factors in interaction with cognitive, cultural, and contextual influences. One theory of pedophilic disorders is that it results from early neurodevelopmental disorders, involving particularly the temporal lobe, which researchers believe is involved in altered sexual arousal. However, these changes could also be the result of early physical abuse or sexual victimization. Researchers have also identified altered serotonin levels in people with this disorder; however, these alterations may also be related to the presence of other psychological disorders in these individuals. Clinicians treating paraphilic disorders based on the biological perspective may use psychotherapeutic medications intended to alter the individual's neurotransmitter levels.
- The majority of studies on paraphilic disorders focus on pedophilic disorder. A common theme in the psychological literature is the idea of a "victim-to-abuser cycle" or "abused-abusers phenomena," meaning that abusers were themselves abused at some point in their lives, probably when they were young. Treatments within the psychological perspective seem most effective when combining individual with group therapy. The cognitive-behavioral perspective is particularly useful in helping clients recognize their distortions and denial. At the same time, these clients benefit from training in empathy, so that they can understand how their victims are feeling. Adding to the equation within the psychological perspective, clinicians may also train clients in learning to control their sexual impulses. Researchers believe that the most effective treatment involves a combination of hormonal drugs intended to reduce androgen (male sex hormone) levels and psychotherapy.
- Sexual arousal leads to a set of physiological changes throughout the body often culminating in orgasm. A sexual dysfunction involves a marked divergence of an individual's response in the sexual response cycle along with feelings of significant distress or impairment.
- Arousal disorders may be diagnosed in individuals who have low or no sexual desire, or are unable to achieve physiological arousal during the initial phases of the sexual response cycle. As a result, they may avoid or be unable to have sexual intercourse. These disorders include male hypoactive sexual desire disorder, female sexual interest/arousal disorder, and erectile disorder.
- There are also disorders involving orgasm. Inability to achieve orgasm, a distressing delay in achieving orgasm, or reduced intensity of orgasm constitutes female orgasmic disorder. Men with a marked delay in ejaculation or who rarely, if at all, experience ejaculations may have delayed ejaculation.
- Clinicians diagnose sexual pain disorders, which involve difficulties in sexual relationships due to painful sensations in the genitals from intercourse as genito-pelvic pain/penetration disorder. This disorder can affect both males and females.
- We can best view sexual dysfunctions through a biopsychosocial lens as an interaction of complex physiological, psychological, and sociocultural factors. To help a client with a sexual dysfunction, the clinician must first conduct a comprehensive assessment that includes a physical exam and psychological testing, including the client's partner, if appropriate. In addition, the clinician must assess the individual's use of substances, including not only drugs and alcohol, but also all medications, including psychotherapeutic ones.
- The *DSM-5* authors use the term gender dysphoria instead of gender identity disorder, specifying whether the individual is a child or post-adolescent. In the current criteria for gender dysphoria, the individual experiences identification with the other sex. The feeling that they are "in the wrong body" causes feelings of discomfort and a sense of inappropriateness about their assigned gender. Both of these conditions must be present for a clinician to assign the diagnosis. Another term that relates to the feeling of cross-gender identification is transsexualism, which also refers to this phenomenon in which a person has an inner feeling of belonging to the other sex.
- Theoretical perspectives on the transgender experience are undergoing radical shifts in the field of psychology. Whereas in the past, the profession equated transgenderism with a "disorder," the new terminology does not focus specifically on what is "wrong" with people whose self-identification differs from their biological characteristics or social roles.
- Paraphilic disorders, sexual dysfunctions, and gender dysphoria constitute three discrete sets of difficulties involving varying aspects of sexual functioning and behavior. Although there are many unanswered questions concerning their causes, we need a biopsychosocial perspective to understand how individuals acquire and maintain these diverse problems over time.

KEY TERMS

Biological sex
Delayed ejaculation
Erectile disorder
Exhibitionistic disorder
Female orgasmic disorder
Female sexual interest/arousal disorder
Fetishistic disorder
Frotteuristic disorder
Gender dysphoria
Gender identity
Genito-pelvic pain/penetration disorder
Lovemap
Male hypoactive sexual desire disorder
Paraphilias
Paraphilic disorder
Partialism
Pedophilic disorder
Premature (early) ejaculation
Sensate focus
Sexual dysfunction
Sexual masochism disorder
Sexual sadism disorder
Transphobia
Transsexualism
Transvestic disorder
Voyeuristic disorder

Substance-Related and Addictive Disorders

OUTLINE

Case Report: Carl Wadsworth
Key Features of Substance Disorders
What's in the *DSM-5*: Combining Abuse and Dependence
Disorders Associated with Specific Substances
- Alcohol
- Theories and Treatment of Alcohol Use Disorders
  - Biological Perspectives
  - Psychological Perspectives
  - Sociocultural Perspective
- Stimulants
  - Amphetamines
  - Cocaine
- Cannabis
- Hallucinogens
- Opioids

You Be the Judge: Prescribing Prescription Drugs
- Sedatives, Hypnotics, and Anxiolytics
- Caffeine
- Tobacco

Real Stories: Robert Downey Jr.: Substance Use Disorder
- Inhalants
- Theories and Treatment of Substance Use Disorders
  - Biological Perspectives
  - Psychological Perspectives

Non-Substance-Related Disorders
- Gambling Disorder

Substance Disorders: The Biopsychosocial Perspective
Return to the Case: Carl Wadsworth
Summary
Key Terms

Learning Objectives

12.1 Explain key features of substance disorders.

12.2 Differentiate among disorders related to specific substances.

12.3 Explain theories and treatment of substance use disorders.

12.4 Identify symptoms of non-substance-related disorders.

12.5 Analyze the biopsychosocial perspective on the development of substance disorders.

CHAPTER 12

Case Report: Carl Wadsworth

Demographic information: 32-year-old African American male.

Presenting problem: Carl's sister Janice made an appointment for him to see a therapist at a local outpatient therapy clinic following an arrest for public intoxication. Janice stated that the family was "sick of being worried" about him. She reported that Carl had been drinking much more frequently and heavily over the past few years than ever before, culminating in his recent arrest for public intoxication. Janice also reported that Carl has bipolar disorder, although he is not on medication currently, which is also very concerning to his family.

During the intake session, the therapist noticed that Carl appeared intoxicated, though he denied this when she asked whether he had been drinking recently. Consistent with clinic policy, she was forced to end the session prematurely and ensure that he received safe transportation home. When he presented for the next appointment intoxicated again, the therapist asked him directly if he had been drinking prior to the session, as she was concerned that his alcohol usage would interfere with therapy. Carl's reply was, "Maybe . . . just a little." The therapist asked Carl to refrain from drinking before their next appointment, to which he agreed. When he showed up to the third appointment intoxicated yet again, it was clear to the therapist that treatment was necessary, but that he could not proceed unless she was able to more directly address Carl's alcohol use with him. Carl had expressed that he was ashamed of his alcohol use, but that he found himself unable to cut down on his drinking. He described symptoms of withdrawal such as shaking and feeling nauseous if he did not have a drink within the first few hours of waking up in the morning. Carl stated that he had been working in a liquor store for the past 4 years, and it was difficult for him to refrain from drinking when he could so easily access alcohol. He agreed with the therapist that it would be important to address his issues with alcohol before beginning psychotherapy.

Janice called the therapist the following week to tell her that Carl had been in a car accident and was arrested for driving while under the influence of alcohol. Carl had driven into a lamppost near her home and reportedly had a blood alcohol level over three times the legal limit at the time of the accident. Janice reported that Carl sustained only a minor concussion and a few scratches. While he was in the hospital for observation, he told Janice that he was ready to quit drinking for good and wanted to go to therapy. Janice explained that Carl had lost his job after his first arrest for public intoxication, and he and the family were "willing to try anything" to help him quit drinking. The therapist agreed to see Carl, and he attended the following session sober.

Carl told his therapist about his experiences with bipolar disorder and with lithium, a medication that clinicians typically prescribe to treat the disorder. Carl described that he preferred drinking to taking medication because he did not experience side effects, and he found weekly blood testing while on lithium "annoying." Carl stated that he was not a heavy drinker earlier in his adult life, as his parents are both former alcoholics and he worried that he might be susceptible to alcoholism. He started drinking heavily 4 years prior, when he began working at a liquor store. At the time, he was stable on medication and had not experienced any significant psychological impairment for several years. "I wasn't planning on drinking at work ever, but my boss sure liked to, so we started getting drunk together after closing up for the night," Carl reported. Since he found it difficult to

Case Report *continued*

drink heavily while on lithium, he decided to stop taking his medication so that he could drink with his boss, who would taunt Carl to drink if he declined his offer. Since Carl was drinking mostly at night and was living by himself, no one in Carl's family had noticed that he was drinking. After a few months of drinking every day at work, Carl reported that he started to experience withdrawal symptoms when he woke up in the morning, and so he began drinking immediately when he woke up and while he was at work. He continued with this routine for the next 2 years. Although he was working during this time, he was essentially unable to perform any activities outside of work. His family grew increasingly worried, especially when he repeatedly showed up intoxicated at his parents' house. They urged him to try Alcoholics Anonymous (AA) and warned him of the dangers of his drinking, although Carl denied that he was having any problems. To show his family that he did not have a problem, Carl would stop drinking for 1 or 2 weeks, although his desire to drink was too intense to allow him to go any longer than that. Carl grew increasingly depressed as he went without medication, and his drinking grew more severe; however, instead of seeking treatment, Carl only drank more when he was feeling particularly depressed.

While at work one day, Carl was arrested for public intoxication for verbally haranguing a customer. Occasionally he would get into an argument at work, although his boss typically did not take much notice. However, during this particular incident he threatened violence against a customer, and Carl's boss had no choice but to fire him and report him to the police. The police held Carl overnight and released him the next day, as the customer chose not to press charges. Without an income, Carl was forced to move out of his apartment and move in with Janice, who luckily for Carl lived nearby. Worried that Carl had spun out of control and unsure how she could help him, Janice called the clinic for an appointment.

"She had me on lockdown," Carl stated about living with his sister during this time. After Carl showed up for therapy intoxicated, Janice removed all alcohol from her home and forbade Carl to leave the house unaccompanied. At first, Carl struggled with severe withdrawal symptoms, "and then all of a sudden," he said, "I felt great. I felt invincible, actually. It was then that I knew that I was becoming manic." He described pacing around the house and an inability to sleep for 3 days due to racing thoughts and an abundance of energy. After convincing Janice that he needed to borrow her car to go to the grocery store, Carl drove to a nearby liquor store, purchased a bottle of whiskey, and drank the entire bottle within a matter of minutes. On his way back to Janice's home, he drove into a lamppost and was subsequently arrested.

Relevant history: Carl reported that clinicians diagnosed him with bipolar disorder when he was 18 years old, following a manic episode in which he had slept for about 4 hours over a period of 6 days. "I was living on my own, so no one noticed what was going on," he stated. He eventually checked himself into the hospital, convinced that he was having a heart attack. He entered the hospital psychiatric unit for 1 week and began taking lithium. Over the next 10 years, Carl occasionally struggled with some mood symptoms such as depression or racing thoughts, although these symptoms did not significantly interfere with his life. Of note, however, is the fact that Carl has had limited interpersonal and adult romantic relationships. "I'm too messed up to have any friends, so I just like to keep to myself," he explained.

When Carl was 28, the telecom company for which he worked downsized and he lost his job. Carl became so depressed that he attempted suicide at his parents' home, where his mother discovered him. He reentered the hospital for about 1 month and began receiving disability, which allowed him to receive medication and therapy. While relaying his history, Carl noted that he rarely drank alcohol during this time, due mainly to the medication he took, but also because his parents were both former alcoholics and he reported feeling worried that he would follow the same path should he start drinking. His heavy drinking only began after starting the job at the liquor store. Because Carl made enough money at the job to afford his own apartment, he felt hesitant to let his boss down by refusing to drink with him.

Case formulation: An important distinction to make in Carl's case is whether his alcohol use occurred secondarily as a result of his bipolar disorder, or whether it arose independently, which would qualify for a dual diagnosis. As Carl stated regarding the episode of drinking that occurred while at his sister's, he began drinking heavily while he was manic, believing that he could handle drinking a large quantity of alcohol and still be able to drive safely. However, this was the only instance in which he reported drinking while experiencing mood symptoms.

Case Report *continued*

After careful consideration of his case, it appears that Carl's initial problems with alcohol began in the absence of mood symptoms. Additionally, his alcohol consumption did not appear to cause his mood symptoms. Because of these two distinctions, Carl qualifies for a dual diagnosis of Alcohol use disorder, severe, and Bipolar disorder. Furthermore, Carl meets the criteria for Bipolar I disorder due to the presence of manic, rather than hypomanic, episodes, which required hospitalization and severely impacted his functioning.

Treatment plan: Carl agreed to attend a local AA meeting on a daily basis in conjunction with weekly psychotherapy. Carl also agreed to see a psychiatrist for a medication evaluation.

Sarah Tobin, PhD

12.1 Key Features of Substance Disorders

A **substance** is a chemical that alters a person's mood or behavior when the person smokes, injects, drinks, inhales, snorts, or swallows it. Substance-related disorders reflect patterns of abuse of these substances, the resulting intoxication, and the consequences of withdrawal.

substance
A chemical that alters a person's mood or behavior when it is smoked, injected, drunk, inhaled, or swallowed in pill form.

The line demarcating substance use from abuse is a difficult line to draw. The *DSM-III* and *DSM-IV-TR* defined substance "abuse" as distinct from substance "dependence" and delineated two parallel sets of disorders for each type of substance. The diagnosis of substance abuse carried with it no implication that the individual is addicted to the substance.

DSM-5 combines abuse and dependence into a single dimensional rating. Individuals receive a diagnosis based on meeting only two criteria, but they are rated according to the degree of severity of their symptoms. A person in a state of substance **withdrawal** shows physiological and psychological changes that vary according to the actual substance involved. **Tolerance** occurs when an individual requires increasingly greater amounts of the substance in order to achieve its desired effects or when the person feels less of an effect after using the same amount of the substance.

withdrawal
Physiological and psychological changes that occur when an individual stops taking a substance.

tolerance
The extent to which the individual requires larger and larger amounts of a substance in order to achieve its desired effects, or the extent to which the individual feels less of its effects after using the same amount of the substance.

A **substance use disorder** is a cluster of cognitive, behavioral, and physiological symptoms indicating that the individual continues using a substance even though it causes significant problems in his or her life. Clinicians diagnose substance use disorders by assessing the individual in four categories of symptoms: loss of control, social impairment, risky use, and pharmacological changes. Based on the number of symptoms the individual demonstrates, clinicians use this number to assign a severity rating from mild to severe.

substance use disorder
A cluster of cognitive, behavioral, and physiological symptoms indicating that the individual uses a substance despite significant substance-related problems.

Although many people commonly refer to these disorders as representing an "addiction," the *DSM-5* authors prefer the more neutral term of "substance use disorder." They believe that substance use disorder, specifying mild to moderate, is more precise and has fewer negative connotations than the term "addiction." Similarly, people with these disorders are not referred to as "addicts," but instead as individuals with substance use disorders. People still use these terms in common language, of course, but from the *DSM-5* perspective, they are not included as official diagnostic terminology. The term "addictive" appears in the chapter name as a descriptive term only.

People with substance use disorders suffer a range of significant effects on their daily life. They neglect obligations at work, and their commitments erode to home and family. In addition to letting their work and family life slide, they may begin to take risks that are personally dangerous and put others in jeopardy, such as driving or operating machinery while intoxicated.

It stands to reason that legal problems can arise for people who abuse substances. In addition to being arrested for driving while under the influence of a substance, they may

What's in the *DSM-5*

Combining Abuse and Dependence

DSM-5's authors combined abuse and dependence into what is now termed a "substance use disorder." Individuals receive a diagnosis based on meeting only two criteria, but are rated according to the degree of severity of their symptoms. Critics believe that the revised system may result in too many individuals with mild symptoms who do not have an "addiction" receiving a diagnosis of a substance-related disorder (Martin, Steinley, Vergés, & Sher, 2011). However, the dimensional rating theoretically allows clinicians to allow for gradations from mild to severe levels of the disorder. A second major change in *DSM-5* was the transition of caffeine withdrawal from a research-only to a clinical diagnosis. The *DSM-5* authors argued that there was sufficient evidence from large enough populations to warrant recognition of this condition as a psychiatric diagnosis. They believed, furthermore, that by placing a diagnosis on the condition, clinicians will be more likely to recognize, and then correctly treat, individuals who have these symptoms. Many caffeine users who suffer from caffeine withdrawal attribute their symptoms to other disorders, leading to unnecessary health care utilization and associated costs. The inclusion of this diagnosis may help them receive needed interventions.

face charges of disorderly conduct or assaultive behavior. The substance use disorders also frequently involve interpersonal problems due to the fact that excessive use of drugs creates strains on relationships with family, friends, and co-workers. In extreme cases, these disorders can also lead to health problems and even premature death.

Substance-related disorders also include substance-induced disorders, which are disorders involving effects of the substance itself.

People receive a diagnosis of **substance intoxication** when they experience a drug's effects on their physiological functioning and show signs of significant impairment. The extent of substance intoxication that an individual may experience depends on the specific drug, how rapidly it acts, and the duration of its effects. Efficient absorption of intravenous or smokable drugs into the bloodstream can lead to a more intense kind of intoxication than occurs from drugs taken in pill form.

substance intoxication
The temporary maladaptive experience of behavioral or psychological changes that are due to the accumulation of a substance in the body.

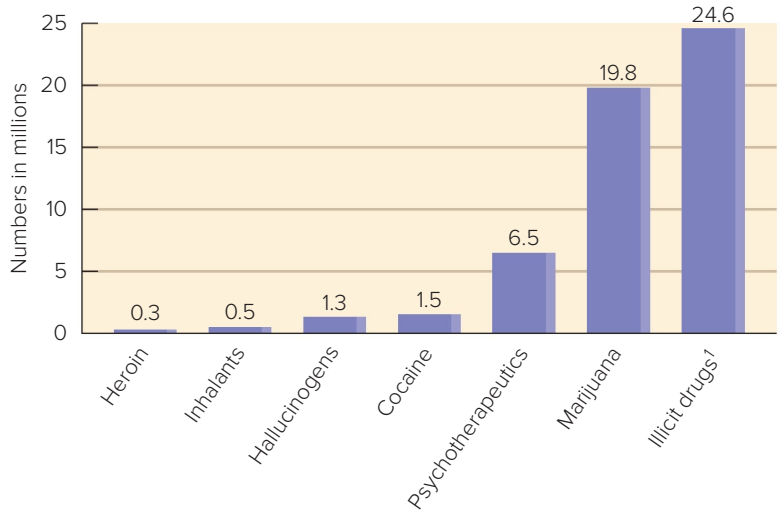
The second category of substance-induced disorders includes those that reflect the effects of withdrawal in which individuals develop behavioral changes that are specific to the particular substance. These changes include physiological and cognitive alterations associated with the discontinuation of the particular substance in question. Other disorders can also occur as a function of substance use, including psychotic disorder, mood disorder, anxiety disorder, sexual dysfunction, and sleep disorder. People may also show comorbidity of the substance-related disorder with another condition, such as an anxiety disorder or a mood disorder.

12.2 Disorders Associated with Specific Substances

According to the U.S. government's National Institute on Drug Abuse (NIDA), in 2013 an estimated 24.6 million Americans ages 12 and older, or 9.4 percent of the population, used illicit drugs at least once in the preceding 30 days (i.e., were current users) (NIDA, 2015). Marijuana is the most commonly used illicit drug, with 19.8 million Americans 12 and older reporting use within the past month. The numbers of users of all illicit drugs appears in Figure 1.

Rates of current illicit drug use vary considerably by demographic group. The three most significant grouping characteristics are race/ethnicity, age, and gender. The rate of past month illicit drug use is 12.4 percent among people who identify as Black or African American followed by 10.4 percent for Whites, 8.9 percent for Hispanic or Latino, and 4.1 percent for Asian. The rates of illicit drug use generally decline linearly with age from the peak of 23 percent at ages 18 to 20 to 2 percent at ages 65 and older. Between the years of 2013 and 2014, the rate of illicit drug use in the past month increased from 5.7 to 8.9, a statistically significant increase. Males have a higher rate of drug use (12.8 percent) than females (7.7 percent). Illicit drug use tends to be lower in college graduates, the employed, Southerners, and people living in rural areas (SAMHSA, 2015).

Most drugs of abuse directly or indirectly target the reward center of the brain by flooding its circuits with dopamine, as you can see in Figure 2. Overstimulation of the



[1]Illicit drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically.

FIGURE 1 Past Month Illicit Drug Use Among Persons Aged 12 or Older: United States, 2013

http://www.drugabuse.gov/publications/drugfacts/nationwide-trends

reward system produces the euphoric effects that abusers seek and leads them to engage in the behavior that will allow them to repeat the experience. Drugs are more addictive than natural "highs" produced by such activities as eating and sex because they release far more dopamine (2 to 10 times as much) than do natural rewards, and the effects last much longer. Over time, the neurons in these dopamine pathways "down-regulate" in response to these surges in dopamine, meaning that they produce less dopamine themselves or lower the number of dopamine receptors. Users then need to take the drugs to raise their dopamine levels back up to normal. In order to experience the effects they experienced initially from the drugs, they also need to take higher and higher levels; in other words, they develop tolerance.

In addition to involving dopamine, some drugs of abuse involve glutamate, a neurotransmitter involved in memory and learning. Consequently, long-term drug abuse can lower the individual's level of glutamate and therefore lead the individual to experience impairments in memory.

Because users learn to associate the pleasurable feelings of using the drug with the cues in the environment that were there when they took the drug, they develop classically conditioned responses that maintain their addiction.

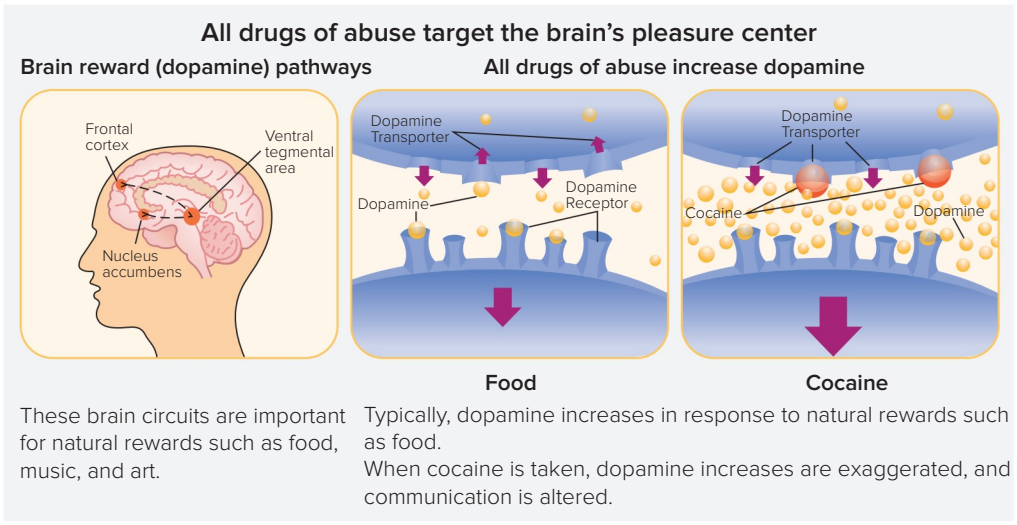


FIGURE 2 Effects of Drugs of Abuse on Dopamine Pathways

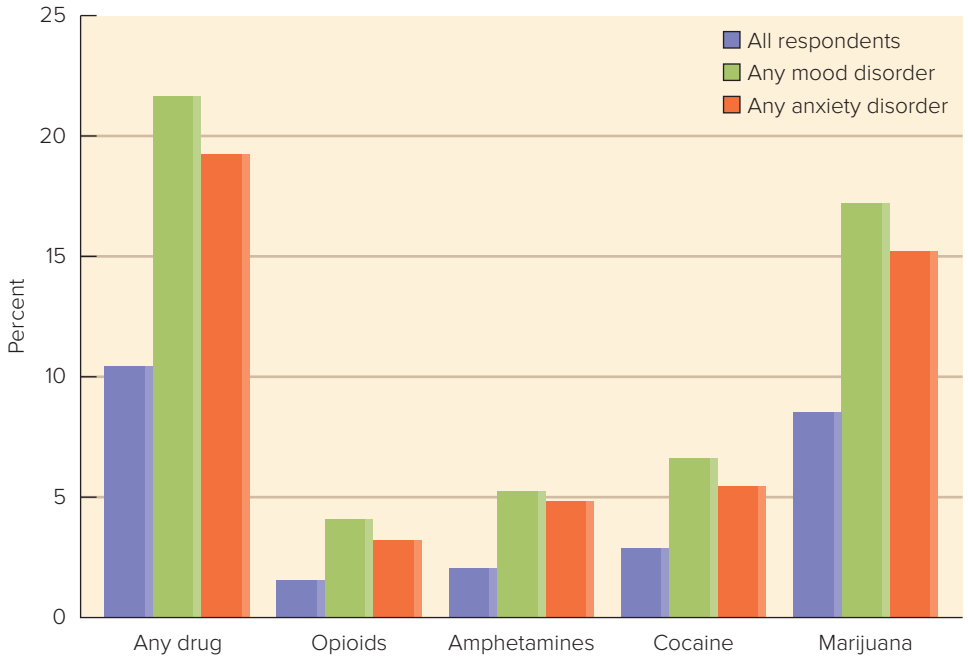


FIGURE 3 Comorbidity of Substance Use and Psychological Disorders

Individuals with mood and anxiety disorders are more likely to abuse substances, as we can see from Figure 3. Because we do not know whether the disorder led to drug abuse or vice versa, we cannot draw cause-and-effect conclusions. The three possibilities for this comorbidity are (1) drugs of abuse lead users to experience symptoms, such as psychosis in marijuana users; (2) psychological disorders can lead to drug abuse as individuals attempt to self-medicate; and (3) similar factors, such as genetic predisposition, early exposure to stress and trauma, or structural brain abnormalities, cause both drug abuse and psychological disorders (NIDA, 2010).

Drug use typically begins in adolescence, which is also the time of heightened vulnerability to other psychological disorders. Early drug use is also a risk factor for later substance use disorder and may also be a risk factor for the subsequent development of other disorders. The risks are particularly likely to occur in individuals who have a high genetic vulnerability. In one study following adolescents into early adulthood, only the heavy marijuana users with a particular gene variant had significantly higher risk of developing schizophreniform disorder (Caspi et al., 2005).

Higher rates of substance use disorders also occur in physically or emotionally traumatized individuals. This is a matter of particular concern for the veterans returning from the Iraq and Afghanistan wars. As many as half of veterans who have a diagnosis of PTSD also have a comorbid substance use disorder. In addition, researchers estimate that 45 percent of offenders in state and local prisons have a comorbid mental health and substance use disorder. People with a comorbid substance disorder and either PTSD or a criminal history may have difficulty receiving treatment. Veterans with PTSD and substance disorders may not receive treatment for the PTSD until the substance use disorder is treated; however, traditional substance disorder clinics may defer treating the PTSD. Incarcerated criminals may also have difficulty receiving appropriate treatment in the prison system. Consequently, individuals with comorbid disorders face particular challenges in treating their substance use disorders (NIDA, 2010).

Alcohol

Alcohol use is associated with several categories of disorders including use disorders, intoxication, and withdrawal. WHO regards alcohol use as one of the top 10 risk factors for morbidity and mortality, with economic cost estimates in developed societies ranging from 1.3 to 3.3 percent of the gross domestic product (World Health Organization, 2011).

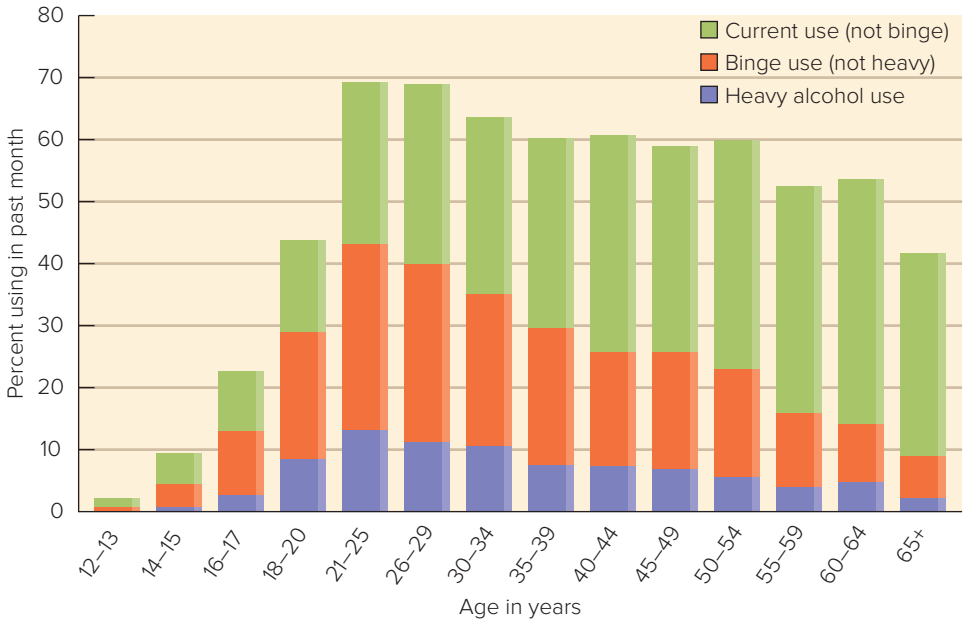


FIGURE 4 Current, Binge, and Heavy Alcohol Use Among Persons Aged 12 or Older, by Age: 2013

Patterns of alcohol use are associated with age (Figure 4). Young adults ages 18 to 25 have the highest rates of binge drinking and heavy drinking. Of that group, adults ages 21 to 25 have the highest rates of drinking, with 43.3 percent engaging in binge drinking. The rates of binge and heavy drinking decline sharply throughout adulthood; among people 65 and older, 9.1 percent engage in binge drinking and 2.1 percent in heavy drinking (SAMHSA, 2015).

The decline in binge and heavy drinking is part of a larger picture of "maturing out," similar to the maturation hypothesis of age and personality disorders. However, the pattern of age-related changes in drinking patterns is not that clear cut. Longitudinal studies show that although people are less likely to start drinking after the young adult years, many people continue to persist in their previously established patterns of alcohol use disorder throughout adulthood. Certain life transitions are associated, however, with decreases in alcohol use. For men, parenthood is associated with lower rates of alcohol use after the age of 38; women show the opposite pattern. Men who lose their jobs have the highest rates of alcohol use after age 38; for women, there is no relationship between job status and alcohol-use persistence. These findings suggest that the relationships

MINI CASE

Alcohol Use Disorder

Mala is a 55-year-old homemaker married to a successful builder. Every afternoon, she makes herself the first in a series of daiquiris. On many evenings, she passes out on the couch by the time her husband arrives home from work. Mala lost her driver's license a year ago after being arrested three times on charges of driving while intoxicated. Although Mala's family has urged her to obtain treatment for her disorder, she denies that she has a problem because she can "control" her drinking. The mother of three grown children, Mala began to drink around age 45, when her youngest child left for college. Prior to this time, Mala kept herself extremely busy through her children's extracurricular activities. When she found herself alone every afternoon, she took solace in having an early cocktail. Over a period of several years, the cocktail developed into a series of five or six strong drinks. Mala's oldest daughter has begun lately to insist that something be done for her mother. She does not want to see Mala develop the fatal alcohol-related illness that caused the premature death of her grandmother.

among alcohol use, life transitions, and gender are complex so that maturation alone is not sufficient for understanding age-related changes in alcohol use disorders (Vergés et al., 2011).

depressant
A psychoactive substance that causes the depression of central nervous system activity.

To understand how alcohol affects an individual's behavior, it is important to understand that, from a physiological standpoint, alcohol is a nervous system **depressant.** The way that it affects the individual depends, however, on how much the drinker ingests. In small amounts, alcohol has sedating effects, and the drinker therefore feels more relaxed. In larger and larger amounts, drinkers may begin to feel more outgoing, self-confident, and uninhibited. Beyond that point, the depressant effects become apparent, leading users to experience sleepiness, lack of physical coordination, dysphoria, and irritability. In larger and larger amounts, alcohol can be fatal, leading the individual's vital functions to shut down. More severe effects also occur when the individual mixes alcohol with other drugs, referred to as **potentiation,** meaning that the effects of two drugs taken together are greater than the effect of either substance alone. Combining alcohol with another depressant, for example, can be a fatal outcome of such potentiation.

potentiation
The combination of the effects of two or more psychoactive substances such that the total effect is greater than the effect of either substance alone.

The rate at which alcohol absorption occurs in the bloodstream depends in part on a number of factors, including how much a person consumes and over what time period, and whether the person has food present in the digestive system. Another factor is the drinker's metabolic rate (the rate at which the body converts food substances to energy). The average person metabolizes alcohol at a rate of one-third of an ounce of 100 percent alcohol per hour, which is equivalent to an ounce of whiskey per hour. Following a bout of extensive intake of alcohol, a person is likely to experience an abstinence syndrome, or the phenomenon commonly called a "hangover." The symptoms of abstinence syndrome include a range of phenomena including nausea and vomiting, tremors, extreme thirst, headache, tiredness, irritability, depression, and dizziness. As with alcohol absorption, the extent of abstinence syndrome the person experiences reflects the amount and rate of alcohol consumption and the individual's metabolic rate.

Alcohol affects almost every organ system in the body, either directly or indirectly. Long-term use of alcohol can lead to permanent brain damage, with symptoms of dementia, blackouts, seizures, hallucinations, and damage to the peripheral parts of the nervous system. Two forms of dementia are associated with long-term, heavy alcohol use.

Wernicke's disease
A form of aphasia in which the individual is able to produce language but has lost the ability to comprehend, so that these verbal productions have no meaning.

Wernicke's disease is an acute and potentially reversible condition involving delirium, eye movement disturbances, difficulties in movement and balance, and deterioration of the peripheral nerves to the hands and feet. It is not the alcohol but a deficiency of thiamine (vitamin B1) that causes Wernicke's disease. Long-term heavy use of alcohol has deleterious effects on the body's ability to metabolize nutrients, and such alcohol users often have an overall pattern of poor nutrition. Adequate thiamine intake can reverse Wernicke's disease.

Korsakoff's syndrome
A permanent form of neurocognitive disorder associated with long-term alcohol use in which the individual develops retrograde and anterograde amnesia, leading to an inability to remember recent events or learn new information.

retrograde amnesia
Amnesia involving loss of memory for past events.

anterograde amnesia
Amnesia involving the inability to remember new information.

Korsakoff's syndrome is a permanent form of dementia in which the individual develops **retrograde amnesia,** an inability to remember past events, and **anterograde amnesia,** the inability to remember new information. The chances of a person recovering from Korsakoff's syndrome are less than one in four, and about another one in four people who have this disorder require permanent institutionalization.

Chronic heavy alcohol consumption also causes a number of harmful changes in the rest of the body outside of the nervous system. These changes involve the liver, gastrointestinal system, bones, muscles, and immune system. When people abruptly stop ingesting alcohol after periods of chronic usage, they can experience sleep disturbances, profound anxiety, tremors, hyperactivity of the sympathetic nervous system, psychosis, seizures, or death.

Theories and Treatment of Alcohol Use Disorders

Biological Perspectives Twin, family, and adoption studies consistently point to the importance of genetic factors as contributors to alcohol-related disorders, with an estimated heritability of 50 to 60 percent. Trying to pinpoint the genes involved

in alcohol-related disorders, however, is a great challenge to researchers, particularly for those who want to find genes that control the amount of alcohol consumption (Heath et al., 2011).

The greatest success in studying the genetics of alcohol-related disorders comes from studies examining associations with genes involved in alcohol metabolism and neural transmission. Researchers are attempting to connect variations in some of these genes not only with patterns of alcohol use, but also with psychological factors, such as personality traits, and physiological factors, such as alcohol-related organ damage (Kimura & Higuchi, 2011).

Large-scale analyses using genome-wide association studies (GWAS) are beginning to identify a large number of potential genes associated with alcohol use disorder that may pave the way toward understanding how the disorder develops (Wang, Liu, Zhang, Pan, Aragam, Zeng, 2011). Using these new discoveries, researchers have already identified a relatively large number of genes, suggesting that alcohol use will not show a simple pattern of genetic transmission (Frank et al., 2012).

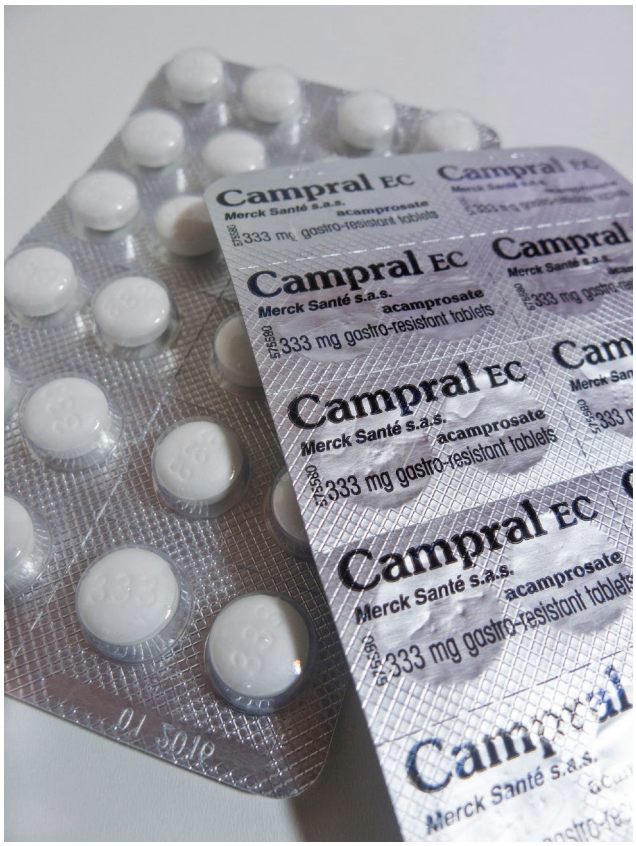
Sociocultural influences also appear to interact with genetic vulnerability. In a large nationwide study of midlife adults, researchers found differences among twin pairs in the amount of alcohol used based on socioeconomic status. In families from lower socioeconomic levels, genetic factors seemed to play a larger role than the environment. In higher social status families, the amount of alcohol individuals consumed was predicted more by environmental or familial factors. These findings support the diathesis-stress model because they show that in families from higher-risk environments, those who drink more have a genetically higher predisposition. In higher social class families, by contrast, the amount of alcohol individuals use is affected by such factors as familial habits and traditions (Hamdi, Krueger, & South, 2015).

From a biological perspective, treatment of individuals with alcohol use disorders involves prescription medications either alone or in conjunction with psychologically based therapies. A large number of well-controlled studies support the use of naltrexone as an aid in preventing relapse among people with alcohol use disorder. As an opioid receptor antagonist, it blocks the effects of the body's production of alcohol-induced opioids, perhaps through involving dopamine (Hillemacher, Heberlein, Muschler, Bleich, & Frieling, 2011). The individual who takes naltrexone is less likely to experience pleasurable effects of alcohol and even less likely to feel pleasure thinking about alcohol. As a result, people taking naltrexone feel less of an urge to drink and therefore will be less likely to suffer a relapse in which they engage in heavy drinking. A large number of studies provide supportive evidence about naltrexone's effect on drinking, including randomized clinical trials; these effects seem to occur across individuals with varying genetic vulnerability (Oslin et al., 2015).

Disulfiram is a medication that operates by the principles of aversion therapy. An individual taking disulfiram who consumes alcohol within a 2-week period will experience a variety of unpleasant physical reactions, including flushing, palpitations, increased heart rate, lowered blood pressure, nausea and vomiting, sweating, and dizziness. Disulfiram works primarily by inhibiting the action of an enzyme that normally breaks down acetaldehyde, a toxic product involved in ethanol metabolism. Although not as effective as naltrexone, highly motivated individuals, particularly those treated in supervised settings who are also older, have a longer drinking history, and participate in Alcoholics Anonymous meetings, have used disulfiram effectively (Arias & Kranzler, 2008).

disulfiram
Known popularly as Antabuse, a medication used in the treatment of alcoholism that inhibits aldehyde dehydrogenase (ALDH) and causes severe physical reactions when combined with alcohol.

The third medication shown to be effective in treating alcohol use disorders is acamprosate, an amino acid derivative that appears to moderate glutamate receptors. Acamprosate reduces the risk of relapse by reducing the individual's urge to drink and thereby reducing the drive to use alcohol as a way of reducing anxiety and other negative psychological states. Individuals who seem to benefit the most from acamprosate are those who are older when they become dependent on alcohol, have physiological signs of higher dependence, and have higher levels of anxiety, although in general, the evidence in favor of acamprosate is positive (Arias & Kranzler, 2008). People who are more highly motivated to become fully abstinent at the start of treatment are more likely to comply



Medications such as acamprosate, sold under the brand name Campral, can help treat individuals with alcohol use disorders.

with remaining on the medication and therefore more likely to improve (Koeter, van den Brink, & Lehert, 2010). Additionally, greater benefits of acamprosate seem to occur in individuals who have only recently stopped drinking and are of normal or close to normal body weight (Gueorguieva et al., 2015).

Researchers consider other medications used in the treatment of alcohol use disorders as less effective based on the available evidence. These include anticonvulsant medications, SSRIs, lithium, and baclofen, which works on GABA receptors (Arias & Kranzler, 2008).

Psychological Perspectives

Current psychological approaches to alcohol use disorders focus on the cognitive systems that guide people's drinking behavior. According to **dual-process theory,** one system involves fast, automatic processes that generate an impulse to drink alcohol. These processes are based on the associations that people have to alcohol, making them more likely to consume it the more positive their associations. The second, slower system involves the controlled, effortful processing that regulates these automatic impulses. According to dual-process theory, then, the more the individual can inhibit the automatic impulse, the less likely the individual is to consume excessive amounts of alcohol (Bechara, Noel, & Crone, 2006). Personality may play a role in this process, as individuals who are lower in emotional control seem to find it more difficult to engage in the effortful process of inhibiting their urges to drink (Stevenson, Dvorak, Kuvaas, Williams, & Spaeth, 2015).

Alcohol consumption is also guided by expectancies that individuals have about what will happen to them after they consume alcohol. Individuals develop alcohol expectancies early in life, even before they first taste alcohol. These expectancies can include the potential for alcohol to reduce tension, cope with social challenges, feel better, feel sexier, and become more mentally alert. Expectancies about alcohol can also include people's beliefs in their self-efficacy, or ability to resist or control their drinking (Young, Connor, & Feeney, 2011).

dual-process theory
A theory regarding alcohol use proposing there are automatic processes that generate an impulse to drink alcohol and controlled, effortful processing that regulates these automatic impulses.

alcohol myopia theory
Proposes that as individuals consume greater amounts of alcohol, they are more likely to make risky choices because the immediate temptation of the moment overcomes the long-term consequences of the behavior.

Cognitive factors also can influence what happens when a person consumes alcohol, particularly whether he or she engages in impulsive and potentially harmful behaviors, such as high-risk sexual activities. The high prevalence of binge drinking on college campuses presents a particular concern for this reason. According to **alcohol myopia theory,** as individuals consume greater amounts of alcohol, they are more likely to make risky choices because the immediate temptation of the moment (such as risky sex) overcomes the long-term consequences of the behavior (such as developing a sexually transmitted disease) (Griffin, Umstattd, & Usdan, 2010).

Interestingly, even individuals who engage in healthy lifestyle behaviors can be at risk for alcohol use disorders. In one large study examining alcohol use (beer) and engagement in physical activity, people who engaged in more activity were also more likely to drink beer on that same day (Conroy et al., 2015). College students who believe that they are engaging in healthy activity may feel that they "earned" the right to drink, thus potentially placing them at risk for developing regular habits in which they overuse alcohol.

Clinicians who design interventions targeting individuals who have alcohol use disorders begin by conducting an assessment of the alcohol use patterns of their clients. The AUDIT, or Alcohol Use Disorders Identification Test, shown in Table 1, is one such instrument (National Institute on Alcohol Abuse and Alcoholism, 2007).

There are several well-tested psychological approaches to treating alcohol use disorders. The most successful involve cognitive-behavioral interventions, motivational approaches,

TABLE 1 The Alcohol Use Disorders Identification Test ("AUDIT")

Scoring the AUDIT

Record the score for each response in the blank box at the end of each line, then total these numbers. The maximum possible total is 40.

Total scores of 8 or more for men up to age 60 or 4 or more for women, adolescents, and men over 60 are considered positive screens. For patients with totals near the cut-points, clinicians may wish to examine individual responses to questions and clarify them during the clinical examination.

PATIENT: Because alcohol use can affect your health and can interfere with certain medications and treatments, it is important that we ask some questions about your use of alcohol. Your answers will remain confidential, so please be honest.

Place the number from 0 to 4 that best describes your answer to each question in the box on the right.

Questions	0	1	2	3	4	
1. How often do you have a drink containing alcohol?	Never	Monthly or less	2 to 4 times a month	2 to 3 times a week	4 or more times a week	☐
2. How many drinks containing alcohol do you have on a typical day when you are drinking?	1 or 2	3 or 4	5 or 6	7 to 9	10 or more	☐
3. How often do you have 5 or more drinks on one occasion?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	☐
4. How often during the last year have you found that you were not able to stop drinking once you had started?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	☐
5. How often during the last year have you failed to do what was normally expected of you because of drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	☐
6. How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	☐
7. How often during the last year have you had a feeling of guilt or remorse after drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	☐
8. How often during the last year have you been unable to remember what happened the night before because of your drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	☐
9. Have you or someone else been injured because of your drinking?	No		Yes, but not in the last year		Yes, during the last year	☐
10. Has a relative, friend, doctor, or other health care worker been concerned about your drinking or suggested you cut down?	No		Yes, but not in the last year		Yes, during the last year	☐
					Total	

National Institute on Alcohol Abuse and Alcoholism, 2007.

Note: This questionnaire (the AUDIT) is reprinted with permission from the World Health Organization. To reflect standard drink sizes in the United States, the number of drinks in question 3 was changed from 6 to 5. A free AUDIT manual with guidelines for use in primary care settings is available online at www.who.org.

relapse prevention
A treatment method based on the expectancy model, in which individuals are encouraged not to view lapses from abstinence as signs of certain failure.

and expectancy manipulation (Arias & Kranzler, 2008). Part of effective treatment for alcohol use disorders also involves **relapse prevention,** in which the clinician essentially builds "failure" into treatment. If the client recognizes that occasional slips from abstinence are bound to occur, then he or she will be less likely to give up on therapy altogether after suffering a temporary setback. Mindfulness training may also be added to relapse prevention to help individuals gain greater insight into the factors that may trigger their relapses as well as to recognize that substance use may be a way of avoiding the present moment (Penberthy et al., 2015).

The COMBINE project (Combining Medications and Behavioral Interventions) developed the most comprehensive protocol for psychological treatment as part of a project funded by the National Institute on Alcohol Abuse and Alcoholism (NIAAA). In this treatment, known as Combined Behavioral Intervention (CBI) (Miller, 2002), participants receive up to 20 sessions, according to their needs, beginning semiweekly and then eventually biweekly or less, for up to 16 weeks. The primary emphasis of CBI is on enhancing reinforcement and social support for abstinence. Clinicians assign motivational enhancement therapy at the outset, meaning that the clinician attempts to draw out the client's own motivation to change. The clinical style used in CBI follows from the motivational interviewing perspective (Table 2), in which the clinician uses a client-centered but directive style.

Clinicians expect and encourage families and significant others to participate throughout treatment, and they also encourage mutual help and involvement among clients including participation in Alcoholics Anonymous (AA). CBI includes content modules focusing on coping skills (e.g., coping with cravings and urges), refusing drinks and avoiding social pressure to drink, communication skills, assertiveness skills, management of moods, social and recreational counseling, social support for sobriety, and job-seeking

TABLE 2 Comparisons Among Reflective Listening and Other Therapist Responses to Client Statements

CLIENT: I guess I do drink too much sometimes, but I don't think I have a *problem* with alcohol.
CONFRONTATION: Yes you do! How can you sit there and tell me you don't have a problem when . . .
QUESTION: Why do you think you don't have a problem?
REFLECTION: So on the one hand you can see some reasons for concern, *and* you really don't want to be labeled as "having a problem."
CLIENT: My wife is always telling me that I'm an alcoholic.
JUDGING: What's wrong with that? She probably has some good reasons for thinking so.
QUESTION: Why does she think that?
REFLECTION: And that really annoys you.
CLIENT: If I quit drinking, what am I supposed to do for friends?
ADVICE: I guess you'll have to get some new ones.
SUGGESTION: Well, you could just tell your friends that you don't drink anymore, but you still want to see them.
REFLECTION: It's hard for you to imagine how life would be without alcohol.

Miller, W. R. (2002). Project COMBINE, Combined Behavioral Intervention Therapist Manual.

skills. As needed, clinicians may also monitor sobriety, provide telephone consultation, and provide crisis intervention. They also put procedures in place to work with clients who resume drinking during treatment. Toward the end of the treatment period, clients enter a maintenance phase and then complete treatment in a termination session.

The COMBINE study continues to evaluate the efficacy of naltrexone and acamprosate alone and in combination with CBI using placebos and medical management as control conditions. Initially, researchers reported that although CBI alone was not as effective in producing abstinent days as was CBI plus medication and management immediately after treatment, 1 year after treatment ended, the CBI-only group did not differ significantly from those receiving medication (Anton et al., 2006). Subsequent studies continue to investigate the mechanisms promoting change in alcohol patterns through medication alone or combined with CBI. One promising avenue investigates the role of cravings as a common factor influenced both by naltrexone and by exposure to CBI (Subbaraman, Lendle, van der Laan, Kaskutas, & Ahern, 2013).

Sociocultural Perspective Researchers and theorists working within the sociocultural perspective regard stressors in the family, community, and culture as factors that, when combined with genetic vulnerability, lead the individual to develop alcohol use disorder. As indicated earlier, socioeconomic status seems to interact with genetic vulnerability as an influence on how much alcohol individuals consume. Those in higher status families seem to be more likely to have their drinking patterns influenced by familial patterns and preferences rather than by genetics.

Support of the sociocultural perspective first became apparent in a landmark longitudinal study in the early 1980s. Researchers followed individuals from childhood or adolescence to adulthood, the time when most individuals who become alcohol dependent

Peer pressure and poor grades in school contribute to high rates of alcohol consumption in teenagers.

make the transition from social or occasional alcohol use to an alcohol use disorder (Zucker & Gomberg, 1986). Those most likely to develop alcohol use disorder in adulthood had a history of childhood antisocial behavior, including aggressive and sadistic behavior, trouble with the law, rebelliousness, lower achievement in school, completion of fewer years of school, and a higher truancy rate. These individuals also showed a variety of behaviors possibly indicative of early neural dysfunction, including nervousness and fretfulness as infants, hyperactivity as children, and poor physical coordination while growing up through the normal motor development milestones. Researchers concluded that these characteristics reflected a genetically based vulnerability, which, when combined with environmental stresses, led to the development of alcohol use disorder.

More recent studies have continued to support the role of family environment in the form of social support. In a 2-year study of more than 800 suburban adolescents, the teenagers who received high levels of social support from their families were less likely to consume alcohol. The effect of social support seemed to be due primarily to the fact that families providing high levels of social support were also more likely to have a strong religious emphasis in the home. School grades also correlated with lower teen use of alcohol. Teens receiving good grades were more likely to receive higher levels of social support from their families, which in turn was associated with lower rates of alcohol use. The teens who used alcohol were more likely to show poorer school performance over the course of the study (Mason & Windle, 2001).

stimulant
A psychoactive substance that has an activating effect on the central nervous system.

amphetamine
A stimulant that affects both the central nervous and the autonomic nervous systems.

methamphetamine
An addictive stimulant drug that is related to amphetamine but provokes more intense central nervous system effects.

Stimulants

The category of drugs called **stimulants** includes substances that have an activating effect on the nervous system. These differ in their chemical structure, their specific physical and psychological effects, and their potential danger to the user. Stimulants are associated with disorders involving use, intoxication, and withdrawal.

Eroding the Mind
Researchers have mapped brain decay caused by methamphetamine use. The damage affected memory, emotion, and reward systems.

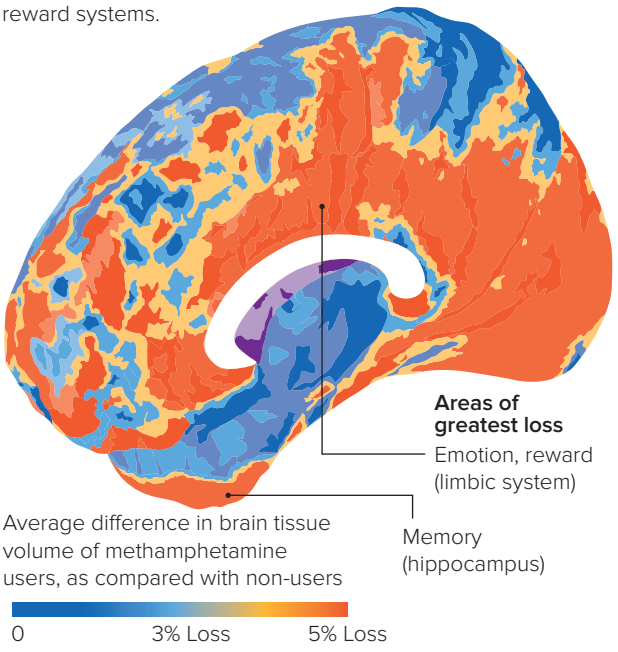


FIGURE 5 Long-term Effects of Methamphetamine on the Brain

Amphetamines

Amphetamine is a stimulant that affects both the central nervous and the autonomic nervous systems. In addition to waking or speeding up the central nervous system, it also causes elevated blood pressure, heart rate, decreased appetite, and physical activity. It may be used for medical purposes, such as to treat ADHD or as a diet pill. Even when used for medical purposes, however, amphetamine drugs can cause dependence and have unpleasant or dangerous side effects. In increasingly large doses, users can become hostile, violent, and paranoid. They may also experience a range of physiological effects including fever, sweating, headache, blurred vision, dizziness, chest pain, nausea, vomiting, and diarrhea.

Methamphetamine is an addictive stimulant drug that is related to amphetamine but it provokes more intense central nervous system effects. Whether taken orally, through the nose, intravenously, or by smoking, methamphetamine causes a rush or feeling of euphoria and becomes addictive very quickly. Methamphetamine overdose can cause overheating of the body and convulsions, and, if not treated immediately, it can result in death. Long-term use of methamphetamine can lead users to develop mood disturbances, violent behavior, anxiety, confusion, insomnia, severe dental problems ("meth mouth"), and a heightened risk of infectious diseases including hepatitis and HIV/AIDS. The long-term effects of methamphetamines also include severe brain damage, as Figure 5 shows.

In 2013, 595,000 adults ages 12 and older in the United States (0.2 percent) were current users of methamphetamines, up from 353,000 (0.1 percent) in 2010. The average age of initiation into methamphetamine use is 18.9 years of age, down from its peak of 22.2 in

MINI CASE

Stimulant Use Disorder, Amphetamine-type Substance

Kaya is a 23-year-old salesperson who tried for 3 years to lose weight. Her physician prescribed amphetamines but cautioned her about the possibility that she might become dependent on them. She did begin to lose weight, but she also discovered that she liked the extra energy and good feelings the diet pills caused. When Kaya returned to her doctor after having lost the desired weight, she asked him for a refill of her prescription to help her maintain her new figure. When he refused, Kaya asked around among her friends until she found the name of a physician who was willing to accommodate her wishes for ongoing refills of the prescription. Over the course of 1 year, Kaya developed a number of psychological problems, including depression, paranoid thinking, and irritability. Despite the fact that she realizes that something is wrong, she feels driven to continue using the drug.

2006, and the number of first-time users ages 12-49 is also higher (144,000) than the low in the year 2010 (259,000) but reflecting a gradual increase since 2010 (SAMHSA, 2015).

Use of the stimulants Adderall and Ritalin by high school students concerns parents and educators, because these potentially abused substances can be obtained from friends with prescriptions or directly from a student's own physician. In 2014, approximately 6.8 percent of high school seniors stated that they used Adderall and 1.8 stated that they used Ritalin for nonmedical purposes (National Survey of Drug Use and Health, 2015). High school seniors report a lifetime prevalence use of methamphetamine of 1.9 percent in 2014, up 0.4 percent from 2013; however, amphetamine use in 2014 among this group dropped to 12.1 in 2014, down from 13.8 percent in 2013 (Johnston & Miech, 2014).

cocaine
A highly addictive central nervous system stimulant that an individual snorts, injects, or smokes.

Cocaine

Cocaine is a highly addictive central nervous system stimulant that an individual snorts, injects, or smokes. Users can snort the powdered hydrochloride salt of cocaine or dissolve it in water and then inject it. Crack is the street name given to the form of cocaine that is processed to form a rock crystal which, when heated, produces vapors that the individual smokes. The effects of cocaine include feelings of euphoria, heightened mental alertness, reduced fatigue, and heightened energy. The faster the bloodstream absorbs the cocaine and delivers it to the brain, the more intense the user's high. Because this intense high is relatively short (5 to 10 minutes), the user may administer the drug again in a binge-like pattern.

Like amphetamines, cocaine increases bodily temperature, blood pressure, and heart rate. Cocaine's risks include heart attack, respiratory failure, stroke, seizures, abdominal pain, and nausea. In rare cases, the user can experience sudden death on the first use of cocaine or unexpectedly afterwards. Other adverse effects on the body develop over time and include changes within the nose (loss of sense of smell, chronically runny nose, and nosebleeds), as well as problems with swallowing and hoarseness. Users may also experience severe bowel gangrene due to a reduction of blood flow to the digestive system. Cocaine users may also have severe allergic reactions and increased risk of developing HIV/AIDS and other blood-borne diseases. When people use cocaine in binges, they may develop chronic restlessness, irritability, and anxiety. Chronic users may experience severe paranoia in which they have auditory hallucinations and lose touch with reality (NIDA, 2011b).

As Figure 1 illustrated, 1.5 percent of adults 12 and older used cocaine in 2013. The rates of cocaine use are about double for men

A police officer holds a sample of crack cocaine that has been confiscated from a user. Crack is highly addictive because it produces a very intense but brief "high."

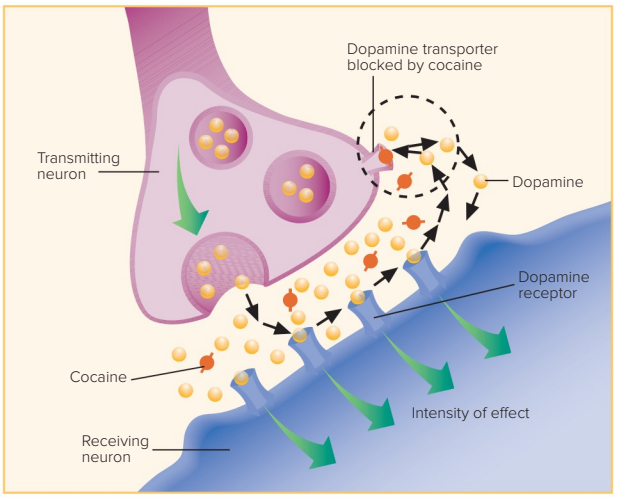


FIGURE 6 Cocaine in the Brain

In the normal communication process, dopamine is released by a neuron into the synapse, where it can bind to dopamine receptors on neighboring neurons. Normally, dopamine is then recycled back into the transmitting neuron by a specialized protein called the dopamine transporter. If cocaine is present, it attaches to the dopamine transporter and blocks the normal recycling process, resulting in a buildup of dopamine in the synapse, which contributes to the pleasurable effects of cocaine.

compared to women. The average age of first use of cocaine is 20.4 years; approximately 1,600 people per day are initiated into the use of cocaine. Among illicit drugs, cocaine (and illicit use of pain relievers) is second only to marijuana in the rate of past year dependence (SAMHSA, 2015). An estimated 4.6 percent of high school seniors have used cocaine at some point in their lives (Johnston & Miech, 2014).

Figure 6 shows the impact of cocaine at the synapse. Like other drugs of abuse, cocaine has its effects by stimulating dopamine receptors. Researchers believe that cocaine specifically targets an area in the midbrain called the ventral tegmental area (VTA). Pathways from the VTA extend to the nucleus accumbens, a key area of the brain involved in reward. Cocaine's effects appear to be due to blocking the removal of dopamine from the synapse, which results in an accumulation of dopamine that amplifies the signal to the receiving neurons. The euphoria that users report appears to correspond to this pattern of dopamine activity (NIDA, 2011h). In addition to dopamine, serotonin appears to play a role in the motivational and reinforcing effects of the drug and may also mediate, to at least some extent, cocaine's aversive effects (Nonkes, van Bussel, Verheij, & Homberg, 2011).

Cannabis

Cannabis is associated with disorders involving use, intoxication, and withdrawal. **Marijuana** is a mix of flowers, stems, and leaves from the hemp plant *Cannabis sativa*, a tall, leafy, green plant that thrives in warm climates. Although the plant contains more than 400 chemical constituents, the primary active ingredient in marijuana is delta-9-tetrahydrocannabinol (THC). Hashish, containing a more concentrated form of THC, comes from the resins of the plant's flowers. The marijuana and hashish that reach the street are never pure THC; other substances, such as tobacco, are always mixed in, too. Individuals use synthetic forms of THC for medicinal purposes, such as treating asthma and glaucoma and reducing nausea in cancer patients undergoing chemotherapy.

marijuana
A psychoactive substance derived from the hemp plant whose primary active ingredient is delta-9-tetrahydrocannabinol (THC).

Most people who use marijuana smoke it as a cigarette or in a pipe. Marijuana users can also mix the drug in food or serve it as a tea. The most common way to take marijuana is

MINI CASE

Cannabis Use Disorder

Gary, age 22, has lived with his parents since dropping out of college 3 years ago, midway through his freshman year. Gary was an average student in high school and, although popular, was not involved in many extracurricular activities. When he entered college, Gary became interested in the enticing opportunities for new experiences, and he began to smoke marijuana casually with his roommates. However, unlike his roommates, who limited their smoking to parties, Gary found that a nightly hit helped him relax. He started to rationalize that it also helped him study, because his thinking was more creative. As his first semester went by, he gradually lost interest in his studies, preferring to stay in his room and listen to music while getting high. He realized that it was easy to support his habit by selling marijuana to other people in the dorm. Although he convinced himself that he was not really a dealer, Gary became one of the primary suppliers of marijuana on campus. When he received his first-semester grades, he did not feel particularly discouraged about the fact that he had flunked out. Rather, he felt that he could benefit from having more time to himself. He moved home and became friendly with some local teenagers who frequented a nearby park and shared drugs there. Gary's parents have all but given up on him, having become deeply discouraged by his laziness and lack of productivity. They know that he is using drugs, but they feel helpless in their efforts to get him to seek professional help. They have learned that it is better to avoid discussing the matter with Gary, because violent arguments always ensue.

to smoke it, but users may also eat it or inject the drug intravenously. When a person smokes marijuana, he or she reaches peak blood levels in about 10 minutes, but the subjective effects of the drug do not become apparent for another 20 to 30 minutes. The individual may experience the effects of intoxication for 2 to 3 hours, but the metabolites of THC may remain in the body for 8 or more days.

People take marijuana in order to alter their perceptions of their environment and their bodily sensations. The effects they seek include euphoria, a heightened sense of sensuality and sexuality, and an increased awareness of internal and external stimuli. However, marijuana use also carries with it a number of other unpleasant effects including impaired short-term memory, slowed reaction time, and impaired physical coordination, altered judgment, and poor decision making. Instead of feeling euphoric and relaxed, users may experience paranoia and anxiety, particularly when they ingest high doses.

Marijuana, shown here in its plant form, is the most frequently used illicit drug in the United States.

As mentioned earlier in the chapter, marijuana is the most commonly used illicit drug in the United States. In 2013, less than one in five adults (19.1 percent) ages 18 to 25 were current users. The majority of first-time drug users (70.3 percent) chose marijuana, more than double the number who began with psychotherapeutic medications (20.6 percent). The average age of initiating marijuana use in 2013 was 18.0 years. Marijuana also has the highest levels of past year dependence (4.2 million in 2013 in the United States) (SAMHSA, 2015). As of 2014, nearly half (44.4 percent) of U.S. high-school seniors reported marijuana use at least once during their lifetime (Johnston & Miech, 2014).

THC produces its effects by acting upon specific sites in the brain, called cannabinoid receptors. The brain regions with the highest density of cannabinoid receptors are the areas that influence pleasure, but also are involved in memory, thinking and concentration, perception of time, sensory responses, and ability to carry out coordinated movement. Many of these acute effects on cognitive functioning are reversible as long as the individual does not engage in chronic use.

Heavy and continued use of marijuana can produce a number of deleterious effects on bodily functioning, including higher risk of heart attack and impaired respiratory functioning. In addition to developing psychological dependence on marijuana, long-term users may experience lower educational and occupational achievement, psychosis, and persistent cognitive impairment. Table 3 summarizes the research findings on the effects

TABLE 3 **Summary of Effects of Cannabis on Executive Functions**

Executive Function Measured	Acute Effects	Residual Effects	Long-term Effects
Attention/concentration	Impaired (light users) Normal (heavy users)	Mixed findings	Largely normal
Decision making and risk taking	Mixed findings	Impaired	Impaired
Inhibition/impulsivity	Impaired	Mixed findings	Mixed findings
Working memory	Impaired	Normal	Normal
Verbal fluency	Normal	Mixed findings	Mixed findings

Crean, R. D., Crane, N. A., & Mason, B. J. (2011). An evidence-based review of acute and long-term effects of cannabis use on executive cognitive functions. *Journal of Addiction Medicine, 5,* 1–8.

MINI CASE

Other Hallucinogen Use Disorder

Candace is a 45-year-old artist who has used LSD for a number of years, because she feels that doing so enhances her paintings and makes them more visually exciting. Although she claims to know how much LSD she can handle, she is occasionally caught off guard and experiences disturbing side effects. She begins sweating, has blurred vision, is uncoordinated, and shakes all over. She commonly becomes paranoid and anxious, and she may act in strange ways, such as running out of her studio and into the street, ranting incoherently. On more than one occasion, the police have picked her up and taken her to the emergency room, where doctors prescribed antipsychotic medication.

of cannabis use on the cognitive processes that make up executive functioning. Particularly at risk are individuals who begin using marijuana at an early age and continue to use it throughout their lives (Pope & Yurgelun-Todd, 2004).

Hallucinogens

Included in hallucinogen-related disorders are use and intoxication, but not withdrawal. **Hallucinogens** are drugs that cause people to experience profound distortions in their perception of reality. Under the influence of hallucinogens, people see images, hear sounds, and feel sensations that they believe to be real but are not. In some cases, users experience rapid, intense mood swings. Some people who use hallucinogens develop a condition called hallucinogen persisting perception disorder, in which they experience flashbacks or spontaneous hallucinations, delusions, or disturbances in mood similar to the changes that took place while they were intoxicated with the drug. The specific effects and risks of each hallucinogen vary among the four major categories of hallucinogens (NIDA, 2011c).

hallucinogens
Psychoactive substances that cause abnormal perceptual experiences in the form of illusions or hallucinations, usually visual in nature.

People take **lysergic acid diethylamide (LSD)** in tablets, capsules, and occasionally liquid form. Users show dramatic changes in their sensations and emotions. They may feel several emotions at once or swing rapidly from one emotion to another. At larger doses, users can experience delusions and visual hallucinations. In addition, they may feel an altered sense of time and self. Users may also experience synesthesia in which they "hear" colors and "see" sounds. These perceptual and mood alterations may be accompanied by severe, terrifying thoughts and feelings of despair, panic, fear of losing control, going insane, or dying. Even after they stop taking LSD, users may experience flashbacks, leading them to be significantly distressed and impaired in their social and occupational functioning.

lysergic acid diethylamide (LSD)
A form of a hallucinogenic drug that users ingest in tablets, capsules, and liquid form.

Unlike other substances, LSD does not seem to produce compulsive drug-seeking behavior, and most users choose to decrease or stop using it without withdrawal. However, LSD produces tolerance, so users may need to take larger doses to achieve the effects they desire. Given the unpredictable nature of LSD's effects, such increases in doses can be dangerous. LSD can also affect other bodily functions, including increasing body temperature, blood pressure, and heart rate, sweating, loss of appetite, dry mouth, sleeplessness, and tremors.

Peyote is a small, spineless cactus whose principal active ingredient is mescaline. In addition to its naturally occurring form, individuals can also produce mescaline artificially. Users chew the mescaline-containing crown of the cactus, or soak it in water to produce a liquid; some prepare a tea by boiling the cactus in water to rid the drug of its bitter taste. Used as part of religious ceremonies by natives in northern Mexico and the southwestern United States, its long-term effects on these and recreational users are not known. However, its effects on the body are similar to LSD, with increases in body temperature and heart rate, uncoordinated movements, extreme

peyote
A form of a hallucinogenic drug whose primary ingredient is mescaline.

sweating, and flushing. In addition, peyote may cause flashbacks, much like those associated with LSD.

Psilocybin (4-phosphoryloxy-N,N-dimethyltryptamine), and its biologically active form, psilocin (4-hydroxy-N,N-dimethyltryptamine), is a substance found in certain mushrooms. Users brew the mushrooms or add them to other foods to disguise their bitter taste. The active compounds in psilocybin-containing mushrooms, like LSD, alter the individual's autonomic functions, motor reflexes, behavior, and perception. Individuals may experience hallucinations, an altered sense of time, and an inability to differentiate between fantasy and reality. Large doses may cause users to experience flashbacks, memory impairments, and greater vulnerability to psychological disorders. In addition to the risk of poisoning if the individual incorrectly identifies the mushroom from other mushrooms, the bodily effects can include muscle weakness, loss of motor control, nausea, vomiting, and drowsiness.

psilocybin
A form of a hallucinogenic drug found in certain mushrooms.

Researchers developed **phencyclidine (PCP)** in the 1950s as an intravenous anesthetic, but it is no longer used medically because patients became agitated, delusional, and irrational while recovering from its effects. Users can easily mix the white crystalline powder with alcohol, water, or colored dye. PCP may be available on the illegal drug market in pill, capsule, or colored powder forms that users can smoke, snort, or take orally. When individuals smoke PCP, they may apply the drug to mint, parsley, oregano, or marijuana.

phencyclidine (PCP)
A form of a hallucinogenic drug originally developed as an intravenous anesthetic.

PCP causes users to experience a sense of dissociation from their surroundings and their own sense of self. It has many adverse effects including symptoms that mimic schizophrenia, mood disturbance, memory loss, difficulties with speech and thinking, weight loss, and depression. Although these negative effects led to its diminished popularity as a street drug, PCP appeals to those who still use it because they feel that it makes them stronger, more powerful, and invulnerable. Furthermore, despite PCP's adverse effects, users can develop strong cravings and compulsive PCP-seeking behavior.

The physiological effects of PCP are extensive. Low to moderate doses produce increases in breathing rate, a rise in blood pressure and pulse, general numbness of the extremities, and loss of muscular coordination, as well as flushing and profuse sweating. At high doses, users experience a drop in blood pressure, pulse rate, and respiration, which may be accompanied by nausea, vomiting, blurred vision, abnormal eye movements, drooling, loss of balance, and dizziness. They may become violent or suicidal. In addition, at high doses users may experience seizures, coma, and death. Users who combine PCP with other central nervous system depressants (such as alcohol) may become comatose.

Within MDMA-related disorders, the chemical named **MDMA** (3,4-methylenedioxymethamphetamine), known on the street as **ecstasy,** is a synthetic substance chemically similar to methamphetamine and mescaline. Users experience feelings of increased energy, euphoria, emotional warmth, distorted perceptions and sense of time, and unusual tactile experiences. Taken as a capsule or tablet, MDMA was once most popular among white teens and young adults at weekend-long dances known as "raves." Some users combine MDMA with other drugs including marijuana, cocaine, methamphetamine, ketamine, and sildenafil (Viagra), among other substances.

ecstasy (MDMA)
A hallucinogenic drug made from a synthetic substance chemically similar to methamphetamine and mescaline.

In 2013, 1.3 million individuals in the United States ages 12 and older (0.5 percent of the population) reported they had used hallucinogens; of these individuals, 0.8 million had used MDMA (SAMHSA, 2015). Among U.S. high-school seniors, 5.6 percent reported using MDMA at least once in their lives, compared to 3.7 percent who had used LSD at least once (Johnston & Miech, 2014).

Users of MDMA may experience a range of unpleasant psychological effects, including confusion, depression, sleep problems, cravings for the drug, and severe anxiety. The drug may be neurotoxic, which means that, over time, users may experience greater difficulty carrying out cognitive tasks. Like stimulants, MDMA can affect the sympathetic nervous system, leading to increases in heart rate, blood pressure, muscle tension, nausea, blurred vision, fainting, chills or sweating, and involuntary teeth clenching. Individuals also risk severe spikes in body temperature, which, in turn, can lead to liver,

MDMA, also known as ecstasy, is a purely chemical drug that is often combined with other chemicals to produce long-lasting euphoria for users.

kidney, or cardiovascular system failure. Repeated dosages over short periods of time may also interfere with MDMA metabolism, leading to significant and harmful buildup within the body (NIDA, 2011f).

The main neurotransmitter involved with MDMA is serotonin. As Figure 7 shows, MDMA binds to the serotonin transporter that is responsible for removing serotonin from the synapse. As a result, MDMA extends the effects of serotonin. In addition, MDMA enters the neuron, where it stimulates excessive release of serotonin. MDMA has similar effects on norepinephrine, which leads to increases in autonomic nervous system activity. The drug also releases dopamine, but to a lesser extent.

Researchers find it difficult to investigate the long-term effects of MDMA use on cognitive functioning because users typically take MDMA with other substances. However, significant negative effects of MDMA use alone do occur on verbal memory (Thomasius et al., 2006). Moreover, when combined with alcohol, MDMA produces a number of long-term adverse psychological effects including paranoia, poor physical health, irritability, confusion, and moodiness. However, the longer the period of abstinence from the drug, the less often users experienced these effects (Fisk, Murphy, Montgomery, & Hadjiefthyvoulou, 2011).

opioid
A psychoactive substance that relieves pain.

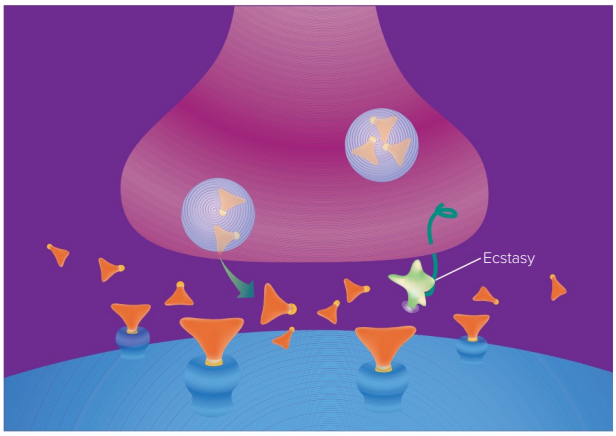


FIGURE 7 The Impact of Ecstasy (MDMA) on Serotonergic Neurons

Opioids

Within opioid-related disorders are opioid use, intoxication, and withdrawal. An **opioid** is a substance that relieves pain. Many legally prescribed medications fall within this category, including hydrocodone (e.g., Vicodin), oxycodone (e.g., OxyContin, Percocet), morphine (e.g., Kadian, Avinza), codeine, and related drugs. Clinicians prescribe hydrocodone products most commonly for a variety of painful conditions, including dental and injury-related pain. Physicians often use morphine before and after surgical procedures to alleviate severe pain. Clinicians prescribe codeine, on the other hand, for mild pain. In addition to prescribing these drugs for their pain-relieving properties, physicians prescribe some of them—codeine and diphenoxylate (Lomotil), for example—to relieve coughs and severe diarrhea, respectively.

MINI CASE

Opioid Use Disorder

Jimmy is a 38-year-old homeless man who has been addicted to heroin for the past 10 years. He began to use the drug at the suggestion of a friend who told him it would help relieve the pressure Jimmy was feeling from his unhappy marriage and financial problems. In a short period of time, he became dependent on the drug and got involved in a theft ring in order to support his habit. Ultimately, he lost his home and moved to a shelter, where workers assigned Jimmy to a methadone treatment program.

When people take these medications as prescribed, the medications are effective for managing pain safely. However, because of their potential to produce euphoria as well as physical dependence, these medications are among the most frequently abused prescription drugs. For example, people who abuse Oxycontin may snort or inject it, and, as a result, suffer a serious overdose reaction.

An estimated 201.9 million prescriptions were written for opioid painkillers in 2009; most were for hydrocodone- and oxycodone-containing products issued on a short-term (2- to 3-week) basis. Of all opioid prescriptions, 11.7 percent (9.3 million) were for patients 10 to 29 years old. Furthermore, over half (56 percent) of opioid prescriptions

You Be the Judge

Prescribing Prescription Drugs

Patients who suffer from chronic pain present a tremendous challenge to health care professionals. Long-term treatment of chronic pain through prescription medications carries with it the risk that patients will develop dependence. Moreover, because patients need escalating doses to achieve the same degree of relief, their pain sensitivity and levels of pain might actually increase. At the same time, patients may fear taking an opioid medication that could benefit them due to the fear of developing an addiction. These patients may suffer unduly if their condition is one that could benefit from pain medication, especially if they are terminally ill. Ironically enough, some health care professionals as well as patients worry about the risks of addiction among patients who are in their last few months of life.

Addressing the national crisis in overuse of prescription pain medication, representatives of the National Institute on Drug Abuse (2011g) propose several remedies. First, to mitigate addiction risk, they advise physicians to screen patients for potential risk factors, including personal or family history of drug abuse or psychological disorder. Second, they suggest that health care professionals monitor patients for signs of abuse using such indicators as early or frequent requests for prescription pain medication.

Clearly, as NIDA urges, the development of effective, nonaddicting pain medications is a public health priority. A growing population of older adults and an increasing number of injured military personnel only add to the urgency of this issue. Researchers need to explore alternative medications that can alleviate pain but have less abuse potential. At the same time, researchers and practitioners in psychology can step in and provide a greater understanding of effective chronic pain management, including identifying factors that predispose some patients to addiction and developing measures to prevent abuse.

Q: *You be the judge*: What is the best way to balance the patient's need for pain relief with the growing national and international crisis in abuse of prescription pain medications?

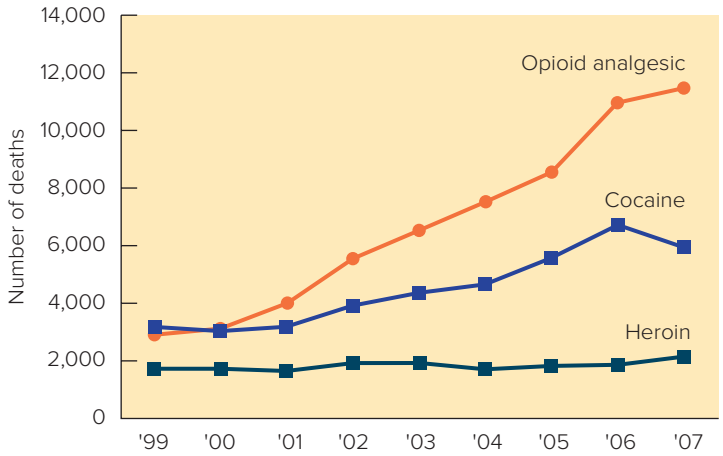


FIGURE 8 Unintentional Drug Overdose Deaths by Major Type of Drug, United States, 1999–2007

were filled by patients who had recently received another opioid medication (Volkow, McLellan, Cotto, Karithanom, & Weiss, 2011). The risk of death by overdose among patients receiving opioid prescriptions is significant. In one nationwide study of Veterans Administration patients, the risk of overdose death was directly related to the maximum prescribed daily dose of opioids (Bohnert et al., 2011). In 2007, drug overdose deaths were second only to motor vehicle accidents as the leading cause of unintentional injury death. The number of deaths involving opioid analgesics was nearly twice the number involving cocaine and nearly six times the number involving heroin (Figure 8) (Centers for Disease Control and Prevention, 2012).

heroin
A psychoactive substance that is a form of opioid, synthesized from morphine.

Heroin is a form of opioid. It is a pain-killing drug synthesized from morphine, a naturally occurring substance extracted from the seed pod of the Asian opium poppy plant. Users inject, snort, sniff, or smoke heroin. Once ingested, the body converts heroin to morphine and then it binds to the opioid receptors located in areas throughout the brain and body, particularly those involved in reward and pain perception. Opioid receptors are also located in the brain stem, which contains structures that control breathing, blood pressure, and arousal.

Users experience a surge of euphoric feelings along with a dry mouth, warm flushing of the skin, heaviness in the arms and legs, and compromised mental functioning. Shortly afterward, they alternate between feeling wakeful and drowsy. If users do not inject the drug, they may not feel euphoria at all. With continued use of heroin, users develop tolerance, meaning that they need larger amounts of the drug to feel the same effect. Heroin has a high potential for addiction with estimates as high as 23 percent of all users developing dependence (NIDA, 2011d).

There are many serious health consequences of heroin use, including fatal overdoses, infectious diseases (related to needle sharing), damage to the cardiovascular system, abscesses, and liver or kidney disease. Users are often in poor general health, and therefore are more susceptible to pneumonia and other pulmonary complications, as well as damage to the brain, liver, and kidneys resulting from the toxic contaminants often added to heroin.

Chronic heroin users experience severe withdrawal should they discontinue its use. Withdrawal symptoms may include restlessness, muscle and bone pain, insomnia, diarrhea, vomiting, cold flashes, and kicking movements. During withdrawal, users experience severe cravings which can begin 2 to 3 days after they discontinue use and last for as long as a week, although cravings for the drug may occur for years when the individual experiences certain triggers or stress. There are also dangers to sudden withdrawal, particularly in long-term users who are in poor health.

As Figure 1 shows, current users in the United States report heroin to be one of the least likely illegal substances to be abused. However, 517,000 adults in the United States reported heroin dependence or abuse in 2013, an increase from 359,000 in 2010 (SAMHSA, 2015). In 2010, researchers estimated the lifetime prevalence among U.S.

high school seniors to be 1.0 percent, down from the largest percentage of 2.4 in 2000 (Johnston & Miech, 2014).

Sedatives, Hypnotics, and Anxiolytics

The category of sedatives, hypnotics, and anxiolytics (antianxiety medications) includes prescription medications that act as central nervous system depressants. A **sedative** has a soothing or calming effect, a **hypnotic** induces sleep, and an **anxiolytic** is used to treat anxiety symptoms. These central nervous system depressant drugs can be useful for treating anxiety and sleep disorders. Their sedating effects are due to the fact that they increase the levels of the neurotransmitter GABA, which inhibits brain activity and therefore produces a calming effect. Disorders within this category include use disorder, intoxication, and withdrawal.

sedative
A psychoactive substance that has a calming effect on the central nervous system.

hypnotic
A substance that induces sedation.

anxiolytic
An antianxiety medication.

These medications are among the most commonly abused drugs in the United States. They include benzodiazepines, barbiturates, nonbenzodiazepine sleep medications such as zolpidem (Ambien), eszopiclone (Lunesta), and zaleplon (Sonata). In 2010, 7 million people ages 12 and older in the United States (0.5 percent) used these and other prescription drugs nonmedically. Although safe when used as prescribed, these medications have high potential for abuse and dependence. The longer the person uses these drugs, the greater the amount they need to take in order to experience their sedating effects. In addition to the risk of dependence, these medications also can cause harmful effects on individuals taking other prescription and over-the-counter medications (NIDA, 2011g). Among high-school seniors in 2010, 7.5 percent reported using (nonmedically) barbiturates, and 8.5 percent reported using tranquilizers at some point in their lives (Johnston et al., 2011).

For older adults, the risk of abuse of these prescription drugs is also high, particularly given the fact that they may interact with alcohol and other prescription and over-the-counter medications. Moreover, older adults with cognitive decline may improperly take their medication, which, in turn, can lead to further cognitive decline (Whitbourne & Meeks, 2011).

Caffeine

caffeine
A stimulant found in coffee, tea, chocolate, energy drinks, diet pills, and headache remedies.

Disorders included in the caffeine-related category are intoxication and withdrawal, but not caffeine use disorder. **Caffeine** is a stimulant found in coffee, tea, chocolate, energy drinks, diet pills, and headache remedies. By activating the sympathetic nervous system through increasing the production of adrenaline, caffeine increases an individual's perceived level of energy and alertness. Caffeine also increases blood pressure and may lead to increases in the body's production of cortisol, the stress hormone.

Energy drinks such as Red Bull™, introduced in Austria in 1987 and in the United States in 1997, are becoming an increasing problem due to the high levels of caffeine they may contain. Red Bull contains 80 mg of caffeine, but the drink Rage Inferno contains 375 mg per can. In comparison, a can of Coca Cola contains 34.5 mg of caffeine. In 2006, worldwide energy drink consumption increased by 17 percent to 906 million gallons, and the market for them continues to grow exponentially. In the United States, at least 130 energy drinks exceed the FDA-recommended limit of 0.02 percent of caffeine, and the FDA has not aggressively pursued manufacturers to seek compliance, nor does it require warning labels. Although caffeine is such a common feature of everyday life that people tend not to be aware of its dangers, caffeine from energy drinks and other sources can lead to many adverse reactions,

Energy drinks such as Red Bull contain high amounts of caffeine and other additives such as Taurine to boost energy. These drinks put consumers at risk from consuming excess amounts of caffeine, which can lead to major health problems.

MINI CASE

Caffeine Intoxication

Carla is a 19-year-old college sophomore who felt compelled to excel at every endeavor and to become involved in as many activities as time and energy would permit. As her commitments increased and her studies became more burdensome, Carla became more and more reliant on coffee, soda, and over-the-counter stimulants to reduce her need for sleep. During final examination week, Carla overdid it. For 3 days straight, she consumed approximately 10 cups of coffee a day, along with a few bottles of energy shots. In addition to her bodily symptoms of restlessness, twitching muscles, flushed face, stomach disturbance, and heart irregularities, Carla began to ramble when she spoke. Her roommate became distressed after seeing Carla's condition and insisted on taking her to the emergency room, where the intake worker recognized her condition as caffeine intoxication.

and can become a gateway to other forms of substance dependence (Reissig, Strain, & Griffiths, 2009).

Already a diagnosis in *ICD-10, DSM-5* was the first psychiatric manual in the United States to include caffeine withdrawal as a diagnosis. The symptoms of caffeine withdrawal include headache, tiredness and fatigue, sleepiness and drowsiness, dysphoric mood, difficulty concentrating, depression, irritability, nausea, vomiting, muscle aches, and stiffness. Caffeine withdrawal is estimated to cause significant distress and impairment in daily functioning among 13 percent of people in experimental studies (Juliano & Griffiths, 2004).

Particularly dangerous is the combination of caffeine and alcohol, a problem that is most severe on college campuses. In one survey of undergraduates, over one-quarter reported that they had mixed alcohol and energy drinks in the past month; of these, almost half used more than three energy drinks at once (Malinauskas, Aeby, Overton, Carpenter-Aeby, & Barber-Heidal, 2007). When users combine alcohol and caffeine, they may not realize how intoxicated they are and may as a result have a higher prevalence of alcohol-related consequences (Reissig et al., 2009).

Tobacco

nicotine
The psychoactive substance found in cigarettes.

The health risks of tobacco are well known; these risks are primarily associated with smoking cigarettes, which contain tar, carbon monoxide, and other additives. **Nicotine** is the psychoactive substance found in cigarettes. Readily absorbed into the bloodstream, nicotine is also present in chewing tobacco, pipe tobacco, and cigars. The typical smoker takes 10 puffs of a cigarette over a 5-minute period; an individual who smokes 1-1/2 packs of cigarettes therefore gets 300 "hits" of nicotine per day (NIDA, 2011a). Individuals can be diagnosed with tobacco use disorder or tobacco withdrawal, but not tobacco intoxication.

When nicotine enters the bloodstream, it stimulates the release of adrenaline (norephinephrine), which activates the autonomic nervous system and increases blood pressure, heart rate, and respiration. Like other psychoactive substances, nicotine increases the level of dopamine, affecting the brain's reward and pleasure centers. Substances found in tobacco smoke, such as acetaldehyde, may further enhance nicotine's effects on the central nervous system. The withdrawal symptoms associated with quitting tobacco use include irritability, difficulties with concentration, and strong cravings for nicotine.

Although rates of cigarette smoking are decreasing in the United States from the 2002 high of 26 percent of the population ages 12 and older to the 2013 rate of 21.3 percent, there remained as of 2013 a rate of 30.6 percent among young adults 18 to 25 years old. The rate among youths ages 12 to 17 in 2013 was 5.6 percent (SAMHSA, 2015).

REAL STORIES

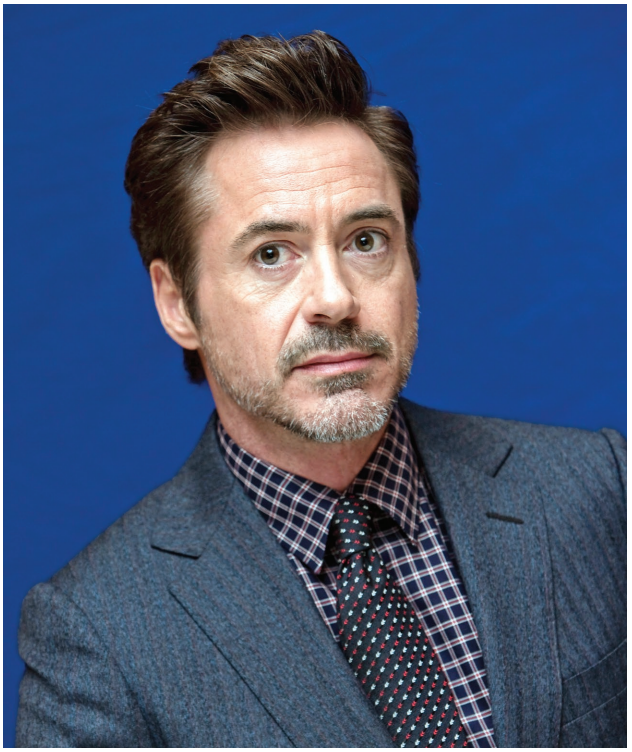
Robert Downey Jr.: Substance Use Disorder

Set against a Hollywood backdrop, Robert Downey Jr.'s story resembles that of many other individuals struggling with substance use disorder. As a child, his father Robert Downey Sr., an actor, producer, and film director, raised Robert in an environment rich in drug and alcohol use due to his own struggles with substance abuse. Robert himself began using substances at the age of 6, when his father gave him marijuana. Regarding this time in his life, Robert has said, "When my dad and I would do drugs together, it was like him trying to express his love for me in the only way he knew how." This bond between son and father very likely contributed to Robert's substance dependence later in life.

As a teenager, Robert started acting in small roles in his father's films and on Broadway until he began acting in feature films. During the 1980s he gained considerable attention in his roles in several of the "Brat Pack" movies including *Weird Science* and *The Pick-up Artist* with Molly Ringwald. His major break came in 1987 in a role in *Less than Zero* in which he played a wealthy young man whose life became consumed by drug use. He received considerable praise for his portrayal of the character of which he stated, "The role was like the ghost of Christmas future," regarding his steady increase in drug use which caused years of turmoil for the gifted actor.

As Robert began landing bigger roles in films, his substance use-related problems began to take over his life and largely impede his professional career. Between 1996 and 2001, Robert was repeatedly arrested for drug use including heroin, cocaine, and marijuana. He was drinking daily and spending large amounts of time in obtaining and doing drugs. In one instance in April 1996, Robert was pulled over for speeding on Sunset Boulevard in Los Angeles and was arrested for possession of heroin and cocaine as well as a gun in his car. One month later while he was on parole, he trespassed into a neighbor's home while under the influence and passed out in one of the beds. He was subsequently placed on 3 years' probation with mandatory drug testing. When he missed one of his court-appointed drug tests, he was imprisoned for 4 months.

Similar to those struggling with substance use disorders who are attempting to break free of the cycle of addiction, Robert had many unsuccessful stays in rehab. He often cited his early drug use and bonding with his father over drugs as a reason it was difficult for him to quit, though he did realize the enormity of his problems. In 1999 he stated to a judge, "It's like I've got a shotgun in my mouth with my finger on the trigger, and I like the taste of gun metal."



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In 2000, Robert spent a year in a California substance abuse treatment facility. Upon his release he joined the cast of the hit television show *Ally McBeal*. Though his role was a huge success that led to a boost in ratings, he was written out of the show after he was arrested again for drug possession.

In an interview with Oprah Winfrey in 2004, Robert stated, "When someone says, 'I really wonder if maybe I should go to rehab?' Well, uh, you're a wreck, you just lost your job, and your wife left you. Uh, you might want to give it a shot . . . I finally said 'you know what? I don't think I can continue doing this.' And I reached out for help, and I ran with it . . . you can reach out for help in kind of a half-assed way and you'll get it and you won't take advantage of it. It's not that difficult to overcome these seeming ghastly problems . . . what's hard is to decide to actually do it."

Though he was court-ordered to go to rehab, this attitude helped him be successful in remaining abstinent from drug use. After obtaining sobriety, Robert came back to Hollywood and after several years of starring in smaller roles in independent films, his career skyrocketed following his turn in the blockbuster *Iron Man*. Following this success, he has gone on to enjoy lead roles in several major Hollywood films, a feat that had seemed unimaginable at the lowest points in his life.

Among high-school seniors, however, the estimated lifetime prevalence rate was considerably higher at 34.4 percent (Johnston & Miech, 2014). Taking the place of tobacco cigarettes, though, are e-cigarettes. Among 12th-graders, 17 percent reported use of e-cigarettes in the past month, and 14 percent reported use of a tobacco cigarette (Johnston & Miech, 2014).

Inhalants

inhalants
A diverse group of substances that cause psychoactive effects by producing chemical vapors.

Inhalants are a diverse group of substances that cause psychoactive effects by producing chemical vapors. These products are not in and of themselves harmful; in fact, they are all products commonly found in the home and workplace. There are four categories of inhalants: volatile solvents (paint thinners or removers, dry-cleaning fluids, gasoline, glue, and lighter fluid), aerosols (sprays that contain propellants and solvents), gases (butane lighters and propane tanks, ether, and nitrous oxide), and nitrites (a special category of products that individuals use as sexual enhancers). Young teens (ages 12 to 15) tend to inhale glue, shoe polish, spray paint, gasoline, and lighter fluid. Older teens (ages 16 to 17) inhale nitrous oxide, and adults (ages 18 and older) are most likely to inhale nitrites. Within the category of inhalant disorders, individuals can be diagnosed as having inhalant use disorder or intoxication, but not inhalant withdrawal.

The effects of an inhalant tend to be short lived; consequently, users try to extend their high by inhaling repeatedly over a period of several hours. Inhalants have similar effects as alcohol including slurring of speech, loss of coordination, euphoria, dizziness, and, over time, loss of inhibition and control. Users may experience drowsiness and headaches but, depending on the substance, may also feel confused and nauseous. The vapors displace the air in the lungs, causing hypoxia (oxygen deprivation), which is particularly lethal to neurons in the central nervous system. Long-term use may also cause the myelin sheath around the axon to deteriorate, leading to tremors, muscle spasms, and perhaps permanent muscle damage. The chemicals in inhalants can also cause heart failure and sudden death (NIDA, 2011e).

As Figure 1 shows, in 2013, 0.7 million persons aged 12 and older in the United States were current inhalant users. An estimated 3.6 percent of high-school seniors reported lifetime inhalant use in 2010 (Johnston et al., 2011).

Theories and Treatment of Substance Use Disorders

Since all psychoactive substances operate on the reward and pleasure systems in the brain, similarities exist between the mechanisms through which individuals develop dependence on substances other than alcohol and the mechanisms involved in alcohol dependence itself. However, there are important differences related to the specific substance; for example, which receptor pathways the substance involves, the psychosocial factors associated with how users acquire dependence, and, ultimately, which methods are best suited to treatment.

Biological Perspectives

Research evidence clearly supports the importance of genetics in the development of serious substance problems. Extensive studies on humans and laboratory animals (mice) suggest possible genetic abnormalities in the opioid receptor on chromosome 1 *(OPRM1)* that may be involved in susceptibility to alcohol and other substances as well as sensitivity to pain. A second genetic abnormality appears on chromosome 15 in a cluster of nicotinic receptor subunits (*CHRNA-3, -5,* and *-4)* involved in nicotine dependence. The third is a widely studied abnormality affecting catechol-*O*-methyltransferase *(COMT),* which is associated with pain sensitivity, anxiety, and substance abuse (Palmer & de Wit, 2011). Researchers have linked alterations in the gene that codes the adenosine A2A receptor on chromosome 22 to individual differences in the consumption of caffeine and caffeine's effects on sleep, EEGs, and anxiety (Reissig et al., 2009).

Compared to biological treatments for alcohol dependence, weak evidence exists for the efficacy of pharmacotherapies (Arias & Kranzler, 2008). There are no FDA-approved treatments for dependence on cocaine, methamphetamines, marijuana, hallucinogens, ecstasy, or prescription opioids. There are, however, several treatments for heroin dependence that are particularly effective when combined with behavioral interventions.

Medically assisted detoxification is the first step in treatment of heroin dependence. During detoxification, individuals may receive medications to minimize withdrawal symptoms.

To prevent heroin relapse, clinicians may use one or more of three different medications. **Methadone** is a synthetic opioid that blocks the effects of heroin by binding to the same receptor sites in the central nervous system. The proper use of methadone involves specialized treatment that includes group and/or individual counseling along with referrals for other medical, psychological, or social services. Developed over 30 years ago, methadone is not considered an ideal treatment because of its potential for dependence, even when combined with psychosocial interventions. **Buprenorphine,** approved by the FDA in 2002, produces less physical dependence, a lower risk of overdose, and fewer withdrawal effects. Originally developed as a pain medication, buprenorphine is also approved for treatment of opiate dependence. The FDA has also approved **naltrexone** for heroin dependence, but it is not widely used because patients are less likely to comply with treatment.

methadone
A synthetic opioid that produces a safer and more controlled reaction than heroin and that is used in treating heroin addiction.

buprenorphine
A medication used in the treatment of heroin addiction.

naltrexone
A medication used in the treatment of heroin addiction.

For nicotine dependence, clinicians may use biologically based treatments. Nicotine replacement therapies (NRTs), including nicotine gum and the nicotine patch, were the first FDA-approved pharmacological treatments. These deliver controlled doses of nicotine to the individual to relieve symptoms of withdrawal. Other FDA-approved products include nasal sprays, inhalers, and lozenges. However, the ability of the nicotine patch to treat nicotine dependence has come under question. In a follow-up study of almost 800 smokers, there were no differences in relapse rates among those who did and did not use the patch (Alpert, Connolly, & Biener, 2012). Other biological approaches to nicotine dependence are medications that do not involve delivery of nicotine, including bupropion (Wellbutrin), an antidepressant, and Varenicline tartrate (Chantix), which targets nicotine receptors in the brain.

Psychological Perspectives The cognitive-behavioral approach to understanding substance use disorders provides an important counterpart to biological theories and treatments. Whether or not individuals with dependence on substances other than alcohol receive biologically based treatment, cognitive-behavioral therapy (CBT) is now widely understood to be a crucial component of successful treatment (Arias & Kranzler, 2008).

The principles of treating substance use disorders other than alcohol through CBT are similar to those involved in treating alcohol dependence. As noted earlier in the chapter, there is also a high degree of comorbidity between alcohol and substance dependence. Well-controlled studies support the efficacy of CBT for populations dependent on a wide range of substances. Clinicians may combine CBT with motivational therapies, as well as with behavioral interventions that focus on contingency management. In addition, clinicians can readily adapt CBT to a range of clinical modalities, settings, and age groups. Given the limitations of medication-only treatment, CBT also provides an effective adjunct in both inpatient and outpatient clinics. The ability to help clients develop coping skills is also useful in fostering compliance with pharmacotherapies such as methadone and naltrexone. Because these interventions are relatively brief and highly focused, they are adaptable to clients treated within managed care who may not have access to longer-term treatment (Carroll, 2011).

12.3 Non-Substance-Related Disorders

Gambling Disorder

People who have **gambling disorder** are unable to resist recurrent urges to gamble despite knowing that the gambling will bring about negative consequences to themselves or others. The diagnosis of gambling disorder in *DSM-IV-TR* included gambling disorder as an impulse-control disorder. In *DSM-5*, it is included with substance use disorders as it is now conceptualized as showing many of the same behaviors, such as cravings, increasing needs to engage in the behavior, and negative social consequences. The unique features of gambling disorder include behaviors seen when people engage in chasing a bad bet, lying about how much they have lost, seeking financial bailouts, and committing crimes to support their gambling.

gambling disorder
A non-substance-related disorder involving the persistent urge to gamble.

As venues for gambling continue to become available on a more widespread basis, including online gambling and such formats as fantasy leagues, the incidence of gambling disorder appears to be on the increase. Among countries with legalized gambling, lifetime prevalence estimates range from about 0.5 to as high as 3.5 percent of the adult population (Stucki & Rihs-Middel, 2007). In the United States, although the large majority of adults have gambled at some point in their lives, gambling disorder was estimated to be diagnosable in 0.6 percent. Moreover, the greater the number of occasions on which people gambled, the higher their chances of developing gambling disorder—with the highest prevalence occurring after people had gambled 1,000 times in their lives.

Gambling disorder often co-occurs with other psychological disorders. The highest risk of developing gambling disorder occurs among people who engage in gambling on games involving mental skill (such as cards), followed by sports betting, gambling machines, and horse races or cock/dog fights (Kessler et al., 2008). People with gambling disorder who bet on sports tend to be young men who have substance use disorders. Those who bet on slot machines are more likely to be older women who have higher rates of other psychological disorders and begin gambling at a later age (Petry, 2003). In general, women are less likely than men to engage in the type of gambling that depends on strategy, such as poker (Odlaug, Marsh, Kim, & Grant, 2011).

People with gambling disorder also have high rates of other disorders, particularly nicotine dependence (60 percent), dependence on other substances (58 percent), mood disorder (38 percent), and anxiety disorder (37 percent). Mood and anxiety disorders are more likely to precede, rather than follow, the onset of gambling disorder (Lorains, Cowlishaw, & Thomas, 2011). Unfortunately, the likelihood of an individual always having symptoms of gambling disorder continue to predict gambling behavior. A follow-up of Vietnam War veterans showed that even after controlling for family genetics, education, substance use, and other disorders, the men most likely to have symptoms were the ones who showed symptoms 10 years earlier (Scherrer et al., 2007).

Individuals with gambling disorder often experience severe financial problems due to their inability to stop betting money, no matter how much they try to stop.

Abnormalities in multiple neurotransmitters including dopamine, serotonin, noradrenaline, and opioid may contribute to gambling disorder. The repetitive behaviors characteristic of this disorder may be viewed as resulting from an imbalance between two competing and relatively separate neurobiological mechanisms—those involved in urges and those involved in cognitive control (Grant, Chamberlain, Odlaug, Potenza, & Kim, 2010). There may also be genetic contributions, perhaps involving abnormalities in dopamine receptor genes (Lobo et al., 2010).

From a behavioral perspective, gambling disorder may develop in part because gambling follows a variable ratio reinforcement schedule when rewards occur, on average, every "X" number of times. This pattern of reinforcement produces behaviors that are highly resistant to extinction. Slot machines, in particular, produce payoffs on this type of schedule, maintaining high rates of responding by gamblers. Classical conditioning is also involved in maintaining this behavior, because gamblers learn to associate certain cues to gambling, including their internal states or moods and external stimuli such as advertisements for gambling.

Cognitive factors also play an important role in gambling disorder. People with this disorder seem to engage in a phenomenon known as "discounting of probabilistic rewards," in which they discount or devalue rewards they could obtain in the future compared to rewards they could obtain right away (Petry, 2011). They also engage in other cognitive distortions many of which involve poor judgment of the probabilities that their gambling will lead to successful outcomes, as shown in Table 4.

TABLE 4 Common Cognitive Distortions in People with Gambling Disorder

Type of Distortion	Examples of Cognitive Distortions	Example
Representativeness	Gambler's Fallacy	When events generated by a random process have deviated from the population average in a short run, such as a roulette ball falling on red four times in a row, individuals may erroneously believe that the opposite deviation (e.g., ball falls on black) becomes more likely.
	Overconfidence	Individuals express a degree of confidence in their knowledge or ability that is not warranted by objective reality.
	Trends in number picking	Lottery players commonly try to apply long-run random patterns to short strings in their picks such as avoiding duplicate numbers and adjacent digits in number strings.
Availability	Illusory correlations	Individuals believe events that they expect to be correlated, due to previous experience or perceptions, have been correlated in previous experience even when they have not been, such as wearing a "lucky hat" they wore when they won previously.
	Availability of others' wins	When individuals see and hear other gamblers winning, they start to believe that winning is a regular occurrence, which reinforces their belief that they will win if they continue to play.
	Inherent memory bias	Individuals are biased to recollect wins with greater ease than losses. They then reframe their memories regarding gambling experiences in a way that focuses on positive experiences (wins) and disregards negative experiences (losses). This causes them to rationalize their decision to continue gambling.
Additional cognitive distortions	Illusion of control	Individuals have a higher expectancy for success than objective probability would warrant.
	Switching and double switching	Individuals recognize errors and process gambling-related situations in a rational way when they are not actively participating, but abandon rational thought when they personally take part in gambling.

Fortune, E. E., & Goodie, A. S. (2011). Cognitive distortions as a component and treatment focus of pathological gambling: A review. *Psychology of Addictive Behaviors.*

pathways model
Approach to gambling disorder which predicts that there are three main paths leading to three subtypes.

The biopsychosocial perspective seems particularly relevant for understanding gambling disorder. According to the **pathways model,** the genetic vulnerability interacts with the poor coping and problem-solving skills of the person with gambling disorder to make the individual particularly susceptible to early gambling experiences, such as having early gambling luck ("the big win"). These, combined with sociocultural factors, can propel the individual into more serious symptoms. The pathways model predicts that there are three main paths leading to three subtypes of people with gambling disorder. The behaviorally conditioned subtype had few symptoms prior to developing the disorder but through frequent exposure to gambling, develops positive associations, distorted cognitions, and poor decision making about gambling. The emotionally vulnerable subtype had preexisting depression, anxiety, and perhaps a history of trauma; gambling helps this individual feel better. The third type of person with pathological gambling has preexisting impulsivity, attentional difficulties, and antisocial characteristics. For this individual, the risk of gambling provides thrills and excitement (Hodgins & Peden, 2008).

Researchers are beginning to investigate the possibility of treating gambling disorder with medications that target particular neurotransmitters. One set of medications are the opioid-acting medications to reduce the urge to drink in people with alcohol dependence, such as naltrexone and its long-acting form, nalmefene (Grant, Odlaug, Potenza, Hollander, & Kim, 2010). Another medication that shows promise is memantine, used as a treatment for Alzheimer's disease. People with gambling disorder showed improved cognitive control presumably due to the medication's effect on glutamate receptors (Grant, Chamberlain, et al., 2010).

Based on the pathways model, even if a medication is found that can reduce gambling disorder, individuals with this disorder would nevertheless require psychosocial interventions. Although many gamblers turn to Gamblers Anonymous for help, there are few studies of its efficacy. The most thoroughly studied intervention is cognitive-behavioral therapy. A typical cognitive-behavioral treatment would involve these steps. First, the clinician teaches clients to understand the triggers for their gambling by having them describe their pattern of gambling behaviors. For example, common triggers include unstructured or free time, negative emotional states, reminders such as watching sports or advertisements, and having some available money. The clinician would also ascertain the times when clients do not gamble. The clinician uses this information to help clients analyze the times they gamble and the times they do not. Following this assessment, the clinician continues in subsequent sessions to work on helping clients increase pleasant activities, think of ways to handle cravings or urges, become more assertive, and correct their irrational cognitions. At the end of treatment, the clinician would help prepare clients for setbacks using relapse-prevention methods (Morasco, Ledgerwood, Weinstock, & Petry, 2009).

Brief motivational interviewing may also be a beneficial treatment for individuals with problem gambling. Whether the individual chooses to pursue complete abstinence or moderation as a goal of this treatment, both can be equally effective in reducing the amount gambled, the number of days the individual gambled, or the perception of having achieved treatment-related goals by the individual (Stea, Hodgins, & Fung, 2015).

In addition to classifying gambling disorder as a non-substance-related disorder, the *DSM-5* authors considered adding Internet gaming disorder to the non-substance-related disorder category. For the present time, however, they have included it in Section 3 as a disorder requiring further study. Although there is ample evidence to indicate that Internet gaming is becoming a problematic behavior in its own right, the available research was not considered sufficiently well developed to justify inclusion in the diagnostic system at the present time. Much of the data in support of this condition was produced by studies conducted in Asia that used inconsistent definitions of the phenomenon. Therefore, the *DSM-5* work group believed that further investigations are required to produce reliable prevalence estimates. Other disorders that the work group considered adding were "sex addiction," "exercise addiction,"

and "shopping addiction," to name a few. However, the work group believed there were even fewer empirical studies in peer-reviewed articles to justify their inclusion even in Section 3.

12.4 Substance Disorders: The Biopsychosocial Perspective

As we have seen in this chapter, the biopsychosocial model is extremely useful for understanding substance use disorder and approaches to treatment. Genetics clearly plays a role in the development of these disorders, and the action of substances on the central nervous system also plays a role in the maintenance of dependence. Developmental issues in particular are critical for understanding the nature of these disorders, which often have their origins during the years of late childhood and early adolescence. Moreover, because alcohol, drugs, and medications with high abuse potential continue to be widely available, sociocultural factors play a strong role in maintaining dependence among users. Addictions have characterized human behavior throughout the millennia; however, with more widespread public education in conjunction with advances in both genetics and psychotherapeutic interventions, it is possible that we will see advances in prevention, as well.

Return to the Case: Carl Wadsworth

Carl initially had some difficulties in finding an AA meeting to attend in which he felt comfortable, although once he found the "right" group for him, he looked forward to attending on a daily basis and remained highly motivated to refrain from drinking. He connected with many members of the group, and for the first time in his life, Carl felt that he had a supportive group of friends. Carl began a course of mood-stabilizing medication that did not require weekly blood tests and resulted in significantly lower side effects than lithium, which was helpful in encouraging him to continue taking his medication regularly. In psychotherapy, Carl and his therapist focused on processing what he was learning in AA as well as mood-monitoring skills for bipolar disorder. He will continue to live with Janice until he feels stable enough to look for a job and begin to support himself again.

Dr. Tobin's reflections: Carl's case is somewhat unusual, as many individuals who experience substance abuse and/or dependence begin abusing substances earlier in life. It is interesting that Carl had been able to refrain from drinking for many years until he was tempted by his boss. Until that point, he showed good insight in his awareness that he may be genetically predisposed to alcohol use disorder, based on his parents' history. In therapy, Carl can explore the reasons why he began drinking in order to gain approval from his boss.

Carl's case is a good example of the destructive combination of alcohol use disorder and a psychological disorder. Unfortunately, the occurrence of such comorbidity is not rare, especially among those suffering from mood disorders, due to the self-medicating effects that alcohol sometimes offers. Carl's lapse in judgment when he agreed to drink with his boss was unfortunate, and it demonstrates the destructive power of alcohol addiction, as well as how quickly it can take over one's life. Fortunately, alcohol use disorders typically have a good prognosis after appropriate intervention, and they are not incurable. Carl will have to work hard at staying sober and monitoring his bipolar disorder. Much of the focus of his treatment will be on keeping his mood stable in order to prevent relapsing into alcohol abuse in the future. Fortunately, Carl appears highly motivated to remain abstinent from alcohol and get his life back in order. Finding a supportive AA group in which Carl feels he can trust the other members is a crucial aspect of his treatment and will be a wonderful source of support that will help him through his recovery.

SUMMARY

- A substance is a chemical that alters a person's mood or behavior when smoked, injected, drunk, inhaled, or ingested. Substance intoxication is the temporary maladaptive experience of behavioral or psychological changes that are due to the accumulation of a substance in the body. When some substances are discontinued, people may experience symptoms of substance withdrawal that involve a set of physical and psychological disturbances. Tolerance occurs when an individual requires increasingly greater amounts of the substance in order to achieve its desired effects or when the person feels less of an effect after using the same amount of the substance. Substance use disorder is a cluster of cognitive, behavioral, and physiological symptoms indicating that the individual uses a substance despite significant substance-related problems.
- Approximately one in seven Americans has a history of alcohol abuse or dependence. The short-term effects of alcohol use are appealing to many people because of the sedating qualities of this substance, although side effects such as hangovers cause distress. The long-term effects of heavy use are worrisome and involve serious harm to many organs of the body, resulting in medical problems and possibly dementia. Researchers in the field of alcohol dependence were among the first to propose the biopsychosocial model to explain the development of a psychological disorder. In the realm of biological contributors, researchers have focused on the role of genetics in light of the fact that dependence runs in families. This line of research has focused on markers and genetic mapping. Psychological theories focus on concepts derived from behavioral theory, as well as cognitive-behavioral and social learning perspectives. For example, according to the widely accepted expectancy model, people with alcohol use disorder develop problematic beliefs about alcohol early in life through reinforcement and observational learning. Researchers and theorists working within the sociocultural perspective regard stressors within the family, community, and culture as factors that lead the person to develop alcohol use disorder.
- Clinicians may derive treatment for alcohol problems in varying degrees from each of the three perspectives. In biological terms, medications may be used to control symptoms of withdrawal, to control symptoms associated with coexisting conditions, or to provoke nausea following alcohol ingestion. Clinicians use various psychological interventions, some of which are based on behavioral and cognitive-behavioral techniques. Alcoholics Anonymous (AA) is a 12-step recovery program built on the premise that alcoholism is a disease.
- Stimulants have an activating effect on the nervous system. Amphetamines in moderate amounts cause euphoria, increased confidence, talkativeness, and energy. In higher doses, the user has more intense reactions and, over time, can become addicted and develop psychotic symptoms. Cocaine users experience stimulating effects for a shorter period of time that are nevertheless quite intense. In moderate doses, cocaine leads to euphoria, sexual excitement, potency, energy, and talkativeness. At higher doses, psychotic symptoms may develop. In addition to disturbing psychological symptoms, serious medical problems can arise from the use of cocaine. Cannabis, or marijuana, causes altered perception and bodily sensations, as well as maladaptive behavioral and psychological reactions. Most of the acute effects of cannabis intoxication are reversible, but a long period of abuse is likely to lead to dependence and adverse psychological and physical effects. Hallucinogens cause abnormal perceptual experiences in the form of illusions and hallucinations. Opioids include naturally occurring substances (e.g., morphine and opium) as well as semisynthetic (e.g., heroin) and synthetic (e.g., methadone) drugs. Opioid users experience a rush, involving a range of psychological reactions as well as intense bodily sensations, some of which reflect life-threatening symptoms, particularly during episodes of withdrawal. Sedatives, hypnotics, and anxiolytics are substances that induce relaxation, sleep, tranquility, and reduced awareness. Although not typically regarded as an abused substance, high levels of caffeine can cause a number of psychological and physical problems. Nicotine, the psychoactive chemical found in tobacco, is highly addictive. Withdrawal from nicotine can result in mood and behavior disturbances.
- Various treatment programs for people with substance-related disorders have emerged within the biopsychosocial perspective. Biological treatment may involve the prescription of substances that block or reduce cravings. Behavioral treatment involves techniques such as contingency management, while clinicians utilize cognitive-behavioral techniques to help clients modify their thoughts, expectancies, and behaviors associated with drug use. Detailed relapse prevention plans are an important part of alcohol treatment programs.
- Gambling disorder is characterized by the persistent urge to gamble. Individuals with this disorder may feel unable to stop themselves from participating in gambling events or games, even after they have experienced significant financial and material losses.

KEY TERMS

Alcohol myopia theory
Amphetamine
Anterograde amnesia
Anxiolytic
Buprenorphine
Caffeine
Cocaine
Depressant
Disulfiram
Dual-process theory
Ecstasy (MDMA)
Gambling disorder
Hallucinogens
Heroin
Hypnotic
Inhalants
Korsakoff's syndrome
Lysergic acid diethylamide (LSD)
Marijuana
Methadone
Methamphetamine
Naltrexone
Nicotine
Opioid
Pathways model
Peyote
Phencyclidine (PCP)
Potentiation
Psilocybin
Relapse prevention
Retrograde amnesia
Sedative
Stimulant
Substance
Substance intoxication
Substance use disorder
Tolerance
Wernicke's disease
Withdrawal

Neurocognitive Disorders

OUTLINE

Case Report: Irene Heller

Characteristics of Neurocognitive Disorders

Delirium

Neurocognitive Disorder Due to Alzheimer's Disease

- Prevalence of Alzheimer's Disease

What's in the *DSM-5*: Recategorization of Neurocognitive Disorders

- Stages of Alzheimer's Disease
- Diagnosis of Alzheimer's Disease
- Theories and Treatment of Alzheimer's Disease
  - Theories

You Be the Judge: Early Diagnosis of Alzheimer's Disease

- Treatment

Real Stories: Ronald Reagan: Alzheimer's Disease

Neurocognitive Disorders Due to Neurological Disorders Other than Alzheimer's Disease

Neurocognitive Disorder Due to Traumatic Brain Injury

Neurocognitive Disorders Due to Substances/Medications and HIV Infection

Neurocognitive Disorders Due to Another General Medical Condition

Neurocognitive Disorders: The Biopsychosocial Perspective

Return to the Case: Irene Heller

Summary

Key Terms

Learning Objectives

13.1 Describe characteristics of neurocognitive disorders.

13.2 Identify the symptoms of delirium.

13.3 Understand the symptoms, theories, and treatment of neurocognitive disorder due to Alzheimer's disease.

13.4 Explain the differences among neurocognitive disorders that are unrelated to Alzheimer's disease.

13.5 Identify neurocognitive disorders due to traumatic brain injury (TBI).

13.6 Describe neurocognitive disorders due to substances/medications and HIV infection.

13.7 Explain neurocognitive disorders due to another general medical condition.

13.8 Analyze neurocognitive disorders through the biopsychosocial perspective.

CHAPTER 13

Case Report: Irene Heller

Demographic information: 76-year-old Caucasian female.

Presenting problem: Irene was referred for neuropsychological testing from her primary care physician, who noted a significant decline in her memory and motor functioning from the previous year. During a routine physical evaluation, Irene's doctor reported that she displayed cognitive impairments and abnormal reflexes. She was referred for neuropsychological testing to a private specialty practice.

During the initial interview before neuropsychological testing was conducted, Irene was asked about her cognitive functioning. Her daughter, Jillian, accompanied her to the appointment. Irene had difficulty answering some of the questions in the interview, and thus Jillian provided most of the information for the interview. Jillian reported that her mother's visit to the doctor was not the first sign of any recent abnormalities in her behavior, and that over the past month both she and her other siblings noticed that their mother was acting strangely. Irene currently lives by herself in the town where her two grown children live. On two separate occasions Irene's neighbors had reportedly found her in the parking lot of the apartment complex where she lives late at night in her nightgown looking "totally out of it." The neighbors had brought her back into her home, though Irene did not recall these incidents occurring.

When asked about any physical changes she had noticed recently, Irene stated that she was having difficulty writing because she was unable to grasp pens or other writing instruments. As a result she stated she hadn't been able to pay her bills and sometimes had trouble preparing food for herself. In fact, she noted that she had lost about 10 pounds over the past 2 months because of this. Jillian also reported that she had noticed her mother was having significant walking difficulties recently. Irene preferred to stay at home as a result and had begun to miss out on many activities that she had previously enjoyed, including spending time with her family and weekly bridge games.

Jillian added that Irene typically called either her or her brother at least once per day, and that they had family meals together once or twice every week. Jillian reported that during the past 2 months when she or her brother called their mother on the phone, her speech was sometimes difficult to understand, and that Irene would forget to whom she was speaking in the middle of the conversation. All of this was very troubling to Jillian, though Irene wasn't able to acknowledge much of what Jillian was reporting. "I guess I sometimes have a hard time paying my bills or calling my children. I guess I just don't feel like it these days."

Jillian stated that she and her brother thought that perhaps Irene's behavior was due to medical reasons. Irene has been diagnosed with type II diabetes and according to Jillian, had forgotten to check her blood sugar and take insulin for 2 consecutive days. Since Jillian and her brother Steve hadn't been talking to their mother, they were unaware that this was occurring. When they didn't hear from their mother, Jillian and Steve went to Irene's house to check on her, finding her nearly unconscious in her living room. After giving her insulin, the siblings made an appointment with Irene's primary care physician for the next day.

After the clinical interview, Irene completed neuropsychological testing, which consisted of a battery of cognitive tests aimed at measuring her overall cognitive functioning.

Relevant history: Irene reported that she has remained relatively healthy throughout her life and that she has never experienced any major

Case Report *continued*

medical, emotional, or cognitive problems. Two years prior to the interview, Jillian stated that her mother was diagnosed with type II diabetes and has been taking insulin to regulate her blood sugar. Jillian reported that until her recent decline, Irene had remained quite active and participated in many social activities and was able to carry out all of her activities of daily living without difficulty.

Case formulation: The rather sudden onset of Irene's symptoms is typical of neurocognitive disorder due to vascular disease. Though the onset varies, typically it occurs suddenly. Since Irene had stopped taking her medication, she was putting herself at significant medical risk. Further, consistent with diagnostic criteria, Irene's functioning was significantly impaired—she had ceased her previous activities and had even stopped paying her bills due to her motor difficulties.

The results of the neuropsychological testing indicated that Irene indeed was experiencing a significant impairment in her short-term memory and her ability to speak fluently and coherently, and also evidenced difficulties in her executive functioning, including organizing and sequencing information that was presented to her. Taken together with the physical examination from her doctor, Irene is given a diagnosis of major vascular neurocognitive disorder with behavioral disturbance, although until she has an MRI to confirm the existence of brain lesions the diagnosis will be tentative.

Treatment plan: Irene will be referred for an MRI in order to confirm her diagnosis, upon which she will be given a referral for medication and follow-up home care, if needed.

Sarah Tobin, PhD

13.1 Characteristics of Neurocognitive Disorders

neurocognitive disorder
Disorder whose primary clinical deficit is in cognition that represents a decline from previous functioning.

The brain's functioning affects our abilities to think, remember, and pay attention. The **neurocognitive disorders** that we will discuss in this chapter have two main characteristics: they involve cognitive decline acquired in life in one or more domains of cognition based upon concerns of the client or someone who knows the client well, and performance on objective assessment measures. There are many sources of insults or injuries that can affect an individual's brain, including trauma, disease, or exposure to toxic substances, including drugs. The *DSM-5* provides descriptions to help clinicians provide a diagnosis that indicates both the fact that the individual has a neurocognitive disorder and, where known, the possible cause.

As the seat of all thoughts, actions, motivations, and memories, the brain, when damaged, can cause a variety of symptoms. Some of these symptoms may mimic schizophrenia, mood disorders, and personality disorders. People can develop delusions, hallucinations, mood disturbances, and extreme personality changes due to brain changes resulting from disease, reactions to medication, and exposure to toxic substances. Although we may think of these symptoms as "psychological," they must, by necessity, have a physiological basis. In the cognitive disorders, we can clearly identify this physiological basis.

Clinicians use neuropsychological testing and neuroimaging techniques, as well as an individual's medical history, to decide whether an individual's symptoms fall into the category of a cognitive disorder. Neuropsychological testing helps clinicians identify specific patterns of responses that fit known disease profiles. They combine this knowledge with their client's medical histories to see if a specific event triggered the symptoms. In addition, neuroimaging provides clinicians with an inside look at the brain to help them connect symptoms with specific illnesses or injuries. Both are required for an individual to receive a diagnosis of one of these disorders.

Table 1 shows the domains covered in the neurocognitive disorders and types of abilities included in each. Clinicians would incorporate additional tests from neuropsychological batteries as needed to help determine the client's level of functioning in each of these domains. Furthermore, clinicians rate the client as showing major or mild

neurocognitive disorder based on criteria indicated within each domain. They conduct the ratings of major or mild on the basis of interviews with the client and with the client's families or significant others. For example, a mild level of memory impairment would involve the individual's reliance on notes or reminders in everyday tasks. Major impairment would be represented by the individual's inability to keep track of short lists, including completing a task within a single sitting.

In *DSM-5,* the term *neurocognitive disorder* replaces *dementia*, used in *DSM-IV-TR* to refer to a form of cognitive impairment in which individuals undergo progressive loss of cognitive functions severe enough to interfere with their normal daily activities and social relationships. Clinicians still use the term "dementia," and the *DSM-5* work group considered dementia to be useful in settings where medical personnel are familiar with the term.

major neurocognitive disorders
Disorders involving significant cognitive decline from a previous level of performance.

mild neurocognitive disorders
Disorders involving modest cognitive decline from a previous level of performance.

Major neurocognitive disorders are diagnosed when individuals show significant cognitive decline from a previous level of performance in the six domains of Table 1 based on either concern of the individual or a knowledgeable informant or, preferably, a standardized neuropsychological or other quantified clinical assessment. In addition, these cognitive deficits must interfere with the individual's ability to perform necessary tasks in everyday living, do not occur exclusively with delirium, and cannot be better explained by another psychological disorder. The diagnosis of **mild neurocognitive disorder** is applied when the individual shows modest levels of cognitive decline. These

TABLE 1 **Neurocognitive Domains in *DSM-5***

Domain	Examples of Relevant Abilities	Assessment Task Examples
Complex attention	Sustained attention	Maintaining attention over time
	Selective attention	Separating signals from distractors
	Divided attention	Attending to two or more tasks at once
Executive function	Planning	Deciding on a sequence of actions
	Decision making	Performing tasks that require choosing between alternatives
	Working memory	Being able to hold information in memory while manipulating stimuli
	Mental/cognitive flexibility	Switching between two concepts, tasks, or response rules (e.g., picking odd numbers, then picking even numbers)
Learning and memory	Immediate memory span	Remembering a series of digits or words
	Recent memory	Encoding new information such as word lists or a short story
Language	Expressive language	Being able to name objects
	Grammar and syntax	Speaking without errors while performing other tasks
	Receptive language	Being able to understand word definitions and instructions
Perceptual-motor	Visual perception	Assessing whether a figure can be "real" based on its depiction in two-dimensional space
	Visuoconstructional	Being able to assemble items requiring hand-eye coordination
	Praxis	Ability to engage in common motor skills, use common tools, imitate the use of tools, and imitate gestures
	Gnosis	Recognizing faces and colors
Social cognition	Recognition of emotions	Identifying emotions in images of faces
	Theory of mind	Being able to consider another person's mental state based on pictures or stories

declines are not severe enough to interfere with the individual's capacity for living independently.

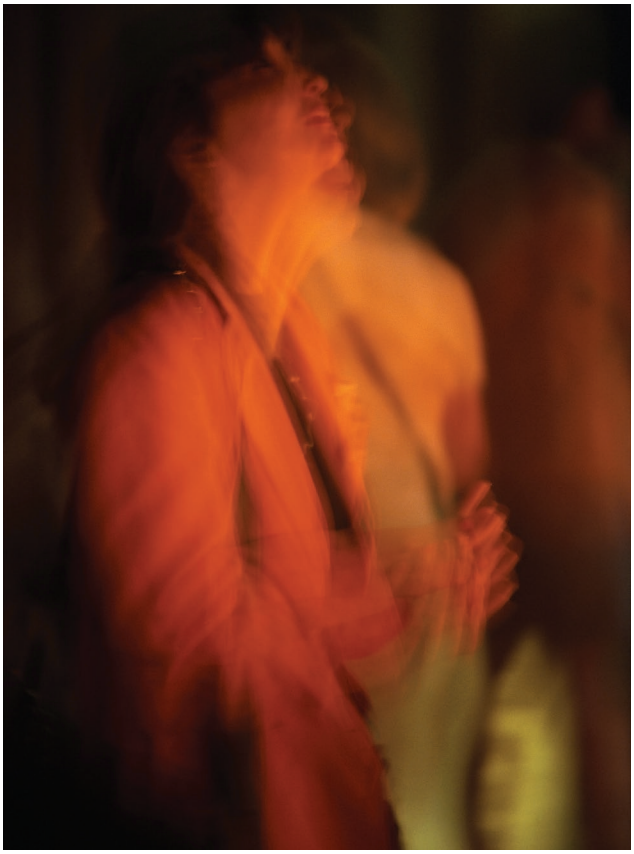
After diagnosing the level of cognitive impairment, the clinician then specifies which disease appears to be responsible for the cognitive symptoms. When one specific disease cannot be diagnosed, the clinician can use codes that either indicate this or indicate multiple diseases that contribute to the symptoms.

13.2 Delirium

delirium
A neurocognitive disorder that is temporary in nature involving disturbances in attention and awareness.

People diagnosed with **delirium** temporarily experience disturbances in their attention and awareness. The symptoms tend to appear abruptly and fluctuate over the course of the time that they have the disorder. *DSM-IV-TR* defined delirium in terms of a disturbance of "consciousness," but *DSM-5* uses the criterion of a disturbance in attention or awareness, given the vague nature of the term "consciousness." The core of the disorder involves an acute state of confusion or impairment in cognitive processing that affects memory, orientation, executive functioning, ability to use language, visual perception, and learning. To receive a diagnosis of delirium, the individual must show these changes in consciousness or awareness over a very short period of time, on the order of hours or days, and tending to fluctuate over the course of the day. Finally, a general medical condition must cause the disturbance. In addition, clinicians specify whether the delirium results from substance intoxication, substance withdrawal, a medication, or other medical condition(s). The clinician also rates the delirium as acute (a few hours or days) or persistent (weeks or months).

Delirium can develop for a variety of reasons, including substance intoxication or withdrawal, head injury, high fever, and vitamin deficiency. People of any age can experience delirium, but it is more common among medically or psychiatrically hospitalized older adult patients, particularly among surgical patients with preexisting cognitive impairment and depressive symptoms (Minden et al., 2005). In addition to age, the risk factors for delirium include a previous history of stroke, neurocognitive disorder, sensory impairment, and use of multiple prescription medications ("polypharmacy"). People at risk may develop delirium following infections, urinary retention or use of catheters, dehydration, loss of mobility, and disorders involving heart rate. Changes in neurotransmitters may be involved in delirium. People who develop delirium following a stroke may do so due to loss of neuron oxygenation in the brain (Dahl, Rønning, & Thommessen, 2010). Increases in immune system inflammatory responses may also contribute to delirium (Simone & Tan, 2011).



Delirium is a temporary condition that can have a wide range of physiological causes. Individuals who experience this condition suffer from several sensory disturbances simultaneously.

Infection is another precipitating factor in at-risk individuals. In a survey of nearly 1.3 million patients studied over the years 1998 to 2005, researchers found that the most frequent causes of delirium were infections, including respiratory infections, cellulitis, and urinary tract and kidney infections. The next largest cause of delirium consisted of some type of central nervous system disorder, including cancer, neurocognitive disorder, stroke, and seizures. The third most frequent cause of delirium included metabolic disorders, cardiovascular disease, and orthopedic procedures. However, over the course of the study, drug-induced delirium increased in prevalence among older adults, suggesting that either hospital workers became more attuned to this diagnosis or that people in this age group are becoming increasingly likely to receive delirium-inducing medications. Making health professionals aware of adverse drug effects may ultimately help to reduce the prevalence of delirium in high-risk individuals (Lin, Heacock, & Fogel, 2010).

Apart from the cognitive symptoms of inattention and memory loss, individuals experiencing delirium may also have hallucinations, delusions, abnormalities in sleep/wake cycles, changes in mood, and movement abnormalities (Jain, Chakrabarti, & Kulhara,

2011). Once they experience this condition, people who have delirium are more likely to experience medical complications that can cause rehospitalization and a higher risk of mortality (Marcantonio et al., 2005). People who experience delirium following a stroke also have higher rates of developing neurocognitive disorder within 2 years (van Rijsbergen et al., 2011).

There are several specialized tests to assess delirium. The Delirium Rating Scale-Revised (DRS-R-98) (Trzepacz, Mittal, Torres, Kanary, Norton, & Jimerson, 2001) is a widely used measure that has been translated into several languages (Table 2) and has well-established validity and reliability (Grover, Chakrabarti, Shah, & Kumar, 2011). The advantage of using this scale is that although designed for psychiatrists, other professionals

TABLE 2 Delirium Rating Scale-Revised-98 (DRS-R-98)

1. Sleep-wake cycle disturbance
   0. Not present
   1. Mild sleep continuity disturbance at night or occasional drowsiness during the day
   2. Moderate disorganization of sleep/wake cycle (e.g., falling asleep during conversations, napping during the day, or several brief awakenings during the night with confusion/behavioral changes or very little nighttime sleep)
   3. Severe disruption of sleep/wake cycle (e.g., day-night reversal of sleep/wake cycle or severe circadian fragmentation with multiple periods of sleep and wakefulness or severe sleeplessness)
2. Perceptual disturbances and hallucinations
   0. Not present
   1. Mild perceptual disturbances (e.g., feelings of derealization or depersonalization; or patient may not be able to discriminate dreams from reality)
   2. Illusions present
   3. Hallucinations present
3. Delusions
   0. Not present
   1. Mildly suspicious, hypervigilant, or preoccupied
   2. Unusual or overvalued ideation that does not reach delusional proportions or could be plausible
   3. Delusional
4. Lability of affect (outward presentation of emotions)
   0. Not present
   1. Affect somewhat altered or incongruent to situation; changes over the course of hours; emotions are mostly under self-control
   2. Affect is often inappropriate to the situation and intermittently changes over the course of minutes; emotions are not consistently under self-control, although they respond to redirection by others
   3. Severe and consistent disinhibition of emotions; affect changes rapidly, is inappropriate to context, and does not respond to redirection by others
5. Language
   0. Normal language
   1. Mild impairment including word-finding difficulty or problems with naming or fluency
   2. Moderate impairment including comprehension difficulties or deficits in meaningful communication (semantic content)
   3. Severe impairment including nonsensical semantic content, word salad, muteness, or severely reduced comprehension
6. Thought process abnormalities
   0. Normal thought processes
   1. Tangential or circumstantial
   2. Associations loosely connected occasionally, but largely comprehensible
   3. Associations loosely connected most of the time
7. Motor agitation
   0. No restlessness or agitation
   1. Mild restlessness of gross motor movements or mild fidgeting
   2. Moderate motor agitation including dramatic movements of the extremities, pacing, fidgeting, removing intravenous lines, etc.
   3. Severe motor agitation, such as combativeness or a need for restraints or seclusion

TABLE 2 Delirium Rating Scale-Revised-98 (DRS-R-98) (continued)

8. Motor retardation
   0. No slowness of voluntary movements
   1. Mildly reduced frequency, spontaneity or speed of motor movements, to the degree that may interfere somewhat with the assessment
   2. Moderately reduced frequency, spontaneity, or speed of motor movements to the degree that it interferes with participation in activities or self-care
   3. Severe motor retardation with few spontaneous movements
9. Orientation
   0. Oriented to person, place, and time
   1. Disoriented to time (e.g., by more than 2 days or wrong month or wrong year) or to place (e.g., name of building, city, state), but not both
   2. Disoriented to time and place
   3. Disoriented to person
10. Attention
   0. Alert and attentive
   1. Mildly distractible or mild difficulty sustaining attention, but able to refocus with cueing. On formal testing makes only minor errors and is not significantly slow in responses
   2. Moderate inattention with difficulty focusing and sustaining attention. On formal testing, makes numerous errors and requires prodding either to focus or to finish the task
   3. Severe difficulty focusing and/or sustaining attention, with many incorrect or incomplete responses or inability to follow instructions. Distractible by other noises or events in the environment
11. Short-term memory (Defined as recall of information [e.g., 3 items presented either verbally or visually] after a delay of about 2 to 3 minutes)
   0. Short-term memory intact
   1. Recalls 2/3 items; may be able to recall third item after category cueing
   2. Recalls 1/3 items; may be able to recall other items after category cueing
   3. Recalls 0/3 items
12. Long-term memory
   0. No significant long-term memory deficits
   1. Recalls 2/3 items and/or has minor difficulty recalling details of other long-term information
   2. Recalls 1/3 items and/or has moderate difficulty recalling other long-term information
   3. Recalls 0/3 items and/or has severe difficulty recalling other long-term information
13. Visuospatial ability

Assess informally and formally. Consider patient's difficulty navigating one's way around living areas or environment (e.g., getting lost). Test formally by drawing or copying a design, by arranging puzzle pieces, or by drawing a map and identifying major cities, etc. Take into account any visual impairments that may affect performance.

   0. No impairment
   1. Mild impairment such that overall design and most details or pieces are correct; and/or little difficulty navigating in his/her surroundings
   2. Moderate impairment with distorted appreciation of overall design and/or several errors of details or pieces; and/or needing repeated redirection to keep from getting lost in a newer environment despite trouble locating familiar objects in immediate environment
   3. Severe impairment on formal testing; and/or repeated wandering or getting lost in environment

Trzepacz, P. T., Mittal, D., Torres, R., Kanary, K., Norton, J., & Jimerson, N. (2001). Validation of the Delirium Rating Scale-Revised–98: Comparison with the Delirium Rating Scale and the Cognitive Test for Delirium. *The Journal of Neuropsychiatry and Clinical Neurosciences, 13,* 229–242.

(physicians, nurses, psychologists) and researchers can also use it. When completing the instrument, the clinician can use information gathered from family members, visitors, hospital staff, physicians, medical charts, and even hospital roommates.

To treat delirium, clinicians may use a pharmacological approach in which they administer antipsychotics. The standard approach involves using haloperidol, but clinicians may use "off-label" antipsychotics such as rispiridone. This combination appears to help resolve symptoms in as many as 84 percent of cases over a period of 4 to 7 days (Boettger, Breitbart, & Passik, 2011).

MINI CASE

Delirium Due to Another Medical Condition, Acute

Jack is a 23-year-old carpenter whose co-workers brought him to the emergency room when he collapsed at work with a high fever accompanied by chills. When told that he would be rushed to the hospital, Jack repeatedly responded with the nonsensical answer, "The hammer's no good." Jack's co-workers were startled and perplexed by his bizarre suggestions that they were trying to steal his tools and by his various other paranoid-sounding remarks. Grabbing at things in the air, Jack insisted that people were throwing objects at him. Jack couldn't remember the name of anyone at the site; in fact, he was unsure of where he was. Initially, he resisted his co-workers' attempts to take him to the hospital because of his concern that they had formed a plot to harm him.

Given the potential long-term negative consequences even of delirium that is treated, clinicians aim to direct their efforts toward prevention. In one pioneering program, a multidisciplinary team targeted at-risk patients experiencing cognitive, sleeping, motor, or sensory impairments by involving professionals from areas including recreation therapy, physical therapy, and geriatrics, as well as trained volunteers. For those individuals suffering from cognitive impairment, for example, the team focused on providing cognitively stimulating activities such as discussions of current events or word games. Each at-risk group received specialized interventions directed at their particular risk factors. Over an 11-day period, the incidence of delirium in the treatment group was significantly lower than that of a matched group who received usual hospital care (Inouye et al., 1999). Subsequent studies validate the effectiveness of intervention particularly when aimed at a population selected to be at high risk (Hempenius et al., 2011).

13.3 Neurocognitive Disorder Due to Alzheimer's Disease

neurocognitive disorder due to Alzheimer's disease
A neurocognitive disorder associated with progressive, gradual declines in memory, learning, and at least one other cognitive domain.

Neurocognitive disorder due to Alzheimer's disease is a neurocognitive disorder associated with progressive, gradual declines in memory, learning, and at least one other cognitive domain. We show the diagnostic criteria in Table 3. The first symptoms of

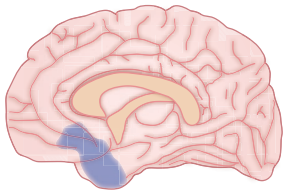
TABLE 3 Diagnostic Criteria for Neurocognitive Disorder Due to Alzheimer's Disease

The diagnostic criteria for neurocognitive disorder due to Alzheimer's disease include the diagnostic criteria for major or mild neurocognitive disorder as well as the following:

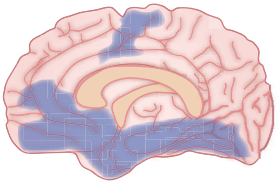
For major neurocognitive disorder, because Alzheimer's disease cannot be definitively diagnosed until autopsy, clinicians can assign the diagnosis as either "probable" (when both 1 and 2 are met) or "possible" (when only one of the two is met):

1. Evidence of a genetic mutation known to be associated with Alzheimer's disease from family history or genetic testing
2. All three of these symptoms:
   - A. Clear evidence of decline in memory and learning and at least one other cognitive domain
   - B. Steadily progressive, gradual decline in cognitive functions
   - C. No evidence of another neurodegenerative disease or other disease that can contribute to cognitive decline.

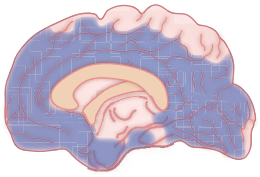
For minor neurocognitive disorder, "probable" is diagnosed if either genetic testing or family history provide evidence of a genetic mutation, and "possible" if there is no genetic indication, but all three of the above symptoms in criterion 2 are present.



Very early Alzheimer's



Mild to moderate Alzheimer's



Severe Alzheimer's

FIGURE 1 Changes in the Brain Associated with Alzheimer's Disease

As Alzheimer's disease progresses, neurofibrillary tangles spread throughout the brain (shown in blue). Plaques also spread throughout the brain, starting in the neocortex. By the final stage, damage is widespread and brain tissue has shrunken significantly.

memory loss precede a cascade of changes that eventually end in death due to a complication such as pneumonia.

Alzheimer's disease was first reported in 1907 by a German psychiatrist and neuropathologist, Alois Alzheimer (1864–1915), who documented the case of "Auguste D.," a 51-year-old woman complaining of poor memory and disorientation regarding time and place (Alzheimer, 1907/1987). Eventually, Auguste became depressed and began to hallucinate. She showed the classic cognitive symptoms now understood as part of the diagnostic criteria for the disorder. Alzheimer was unable to explain this process of deterioration until after she died, when an autopsy revealed that most of the tissue in her cerebral cortex had undergone severe degeneration. Upon examining the brain tissue under a microscope, Alzheimer also found that individual neurons had degenerated and had formed abnormal clumps of neural tissue. Ninety years later, a discovery of brain slides from this woman confirmed that the changes seen in her brain were similar to those typically found in current cases of the disease (Enserink, 1998) (Figure 1).

Although there is still no explanation for what causes the process of brain deterioration that forms the core of this disease, we have come to associate the term Alzheimer's disease with the severe cerebral atrophy seen in Auguste D., as well as the characteristic microscopic changes in brain tissue. Throughout the remainder of the chapter, we will refer to neurocognitive disorder due to Alzheimer's disease as "Alzheimer's disease" or "AD." Where not otherwise noted, we also will be describing characteristics of major neurocognitive disorder rather than mild neurocognitive disorder.

Prevalence of Alzheimer's Disease

The popular press widely but inaccurately reports the prevalence of Alzheimer's disease as 5 to 5.5 million, which would constitute 12 percent of the population over age 65 and 50 percent of those over age 85. The World Health Organization (2001) provides a far lower prevalence estimate of 5 percent of men and 6 percent of women worldwide. The incidence rate of new cases is less than 1 percent a year in those ages 60 to 65, or possibly as high as 6.5 percent in those 85 and older (Kawas, Gray, Brookmeyer, Fozard, & Zonderman, 2000).

Autopsy studies confirm the lower estimate. In one rural Pennsylvania community, researchers found Alzheimer's disease as the cause of death in 4.9 percent of people age 65 and older (Ganguli, Dodge, Shen, Pandav, & DeKosky, 2005). Of course, this estimate includes only those whose deaths are confirmed to have resulted from Alzheimer's disease. In many cases, another disease, such as pneumonia, is actually the immediate cause of death in people with advanced Alzheimer's disease. Nevertheless, this percentage is substantially lower than what we would expect on the basis of figures published in the media. Perhaps somewhat amazingly, among the 100-year-old and older participants in the New England Centenarian Study, approximately 90 percent were symptom free until age 92 (Perls, 2004).

This overestimation of Alzheimer's disease reinforces the notion in the minds of the public that any cognitive changes experienced by people in later life (or earlier) reflect the disease's onset. Loss of working memory occurs normally in later life for most individuals. Once people become self-conscious about their memory, however, they tend to exaggerate even small losses, thinking that they have Alzheimer's disease. Unfortunately, this self-consciousness only worsens their memory, which further perpetuates the cycle. Rather than taking preventive steps, such as engaging in memory exercises or other cognitively challenging activities, people in this situation are likely to give into despair (Jones, Whitbourne, Whitbourne, & Skultety, 2009).

What appears to be overestimation of Alzheimer's disease in epidemiological reports occurs for several reasons. Most importantly, the authors of these reports tend to include other forms of neurocognitive disorder due to Alzheimer's disease in their overall estimates. Neurocognitive disorders caused by other diseases can account for as many as 55 percent of cases (Jellinger & Attems, 2010), including 20 percent caused solely by

cardiovascular disease (Knopman, 2007). Consequently, the "5.5 million" actually includes, perhaps, as many as 2 to 3 million people who have some form of vascular disease or other neurological disorder. Because cardiovascular disease is related to hypertension (Sharp, Aarsland, Day, Sønnesyn, & Ballard, 2011) and diabetes (Knopman & Roberts, 2010), both of which people can control or prevent through diet and exercise, it is particularly important for older adults and their families to receive accurate diagnoses of any neurocognitive symptoms that they experience. Other reasons for the inaccurate data on Alzheimer's disease include failure to take into account the education level of individuals who participate in epidemiological surveys, variations in the measurement of symptoms, and failure to account adequately either for health status or for other possible forms of neurocognitive disorder (Whitbourne & Whitbourne, 2017). Fortunately, either due to actual changes in incidence or to refining of inclusion criteria for Alzheimer's disease, the Alzheimer's Association in 2015 reported a slightly lower estimate of 5.1 instead of 5.5 million in the United States (Alzheimer's Association, 2015).

What's in the *DSM-5*

Recategorization of Neurocognitive Disorders

Revisions in the *DSM-5* resulted in major categorization changes in the former set of disorders that included delirium and dementia. The revisions divided the disorders into two broad groups consisting of major and mild neurocognitive disorders. Among the many controversial diagnoses added in *DSM-5,* that of mild neurocognitive disorder due to Alzheimer's disease was one of the most heavily criticized. Mild neurocognitive disorder involves minor cognitive changes from previous functioning that do not interfere with an individual's ability to live independently. However, they may be noticeable enough so that the individual must engage in compensatory strategies in response to these changes.

Critics of this new category argue that it applies a diagnostic label to behaviors that clinicians would not otherwise consider diagnosable. Moreover, if the deficits do not impact an individual's ability to live independently in the community, the benefits of assigning a diagnosis are not all that clear. Although eliminating the term "dementia" helps to reduce the stigma that we associate with memory deficits, the labeling as a mental disorder of what may be minor normal age-related changes negates this advantage, according to critics.

Secondly, the *DSM-5* now allows for the diagnosis of "probable" to be applied in the absence of any abnormalities in memory and learning, but only some loss of abilities and a family history of Alzheimer's disease. The distinction between "probable" and "possible" may be a difficult one for the general public, if not professionals, to grasp. Although the *DSM-5* authors clearly wish to indicate that probable is less serious than possible, individuals hearing the terms out of context may not discern the nuance and come to the wrong conclusion about their own, or a relative's, condition.

Stages of Alzheimer's Disease

By definition, the symptoms of Alzheimer's disease become progressively worse over time. Table 4 shows the sequence of progression from the early through late stages. However, not all people who show early symptoms of Alzheimer's disease actually have the disease. As you can see from Figure 2, some individuals remain healthy until death. Some experience memory problems (referred to here as "amnestic mild neurocognitive disorder"), but are able to compensate for them and never develop Alzheimer's disease. In those individuals who develop Alzheimer's disease, however, the loss of independent function continues in a progressive manner until death. Factors related to more rapid decline in the early stages of the disease include being younger at the age of onset, having higher education, and having poorer cognitive status when one first identifies symptoms of the disease (Lopez et al., 2010).

Diagnosis of Alzheimer's Disease

Because of the importance of early diagnosis to rule out treatable neurocognitive disorders, researchers and clinicians devote significant energy and attention to the development of behavioral tests for diagnosing Alzheimer's disease in its initial stages. An erroneous diagnosis would be a fatal mistake if the person had a neurocognitive disorder that would have been reversible if the clinician had applied proper treatment when the symptoms first became evident. Similarly, if the individual had a disorder with a strictly psychological basis, the clinician would have missed a crucial opportunity to intervene. Unfortunately, the early symptoms of Alzheimer's do not provide a sufficient basis for diagnosis.

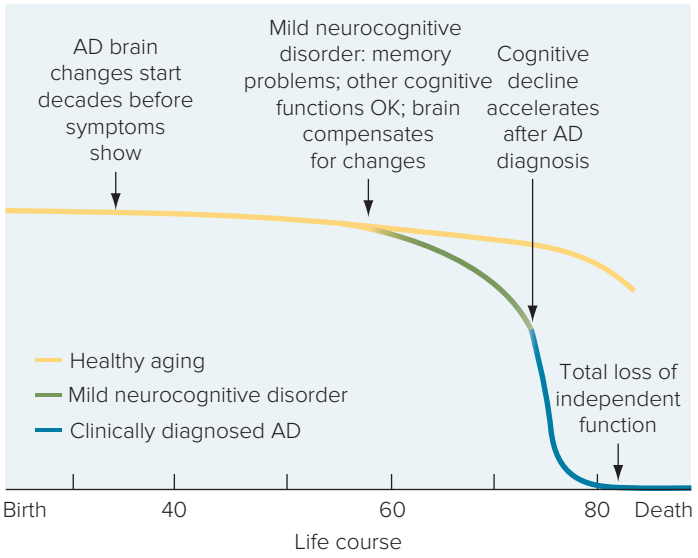
TABLE 4 **Stages of Alzheimer's Disease**

Not Alzheimer's	Early-stage	Middle-stage	Late-stage
• Forgetting things occasionally • Misplacing items, like keys, eye glasses, bills, paper work • Forgetting the names or titles of some things, like movies, books, people's names • Some reduction in ability to recall words when speaking • Being "absent-minded" or sometimes hazy on details • "Spacing things out," such as appointments	• Short-term memory loss, usually minor • Being unaware of the memory lapses • Some loss, usually minor, in ability to retain recently learned information • Forgetting things and unable to dredge them up, such as the name of a good friend or even family member • Function at home normally with minimal mental confusion, but may have problems at work or in social situations • Symptoms may not be noticeable to all but spouse or close relatives/ friends	• Short-term memory loss deepens, may begin to forget conversations completely or name of street where you live, names of loved ones or how to drive a car • Mental confusion deepens, trouble thinking logically • Some loss of self-awareness • Friends and family notice memory lapses • May become disoriented, not know where you are • Impaired ability to perform even simple arithmetic • May become more aggressive or passive • Difficulty sleeping • Depression	• Severe cognitive impairment and short-term memory loss • Speech impairment • May repeat conversations over and over • May not know names of spouse, children, or care-givers, or what day or month it is • Very poor reasoning ability and judgment • Neglect of personal hygiene • Personality changes; may become abusive, highly anxious, agitated, delusional, or even paranoid • May need extensive assistance with activities of daily living

Source: "Treating Alzheimer's disease: Surprising facts about the effectiveness and safety of these commonly used drugs," *Consumer Reports,* July 2012.

Only an autopsy can make a definitive diagnosis of Alzheimer's disease by allowing pathologists to observe the characteristic changes in brain tissue, leaving clinicians with the only option of conducting diagnosis by exclusion. However, in the later stages of the disease, there are diagnostic guidelines that the clinician can apply that have 85 to 90 percent accuracy. A joint commission of the National Institute of Neurological and Communicative Disorders and Stroke and the Alzheimer's Disease and Related Diseases Association developed these guidelines in 1984. We refer to them as the NINCDS/ADRDA Guidelines (McKhann, Drachman, Folstein, Katzman, Price, & Stadlan, 1984). The diagnosis of Alzheimer's disease, which at present is based on the NINCDS/ADRDA criteria,

FIGURE 2 Charting the Course of Healthy Aging, Mild Neurocognitive Disorder, and AD



In order to be diagnosed with Alzheimer's disease, individuals who show symptoms must undergo a series of neurocognitive assessments including memory tests.

involves thorough medical and neuropsychological screenings. Even with these very stringent and complete guidelines, the diagnoses to which they lead is at best one of "probable" Alzheimer's disease, again reflecting the fact that only through an autopsy can clinicians obtain a certain diagnosis.

Clinicians are using brain imaging techniques increasingly for diagnosing Alzheimer's disease. The continued improvement of MRI has resulted in a virtual explosion of studies on the diagnosis of Alzheimer's disease through brain imaging. In addition to using brain imaging, clinicians are investigating the feasibility of diagnosing the disease from the amount of amyloid in spinal fluid.

Many psychologists, nevertheless, remain firm that accurate diagnosis of Alzheimer's disease must ultimately rest upon neuropsychological testing. They cite the expense, invasiveness, and lack of clear-cut connections to behavior of these biologically based diagnostic methods. Some argue that until there are effective treatments, early diagnosis does not help clients or their families, but only increases their anxiety.

In 2011, a group of researchers and clinicians convened to revise the 1984 NINCDS/ADRDA Guidelines, taking into account improved knowledge of the clinical manifestations and biological changes involved in Alzheimer's disease (McKhann et al., 2011). They also believed that it is important to acknowledge the fact that memory changes may or may not occur in individuals whose brains show signs of the disease. Their goal was to develop diagnostic criteria not dependent on the expensive and potentially invasive brain scans used in research. The group recognized that there is still no infallible way of diagnosing the disorder in a living individual, proposing that clinicians diagnose an individual as having "probable" or "possible" Alzheimer's disease. They also suggested that there be a third diagnostic category, "probable or possible," with evidence of brain pathology. This would not be a clinical diagnosis, but would be intended only for research purposes. However, the authors of *DSM-5* adopted this terminology, which is now used to indicate level of certainty of the diagnosis.

The clinical tool that clinicians most commonly use for diagnosing Alzheimer's disease is a specialized form of the mental status examination, which we call the MiniMental State Examination (MMSE) (Folstein, Folstein, & McHugh, 1975) (Table 5). People with Alzheimer's disease respond in certain ways to several items on this instrument. They tend to be circumstantial, repeat themselves, and lack richness of detail when describing objects, people, and events. As a screening tool, the MMSE can provide preliminary indications that an individual has neurocognitive disorder, if not Alzheimer's disease, but it is only a very rough screening tool and clinicians should not use it alone for diagnostic purposes.

TABLE 5 MiniMental State Examination

Orientation to time

"What is the date?"

Registration

"Listen carefully. I am going to say three words. You say them back after I stop. Ready? Here they are . . .

APPLE (pause), PENNY (pause), TABLE (pause). Now repeat those words back to me." [Repeat up to 5 times, but score only the first trial.]

Naming

"What is this?" [Point to a pencil or pen.]

Reading

"Please read this and do what it says." [Show examinee the words on the stimulus form.]

CLOSE YOUR EYES

Adding to the complexity of separating the causes of neurocognitive disorder in disorders other than Alzheimer's is the fact that depression can lead to symptoms that are similar to those apparent in the early stages of Alzheimer's disease. Depression may also coexist with Alzheimer's disease, particularly during the early to middle phases, when the individual is still cognitively intact enough to be aware of the onset of the disorder and to foresee the deterioration that lies ahead. Although depressive symptoms are distinct from Alzheimer's disease, these symptoms may serve to heighten the risk of developing Alzheimer's disease, particularly among men. In a 40-year longitudinal study of nearly 1,400 older adults, men who were depressed had twice the risk of developing Alzheimer's disease as men who were not depressed (Dal Forno, Palermo, Donohue, Karagiozis, Zonderman, & Kawas, 2005). Interestingly, the brain autopsies of 90 of the participants who died during the course of the study did not show the characteristic brain changes that occur with Alzheimer's disease (Wilson et al., 2007). A study linking loneliness to the development of Alzheimer's disease in both men and women showed similar findings. Such findings strengthen the idea that loneliness can trigger depression, which in time may lead to brain deterioration and symptoms of neurocognitive disorder similar to those in people with diagnosable Alzheimer's disease.

pseudodementia
Literally, false neurocognitive disorder, or a set of symptoms caused by depression that mimic those apparent in the early stages of Alzheimer's disease.

In assessing neurocognitive disorder–like symptoms, clinicians must be aware of the condition **pseudodementia,** or false neurocognitive disorder, a severe form of depression. Distinguishing between pseudodementia and neurocognitive disorder is important because one can successfully treat depression. Several indicators can help the clinician differentiate depression from neurocognitive disorder. For example, depressed individuals are more keenly aware of their impaired cognition and frequently complain about their faulty memory. In contrast, individuals with Alzheimer's usually try to hide or minimize the extent of impairment or to explain it away when they cannot conceal the loss. As the disorder progresses, people with Alzheimer's disease lose awareness of the extent of their cognitive deficits and may even report improvement as they lose their capacity for critical self-awareness. The order of symptom development also differs between Alzheimer's disease and depression. In depressed elderly people, mood changes precede memory loss. The reverse is true for people with Alzheimer's disease. People with depression are anxious, have difficulty sleeping, show disturbed appetite patterns, and experience suicidal thoughts, low self-esteem, guilt, and lack of motivation. People with neurocognitive disorder, in contrast, experience unsociability, uncooperativeness, hostility, emotional instability, confusion, disorientation, and reduced alertness. People with pseudodementia also are likely to have a history of prior depressive episodes that may have been undiagnosed. Their memory problems and other cognitive complaints have an abrupt

onset, compared with those of people with neurocognitive disorder, who experience a slower downward course. Another clue that can help clinicians distinguish between Alzheimer's and pseudodementia is to explore the individual's recent past to determine whether a stressful event has occurred that may have precipitated the onset of depression. Sensitive tests of memory also may enable the clinician to distinguish pseudodementia from Alzheimer's disease. People with pseudodementia are likely to not respond when they are unsure of the correct answer. In contrast, individuals with Alzheimer's disease adopt a fairly liberal criterion for making responses and, as a result, give many incorrect answers. A wide range of influences may produce symptoms that are similar to those of Alzheimer's disease (refer to Figure 6 later in the chapter).

Finally, as we saw earlier, Alzheimer's disease may occur along with other neurocognitive disorders, or these other disorders may occur on their own. Because these other disorders may be treatable, clinicians must attempt to rule them out before arriving at a final diagnosis of Alzheimer's disease which, as you will soon learn, is essentially untreatable.

Theories and Treatment of Alzheimer's Disease

All theories regarding the cause of Alzheimer's disease focus on biological abnormalities involving the nervous system. However, approaches to treatment incorporate other perspectives, recognizing that at present, there are no biological treatments that have more than brief effects on reducing symptom severity.

Theories

The biological theories of Alzheimer's disease attempt to explain the development of two characteristic abnormalities in the brain: neurofibrillary tangles and amyloid plaques. **Neurofibrillary tangles** are made up of a protein called **tau** (Figure 3), which seems to play a role in maintaining microtubule stability, which forms the axon's internal support structure. The microtubules are like train tracks that guide nutrients from the cell body down to the axon's ends. The tau proteins are like the railroad ties or crosspieces of the microtubule train tracks. In Alzheimer's disease, the tau changes chemically and loses its ability to separate and support the microtubules. With their support gone, the tubules begin to wind around each other and can no longer perform their function. This collapse of the transport system within the neuron may first result in malfunctions in communication between neurons and may eventually lead to the neuron's death. The development of neurofibrillary tangles appears to occur early in the

neurofibrillary tangles
A characteristic of Alzheimer's disease in which the material within the cell bodies of neurons becomes filled with densely packed, twisted protein microfibrils, or tiny strands.

tau
A protein that normally helps maintain the internal support structure of the axons.

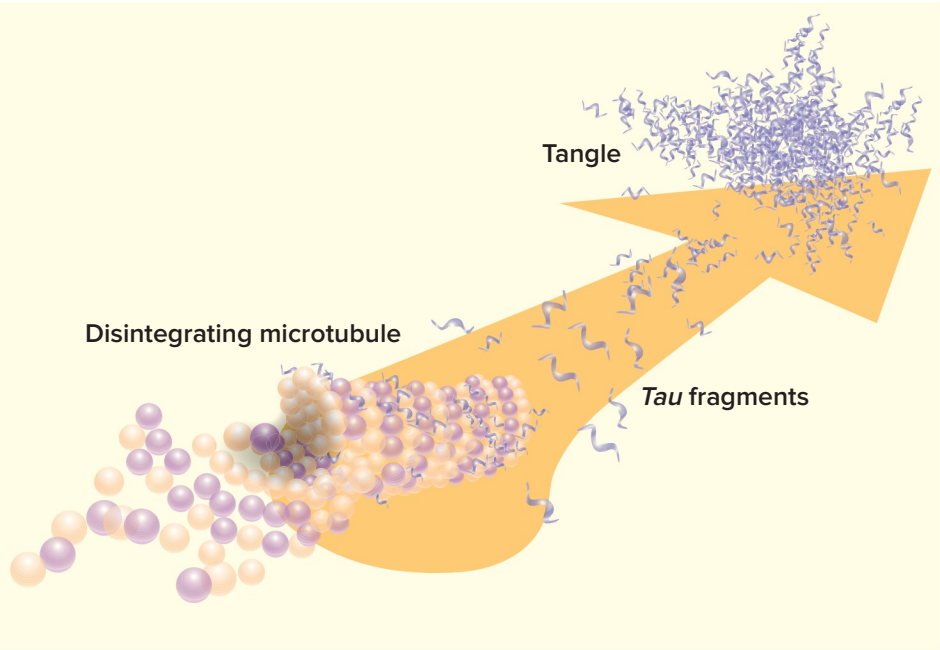


FIGURE 3 Neurofibrillary Tangle

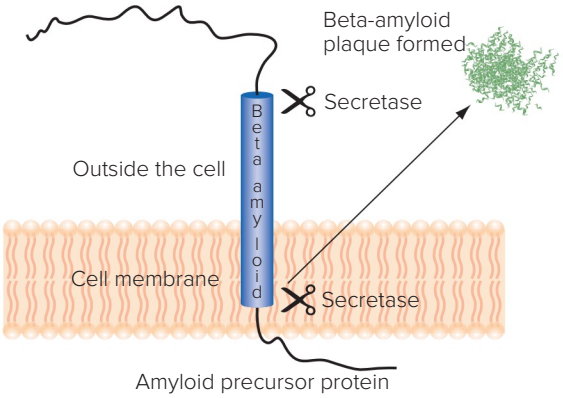


FIGURE 4 Development of Amyloid Plaques

disease process and may progress quite substantially before the individual shows any behavioral symptoms.

Amyloid plaques can develop 10 to 20 years before behavioral symptoms become noticeable and are one of the first events in the pathology of this disease. Amyloid is a generic name for protein fragments that collect together in a specific way to form insoluble deposits (meaning that they do not dissolve). The amyloid form most closely linked with Alzheimer's disease consists of a string of 42 amino acids, thus we call it beta-amyloid-42. Beta amyloid forms from a larger protein that is located in the normal brain called amyloid precursor protein (APP). As APP is manufactured, it embeds itself in the neuron's membrane. A small piece of APP lodges inside the neuron and a larger part of it remains outside. In healthy aging, enzymes called **secretases** harmlessly trim away the extra length of the APP. In Alzheimer's disease, something goes wrong with this process so that the APP snips at the wrong place, causing beta-amyloid-42 to form. The cutoff fragments of beta-amyloid-42 eventually clump together into beta-amyloid plaques, the abnormal deposits that the body cannot dispose of or recycle (Figure 4).

amyloid plaques
A characteristic of Alzheimer's disease in which clusters of dead or dying neurons become mixed together with fragments of protein molecules.

secretases
Enzymes that trim part of the APP remaining outside the neuron so that it is flush with the neuron's outer membrane.

You Be the Judge

Early Diagnosis of Alzheimer's Disease

As you've learned in the chapter, there are no treatments of Alzheimer's disease for anything other than its symptoms, and even these treatments only stave off decline for a matter of months. These problems raise the question of whether early diagnosis of Alzheimer's disease through potentially invasive methods such as spinal taps and brain scans are worth the expense and effort.

On the one hand, early diagnosis that rules out Alzheimer's disease is beneficial to individuals who have a treatable form of a neurocognitive disorder. By identifying one of the many other conditions that can lead to severe cognitive changes, clinicians can then diagnose surgical, medical, or other rehabilitative procedures to allow these individuals to resume their previous levels of activity and involvement with work, family, and social roles. On the other hand, because the methods of diagnosis are not 100 percent accurate, clinicians might incorrectly tell people who do not have Alzheimer's disease that their condition is untreatable.

In a related issue, genetic testing can potentially identify who is at risk of developing Alzheimer's disease. Again, there are no treatments for the disease, so if the person is asymptomatic, what might be the benefits of informing the person that he or she has a genetic risk? The individual could potentially try methods of intervention that seem to have some benefits such as physical exercise, participation in mentally challenging activities, or avoidance of potentially harmful environmental toxins. However, these are behaviors that benefit mostly older individuals, not just those with a genetic marker for Alzheimer's disease.

Advocates of early diagnosis argue that this knowledge can be helpful to allow individuals to make plans with their families for the future. On the other hand, if the information were available to insurance companies, including those administered by the government, at-risk individuals may face increases in their premiums or restrictions on how they can spend their assets. For example, if you knew that you were going to develop Alzheimer's disease and therefore require expensive private care, you might divest yourself of your assets by putting money into a trust fund for your children.

These are only a few of the practical and ethical questions raised by the question of whether or not individuals should receive a diagnosis of a disease that, at best, can only be made as "probable," and at worst, has no known treatment.

Q: *You be the judge:* Under these conditions, would you want to know if you were at risk for developing Alzheimer's disease?

Although researchers are testing various theories to determine the causes of Alzheimer's disease, the most probable is that an underlying defect in the genetic programming of neural activity triggers whatever changes may take place within the brain as a result of degenerative processes. The genetic theory was given impetus from the discovery that a form of the disease called early-onset familial Alzheimer's disease, which begins at the unusually young ages of 40 to 50, occurs with higher than expected prevalence in certain families. Other genes appear to be involved in a form of late-onset familial Alzheimer's disease that starts at the more expected ages of 60 to 65. Researchers postulate that these genes lead to excess amounts of beta-amyloid protein.

With the discovery of familial patterns of early-onset Alzheimer's disease along with advances in genetic engineering, researchers have identified several genes that may hold the key to understanding the cause of the disease. The apoE gene on chromosome 19 has three common forms: e2, e3, and e4. Each produces a corresponding form of apolipoprotein E (apoE) called E2, E3, and E4. The presence of the e4 allele sets up the mechanism for production of the E4 form of apoE, which researchers believe damages the microtubules within the neuron, which likely play an essential role in the cell's activity. Ordinarily, apoE2 and apoE3 protect the tau protein, which helps stabilize the microtubules. The theory is that, if the tau protein is unprotected by apoE2 and apoE3, the microtubules will degenerate, eventually leading to the neuron's destruction.

Most early-onset familial Alzheimer's disease cases occur with defects in the so-called presenilin genes (PS1 and PS2), which, as the name implies, are most likely involved in causing the brain to age prematurely. The mean age of onset in families with mutations in the PS1 gene is 45 years (ranging from 32 to 56 years) and age 52 years for people with PS2 gene mutations (from 40 to 85 years). The pattern of inheritance for the presenilin genes is autosomal dominant, meaning that, if one parent carries the allele that occurs with the disease, the offspring has a 50 percent chance of developing the disorder. Researchers are attempting to determine how presenilin genes 1 and 2 interact with APP, beta amyloid, plaques, and tangles. Researchers estimate that the four genes, presenilin 1 and 2, APP, and apoE, account for approximately half the genetic risk for Alzheimer's disease (St. George-Hyslop & Petit, 2005).

While the genetic theory is compelling, we need other theories to account for the other 50 percent of people who develop the disease, but do not have genetic risk. Researchers are viewing increasingly health-related behaviors as important moderators of genetic risk (Savica & Petersen, 2011). One important behavioral risk factor is cigarette smoking, which doubles the risk of both vascular neurocognitive disorder and Alzheimer's disease. We do not know the exact mechanisms for smoking's effect on the brain, but diffuse tensor imaging documents a loss of structural integrity in the white matter of the brains of smokers (Gons et al., 2011).

Another behavioral risk factor is obesity, perhaps due to abnormalities in leptin, the obesity-regulating hormone (Doherty, 2011). People who have metabolic syndrome, a condition that places them at risk for diabetes and heart disease, also have higher rates of Alzheimer's disease. Researchers also link metabolic syndrome to depression and cerebrovascular disease (stroke) (Farooqui, Farooqui, Panza, & Frisardi, 2012). Conversely, people who eat healthy diets have a lower risk of Alzheimer's disease. The Mediterranean diet includes foods that are high in tomatoes and olive oil, with low amounts of red meat and an occasional glass of red wine. Individuals who follow this diet have a lower risk of developing Alzheimer's disease (Gu, Luchsinger, Stern, & Scarmeas, 2010).

Lack of physical exercise is increasingly gaining support as another contributor to an individual's risk of developing Alzheimer's disease by operating on the nervous and cardiovascular systems, and perhaps even by altering gene expression in people at high risk for the disease (Archer, 2011). Similarly, engaging in mentally challenging exercises can help reduce the risk of Alzheimer's disease, as well as help to reduce normal age-related changes in memory and other cognitive functions.

There are two main implications of research documenting the behavioral risk factors for Alzheimer's disease. First, people can reduce their risk of Alzheimer's disease by taking advantage of behaviors that contribute to its development. Second, these risk factors

Older adults who exercise regularly can prevent the onset of many age-related physical problems.

also increase the likelihood of an individual developing cerebrovascular disease, depression, and other causes of neurocognitive disorder. Consequently, this supports the contention that estimates of Alzheimer's prevalence statistics are inflated by the existence of other preventable neurocognitive disorders related to risk factors within the aging population. Advances in public health efforts intended to reduce obesity, diabetes, and smoking should lead to a decrease in the estimates of Alzheimer's disease, if not actual reductions in the number of people who truly have the disorder.

Treatment Clearly, the ultimate goal of the intense research on Alzheimer's disease is to find effective treatment, if not a prevention or cure. There is a great deal of optimism in the scientific community that this treatment, when discovered, will also benefit those with other degenerative brain diseases. As the search for the cause of Alzheimer's disease proceeds, researchers are attempting to find medications that will alleviate its symptoms.

The U.S. Food and Drug Administration–approved medications for treating mild to moderate Alzheimer's disease symptoms include galantamine (Razadyne), rivastigmine (Exelon), and donepezil (Aricept) (Table 6). Clinicians only rarely prescribe another medication, tacrine (Cognex), due to concerns about its safety. These medications inhibit the action of acetylcholinesterase, the enzyme that normally destroys acetylcholine after its release into the synaptic cleft. Because these slow the breakdown of acetylcholine, they allow higher levels to remain in the brain, thus facilitating memory. All have significant side effects. Memantine falls into a separate category of FDA-approved medications for treatment of Alzheimer's disease in the moderate to severe stages. An NMDA antagonist, memantine regulates glutamate, which, in excessive amounts, may destroy neurons.

The side effects that Table 6 shows include those that clinicians consider mild and therefore tolerable. However, the anticholinesterases

TABLE 6 Mechanism of Action and Side Effects of Alzheimer's Medications

Drug Name	Drug Type and Use	How It Works	Side Effects
Namenda® (memantine)	N-methyl D-aspartate (NMDA) antagonist prescribed to treat symptoms of moderate to severe AD	Blocks the toxic effects associated with excess glutamate and regulates glutamate activation	Dizziness, headache, constipation, confusion
Razadyne® (galantamine)	Cholinesterase inhibitor prescribed to treat symptoms of mild to moderate AD	Prevents the breakdown of acetylcholine and stimulates nicotinic receptors to release more acetylcholine in the brain	Nausea, vomiting, diarrhea, weight loss, loss of appetite
Exelon® (rivastigmine)	Cholinesterase inhibitor prescribed to treat symptoms of mild to moderate AD	Prevents the breakdown of acetylcholine and butyryl-choline (a brain chemical similar to acetylcholine) in the brain	Nausea, vomiting, diarrhea, weight loss, loss of appetite, muscle weakness
Aricept® (donepezil)	Cholinesterase inhibitor prescribed to treat symptoms of mild to moderate, and moderate to severe AD	Prevents the breakdown of acetylcholine in the brain	Nausea, vomiting, diarrhea

Source: "Evaluating Prescription Drugs Used to Treat: Alzheimer's Disease," *Consumer Reports Best Buy Drugs,* updated May 2012.

can have serious side effects that include fainting, depression, anxiety, severe allergic reactions, seizures, slow or irregular heartbeat, fever, and tremor. Memantine's side effects can include hallucinations, seizures, speech changes, sudden and severe headache, aggressiveness, depression, and anxiety. When prescribing these medications, clinicians must weigh any benefits against these side effects, which themselves may interact with other medications that the individual is receiving for other health conditions, such as aspirin and nonsteroidal anti-inflammatory drugs (NSAIDs), Tagamet (used to treat heartburn), certain antibiotics, antidepressants, and medications that improve breathing.

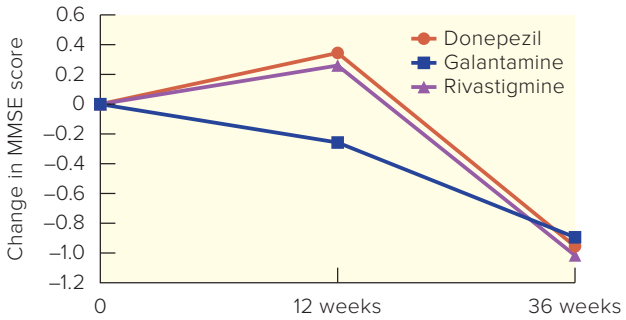


FIGURE 5 Comparison of Alzheimer's Medications

Lopez, O. L., Becker, J. T., Chang, Y. F., Sweet, R. A., Aizenstein, H., Snitz, B., . . . Klunk, W. E. (2013). The long-term effects of conventional and atypical antipsychotics in patients with probable Alzheimer's disease. *American Journal of Psychiatry, 170,* 1051–1058. doi: 10.1176/appi.ajp.2013.12081046. PubMed PMID: 23896958.

The benefits of the current medications to treat Alzheimer's disease symptoms are short lived. Memantine, prescribed for moderate to severe Alzheimer's disease, shows positive effects for up to 12 weeks (Schulze et al., 2011). Although donepezil may reduce symptoms by as much as 39 to 63 percent (Lopez et al., 2010), past the first 12 weeks of treatment its benefits begin to diminish as shown in Figure 5 (Santoro et al., 2010). After 3 years, individuals on any of the three anticholinesterases show poorer performance on the MMSE than they did at the beginning of treatment. Administering higher levels of anticholinesterases may slow the progression somewhat, but does not prevent deterioration in cognitive functioning over the long term (Wattmo, Wallin, Londos, & Minthon, 2011). Donepezil may reduce the perception by caregivers of their burden and of the other symptoms shown by the patients they care for, but these effects have not been studied past 12 weeks of treatment (Carrasco, Aguera, Gil, Morinigo, & Leon, 2011). Another medication, galantamine (Razadyne), acts as an anticholinesterase and may have positive effects for up to 3 years, but also has a higher death rate associated with its use (Scarpini et al., 2011). Medications that address the deleterious changes in tau are being developed, but at present are not suitable for use in humans (Navarrete, Pérez, Morales, & Maccioni, 2011).

Other approaches to treating neurocognitive disorder due to Alzheimer's disease target the free radicals, which are molecules that form when beta amyloid breaks into fragments. Free radicals most likely damage neurons in the surrounding brain tissue. Antioxidants can disarm free radicals and, therefore, may be another treatment for Alzheimer's disease. Bioflavonoid, a substance that occurs naturally in wine, tea, fruits, and vegetables, is one such antioxidant. Researchers view naturally occurring bioflavonoids (in, for example, blueberries) as having important preventive roles in reducing the extent of memory loss in later adulthood (Joseph, Shukitt-Hale, & Casadesus, 2005). A longitudinal study of over 1,300 French people found that bioflavonoids were beneficial in reducing the risk of Alzheimer's disease (Commenges, Scotet, Renaud, Jacqmin-Gadda, Barberger-Gateau, & Dartigues, 2000).

Given that no medical treatments exist to cure the disease, behavioral psychologists are developing strategies to maximize the daily functioning of people with Alzheimer's disease. They often target these efforts at the caregivers, who are the people (usually family members) primarily responsible for caring for the person with the disease. Caregivers often suffer adverse effects from the constant demands placed on them, effects that we call "caregiver burden" (Table 7). However, we can teach caregivers behavioral strategies that can promote patients' independence and reduce their distressing behaviors. Support groups can also provide a forum in which caregivers learn ways to manage the emotional stress that occurs with their role.

Behavioral strategies aimed at increasing the patient's independence include giving prompts, cues, and guidance in the steps involved in self-maintenance. For example, the clinician can encourage the patient to relearn the steps involved in getting dressed and then positively reward him or her with praise and attention for having completed those steps. Through modeling, the patient relearns previous skills through imitation. We can also teach the caregiver time management, which involves following a strict daily schedule. As a result, the patient is more likely to fall into a regular routine of everyday activities. All of these methods benefit both the patient and the caregiver. The patient

REAL STORIES

Ronald Reagan: Alzheimer's Disease

Born in 1911, Ronald Reagan was the oldest American president to take the oath of office, at 70 years of age. He served two terms between 1981 and 1989, and is remembered as one of the most popular presidents of recent history. His political and economic policies changed the face of the nation and as president he helped, in part, to end the cold war between the United States and the former Soviet Union. In 1994, just 4 years after leaving office, Reagan publicly disclosed that he had been diagnosed with Alzheimer's disease. He passed away in 2004, after spending the final 3 years of his life confined to a hospital bed in his California home.

A native of Illinois, Reagan attended college in Eureka before moving to Iowa to begin his career in radio broadcasting. He soon moved to Los Angeles and launched his acting career, starring in many popular films and television shows. Following a turn as a spokesman for General Electric, Reagan became involved in politics. He served as governor of California for 10 years before he was elected president in 1980, having run unsuccessfully twice before and beating out the incumbent President Jimmy Carter.

A *New York Times* article from 1997 described Reagan's life just a few short years after coming forward with his diagnosis. At the time of the article, Reagan appeared unchanged, although he was on the verge of showing some of the more severe signs of Alzheimer's. The article stated, "If, at the age of 86, the old movie actor still looks the image of vigorous good health, the truth is that the man behind the firm handshake and barely gray hair is steadily, surely ebbing away." Although the signs were becoming clear, Reagan was still able to perform activities of daily living such as dressing himself and he continued to partake in his regular routine, which involved playing golf, exercising, and making occasional public appearances. Despite his healthy exterior and extensive support network, at this point Reagan's condition began to deteriorate.

During his presidency, Ronald Reagan notoriously struggled with his memory, particularly when it came to remembering people's names. By 1997, this difficulty was much more pronounced and the only person he was able to remember on a consistent basis was his wife, Nancy. Following the revelation of his diagnosis, there was much controversy as to whether or not he had symptoms of Alzheimer's disease during his presidency. The *New York Times* article cites Reagan's doctor who confirmed that he did not actually start showing any symptoms until at least 3 years following the end of his final term.

"Alzheimer's is often said to involve a family of victims," the article states. "As it inexorably shuts off communication, the disease breeds loneliness, frustration and confusion not just for the patient, but for the spouse, relatives and friends. Many longtime friends and aides say they find it too painful to compare the Ronald Reagan afflicted with Alzheimer's with his former self."

In 2001, 4 years after the article appeared, Reagan suffered a fall in his home and broke his hip. Although his hip was repaired, he became homebound as his condition had greatly deteriorated. In her book, *The Long Goodbye*, Reagan's daughter Patti Davis recalls that doctors had given him just months to live. In the end, he lived another 4 years. Her book poignantly depicts the heartache and struggle that haunts not only the patients, but also the families of those dying from Alzheimer's disease. Patti highlights that the most painful aspect of the process of watching a loved one suffer from Alzheimer's is the length of the process of physical and mental deterioration and the psychological effect this has on the family.

"I am a daughter who lived her life missing her father." Patti describes her father as a man who had little time to be involved in the lives of his children as he spent 8 years of his life as leader of a powerful nation. The turmoil of watching their father's long and slow death was made all the more excruciating due to Reagan's guarded personal disposition. As Patti describes in the book, "Even my mother has admitted there was a part of him–a core–that she could never touch."

The book started as a collection of diary entries that Patti had written about her experiences watching her father succumb to his disease. The second youngest of Reagan's five children, Patti was often at odds with her father's social and political views. In the book she writes about how their relationship changed as the years went on and as she stuck by his side throughout the progression of his illness. Not only did her father's relationship with her change with the course of his disease, but the entire family dynamic shifted as the differences between them drifted away in light of their desire to be together through this difficult time. This is not uncommon as families come together to cope with the slow loss of a loved one to Alzheimer's.

"Alzheimer's disease locks all the doors and exits. There is no reprieve, no escape. Time becomes the enemy, and it seemed to stretch out in front of us like miles of fallow land." Patti goes on to describe the

Ronald Reagan began to show pronounced signs of Alzheimer's disease only a few years after completing two consecutive terms as U.S. president.

Photographs in the Carol M. Highsmith Archive, Library of Congress, Prints and Photographs Division

insidious nature of the disease and its slow progression throughout the years as she witnessed in her father. Alongside observations of her father as he grew older and as Alzheimer's increasingly took its toll, Patti recalls the memories of him throughout her life–giving a speech on her wedding day, swimming with her in the ocean, singing together in church. These memories were important in helping the family cope with the pain of slowly losing their father. "You breathe life into your own memories because right there, in front of you, sitting in the chair he always goes to, or walking down the hall, or gazing out the window, is a reminder of the hollowness that's left when memories are erased. So you welcome it when images come back, or bits of conversations. You seize them, dust them off, and pray they'll stay as bright."

In her book, Patti describes the process that her mother endured as she slowly lost her husband of over 40 years. "My mother speaks of the loneliness of her life now. He's here, but in so many ways he's not. She feels the loneliness in small ways–he used to put lotion on her back; now he doesn't. And in the huge, overwhelming ways–a future that will be spent missing him."

Patti also addresses the issue of Nancy Reagan's decision to keep the details of her husband's suffering private from the watchful eye of the media. "My mother has called it a long goodbye–the way Alzheimer's slowly steals a person away. It's been one of her only public comments; upon agreement, we have chosen the cloak of respectful silence when it comes to the subject of my father's condition. It's a heartbreaking phrase, and she's told me she won't say it again because it ushers in tears." Even on the day that her father passed away on June 5, 2004, Patti recalls a reporter hovering around the home, as rumors that he was nearing the end of his life had surfaced to the public. As the family gathered around Reagan's bed during his final moments of life, Patti remembers hearing news reports in the next room that his condition was grave and how more reporters began calling and coming to the house. In the end, the family was prepared for their father to pass away, although this did not erase the pain that they shared when his battle with Alzheimer's finally ended.

"There will be times," Patti writes of their reaction to his death, "when we are lifted up on the back of memories, and other times when sorrow drives us to our knees. Especially my mother, who will have moments of wondering why he had to leave first. We will wait for him to enter our dreams. We will look for him in every breeze that drifts through every open window. We will breathe deep and wait for his whisper to stream into us–tell us secrets and make us smile."

regains some measure of independence, which reduces the caregiver's burden to the extent that the patient can engage in self-care tasks (see Table 7).

Behavioral strategies can also eliminate, or at least reduce the frequency of, wandering and aggression in an Alzheimer's patient. One possible approach, which is not always practical, involves extinction. The caregiver ignores certain disruptive behaviors, with the intention of eliminating the reinforcement that has helped maintain them. Extinction, however, is not practical for behaviors that may lead to patient harm, such as wandering if it involves leaving the house and walking into the street. One possibility is to give the patient positive reinforcement for staying within certain boundaries; however, this may not be sufficient, and, at that point, the caregiver needs to install protective barriers.

TABLE 7 APA Caregivers Briefcase

In 2011, the American Psychological Association launched the Caregivers Initiative under the leadership of then-president Carol Goodheart. The Caregivers Briefcase summarizes resources, facts, and tips for caregivers: http://www.apa.org/pi/about/publications/caregivers/index.aspx.

This summary of five tips suggests helpful strategies for family caregivers, whether parents are caring for children, partners for partners, or children for parents:

1. **Recognize how widespread caregiving situations are.** Although everyone's situation is unique, you're not alone in experiencing burden.
2. **Take advantage of support services.** Sharing your experiences with others can give you both practical and emotional help.
3. **Focus on positive coping strategies.** Adapt the self-statements and coping strategies mentioned above until you find the ones that work for you.
4. **Take care of your own needs.** You need to focus on your health, both mental and physical, if you're going to be an effective caregiver. You'll also feel better.
5. **Ask for help when you need it.** You don't have to be a martyr. Reaching out to others will alleviate your stress. You may be surprised at the willingness of others to offer you assistance.

Whitbourne, S. K. (2011, March). Family caregiving across the generations. *Psychology Today.* Retrieved from http://www.psychologytoday.com/blog/fulfillment-any-age/201103/family-caregiving-across-the-generations

MINI CASE

Major Neurocognitive Disorder Due to Alzheimer's Disease, Probable

Ellen is a 69-year-old woman whose husband took her to her family physician as he was becoming increasingly concerned by her failing memory and strange behavior. Ellen's husband had first become concerned a few months earlier when Ellen couldn't remember the names of basic household items, such as spoon and dishwasher. Her day-to-day forgetfulness became so problematic that she would repeatedly forget to feed or walk the dog. As the weeks went by, Ellen seemed to get worse. She would leave food burning on the stove and water overflowing the bathtub. However, Ellen had no family history of relatives diagnosed with early-onset Alzheimer's disease. Ellen's physician sought consultation from a neuropsychologist who determined that Ellen showed significant impairments in memory, learning, and language. In addition, a complete medical examination identified no other possible causes of Ellen's cognitive symptoms, and she did not meet the criteria for major depressive disorder.

Another possible approach is for the caregiver to identify situations that are particularly problematic for the patient, such as in the bathtub or at the table. The caretaker can then use behavioral methods in these circumstances. For example, if the problem occurs while eating, it may be that the caretaker can encourage the patient to relearn how to use a knife and fork, rather than feeding him or her. Again, such an intervention can reduce caregiver burden, as well as increase the patient's functional skills (Callahan et al., 2006).

The caregiver can implement behavioral interventions through individual therapy or in a support group. The support group facilitator can teach these methods to participants. Furthermore, caregivers can share strategies among themselves based on their experiences. The emotional support that caregivers can provide for each other can be just as valuable as the actual instruction that they receive. Ultimately, the Alzheimer's patient receives better quality care when caregiver burden is minimized.

You can see, then, that although the prospect of Alzheimer's is frightening and painful for all individuals involved, a number of interventions are available. Until researchers find a cure for the disorder, however, clinicians must be content to measure their gains less as progress toward a cure and more as success in prolonging the period of maximum functioning for the individual and the family.

13.4 Neurocognitive Disorders Due to Neurological Disorders Other than Alzheimer's Disease

The symptoms of neurocognitive disorder can have a number of causes that include degenerative neurological conditions other than Alzheimer's disease. Each of these disorders has a separate diagnosis associated with it. Figure 6 shows the overlap among symptoms of these neurological disorders. Rather than involving a decline in memory, as we see in Alzheimer's disease, **frontotemporal neurocognitive disorder** is reflected in personality changes, such as apathy, lack of inhibition, obsessiveness, and loss of judgment. Eventually, the individual becomes neglectful of personal habits and loses the ability to communicate. The onset of the disorder is slow and insidious. On autopsy, the brain shows atrophy in the frontal and temporal cortex, but there are no amyloid plaques or arterial damage.

frontotemporal neurocognitive disorder
Neurocognitive disorder that involves the frontotemporal area of the brain.

neurocognitive disorder with Lewy bodies
A form of neurocognitive disorder with progressive loss of memory, language, calculation, and reasoning, as well as other higher mental functions resulting from the accumulation of abnormalities called Lewy bodies throughout the brain.

Neurocognitive disorder with Lewy bodies, which researchers first identified in 1961, is similar to Alzheimer's disease, with progressive loss of memory, language, calculation, and reasoning, as well as other higher mental functions. However, the progress of the illness may be more rapid than what we see in Alzheimer's disease. Lewy bodies are tiny, spherical structures consisting of protein deposits in dying nerve cells found in damaged regions deep within the brains of people with Parkinson's disease. A

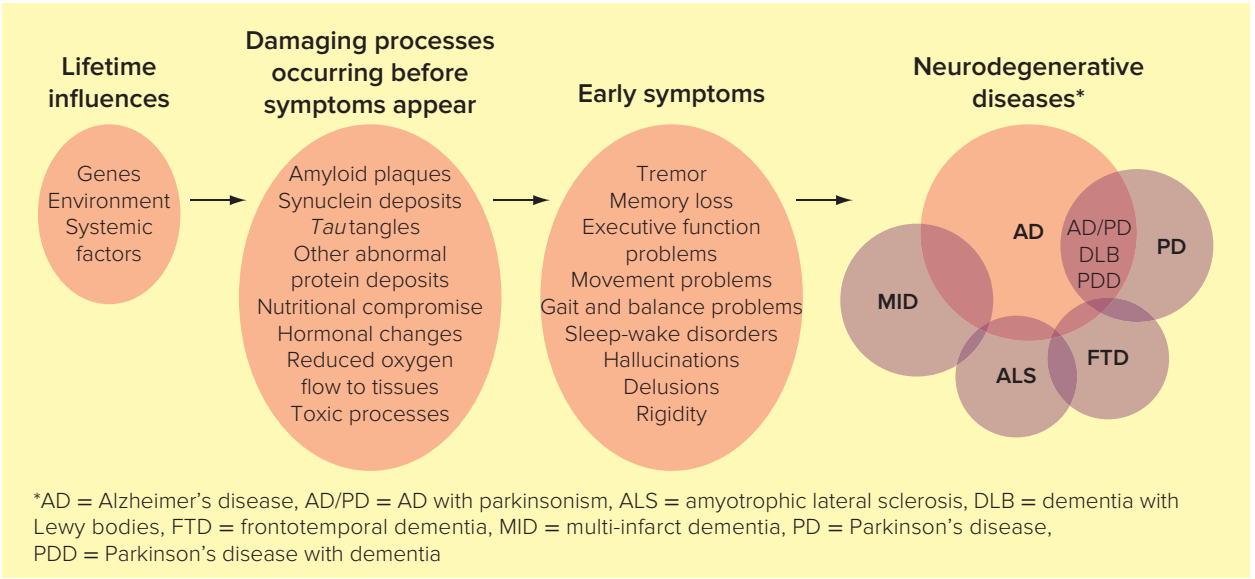


FIGURE 6 Other Diseases That Can Cause Deterioration in Cognitive Function

As shown here, a variety of lifetime influences and damaging processes ranging from nutritional influences to toxins can lead to symptoms that appear to mimic Alzheimer's disease. These disorders may occur along with Alzheimer's disease (shown in the overlapping circles) or may occur independently of it.

Progress Report on Alzheimer's Disease 2004–2005, U.S. Department of Health and Human Services.

clinician diagnoses this condition when Lewy bodies are more diffusely dispersed throughout the brain. It is not clear whether the condition called neurocognitive disorder with Lewy bodies is a distinct illness or a variant of Alzheimer's or Parkinson's disease (Serby & Samuels, 2001), although some claim that this is the second most common form of neurocognitive disorder (McKeith et al., 2004). Based on neurological evidence, researchers are beginning to differentiate neurocognitive disorder with Lewy bodies from Alzheimer's disease. In one study, using both PET scan and autopsies, investigators found that deficits in the visual cortex were specific to the brains of people with neurocognitive disorder due to Lewy bodies (Gilman et al., 2005).

Another possible cause of neurocognitive disorder is cardiovascular disease affecting the supply of blood to the brain. This condition, called **vascular neurocognitive disorder,** is highly prevalent and researchers link it to a variety of cardiovascular risk factors. The most common form is referred to as **multi-infarct dementia (MID),** caused by transient attacks in which blood flow to the brain is interrupted by a clogged or burst artery. The damage to the artery deprives the surrounding neurons of blood and oxygen, which causes the neurons to die. Although each infarct is too small to be noticed at first, over time the progressive damage caused by the infarcts leads the individual to lose cognitive abilities. Their memory impairment appears to be similar to that involved in Alzheimer's disease; however, there are some significant differences between these two forms of disorders. People with vascular neurocognitive disorder show a particular set of physical abnormalities, such as walking difficulties and weakness in the arms and legs. Furthermore, people with vascular neurocognitive disorder show a pattern of cognitive functioning that is distinctly different from that in people with Alzheimer's.

vascular neurocognitive disorder
A form of neurocognitive disorder resulting from a vascular disease that causes deprivation of the blood supply to the brain.

multi-infarct dementia (MID)
A form of neurocognitive disorder caused by transient attacks in which blood flow to the brain is interrupted by a clogged or burst artery.

In the typical clinical picture of vascular neurocognitive disorder, certain cognitive functions remain intact and others show significant loss, a pattern that neuropsychologists call patchy deterioration. Another unique feature of vascular neurocognitive disorder is that it shows a stepwise deterioration in cognitive functioning: a function that was relatively unimpaired is suddenly lost or severely deteriorates. This is in contrast to the gradual pattern of deterioration in Alzheimer's disease.

As is true for Alzheimer's disease, there is no treatment to reverse the cognitive losses in vascular neurocognitive disorder. However, individuals can take preventive actions

As one of the most notable individuals known to suffer from neurocognitive disorder due to Parkinson's disease, Michael J. Fox has brought public attention to the reality of this disabling condition.

throughout adulthood to protect themselves from the subsequent onset of this disease. Reducing the risk of hypertension and diabetes is one important way to lower the chances of developing cognitive disorders in later life (Papademetriou, 2005).

Pick's disease is a relatively rare, progressive degenerative disease that affects the frontal and temporal lobes of the cerebral cortex. It is caused by the accumulation in neurons of unusual protein deposits called Pick bodies. In addition to having memory problems, people with this disorder become socially disinhibited, acting either inappropriately and impulsively or appearing apathetic and unmotivated. In contrast to the sequence of changes that people with Alzheimer's disease show, people with Pick's disease undergo personality alterations before they begin to have memory problems. For example, they may experience deterioration in social skills, language abnormalities, flat emotionality, and a loss of inhibition.

Neurocognitive disorder due to Parkinson's disease involves neuronal degeneration of the basal ganglia, the subcortical structures that control motor movements. Deterioration of diffuse areas of the cerebral cortex may occur. Cognitive changes do not occur in all people with Parkinson's disease, but researchers estimate rates as high as 60 percent, mostly involving those who are older and at a more advanced stage of the disease. Parkinson's disease is usually progressive, with various motor disturbances the most striking feature of the disorder. At rest, the person's hands, ankles, or head may shake involuntarily. The person's muscles become rigid, and it is difficult for him or her to initiate movement, a symptom called **akinesia.** A general slowing of motor activity, known as **bradykinesia,** also occurs, as does a loss of fine motor coordination. For example, some people with Parkinson's disease walk with a slowed, shuffling gait. They have difficulty starting to walk and, once they start, they have difficulty stopping. In addition to these motor abnormalities, they show signs of cognitive deterioration, such as slowed scanning on visual recognition tasks, diminished conceptual flexibility, and slowing on motor response tests. The individual's face also appears expressionless and speech becomes stilted, losing its normal rhythmic quality. They have difficulty producing words on tests that demand verbal fluency. However, many cognitive functions, such as attention, concentration, and immediate memory, remain intact.

Although primarily a disease involving loss of motor control, **neurocognitive disorder due to Huntington's disease** is a degenerative neurological disorder that can also affect personality and cognitive functioning. Researchers have traced Huntington's disease to an abnormality on chromosome 4 that causes a protein, now known as huntingtin, to accumulate and reach toxic levels. The symptoms first appear during adulthood, between ages 30 and 50. The disease involves the death of neurons in subcortical structures that control motor behavior.

A number of disturbances occur with Huntington's disease, ranging from altered cognitive functioning to social and personality changes. We associate the disease with mood disturbances, changes in personality, irritability and explosiveness, suicidality, changes in sexuality, and a range of specific cognitive deficits. Because of these symptoms, clinicians may incorrectly diagnose the disorder as schizophrenia or a mood disorder, even if the individual has no history suggestive of these disorders. People with Huntington's disease can also appear apathetic because of their decreased ability to plan, initiate, or carry out complex activities. Their uncontrolled motor movement interferes with sustained performance of any behavior, even maintaining an upright posture, and eventually most people with Huntington's disease become bedridden.

Pick's disease
A relatively rare degenerative disease that affects the frontal and temporal lobes of the cerebral cortex and that can cause neurocognitive disorders.

neurocognitive disorder due to Parkinson's disease
A neurocognitive disorder that involves degeneration of neurons in the subcortical structures that control motor movements.

akinesia
A motor disturbance in which a person's muscles become rigid and movement is difficult to initiate.

bradykinesia
A motor disturbance involving a general slowing of motor activity.

neurocognitive disorder due to Huntington's disease
A hereditary condition causing neurocognitive disorder that involves a widespread deterioration of the subcortical brain structures and parts of the frontal cortex that control motor movements.

Neurocognitive disorder due to prion disease, also known as **Creutzfeldt-Jakob disease,** is a rare neurological disorder known as a **prion disease,** which researchers believe is caused by an infectious agent and that results in abnormal protein accumulations in the brain. Initial symptoms include fatigue, appetite disturbance, sleep problems, and concentration difficulties. As the disease progresses, the individual shows increasing signs of neurocognitive loss and eventually dies. Underlying these symptoms is widespread damage known as spongiform encephalopathy, meaning that large holes develop in brain tissue. The disease appears to be transmitted to humans from cattle that have eaten the body parts of dead farm animals infected with the disease (particularly sheep, in which the disease is known as scrapie). In 1996, an epidemic in England of "mad cow disease," along with reported cases of the disease in humans, led to a ban on importation of British beef. Concerns about this disease continue to exist in European countries, as well as in the United States.

neurocognitive disorder due to prion disease (Creutzfeldt-Jakob disease)
A neurological disease transmitted from animals to humans that leads to neurocognitive disorder and death resulting from abnormal protein accumulations in the brain.

prion disease
An abnormal protein particle that infects brain tissue.

13.5 Neurocognitive Disorder Due to Traumatic Brain Injury

Trauma to the head that results in an alteration or loss of consciousness, or post-traumatic amnesia, is called **traumatic brain injury (TBI).** The diagnostic criteria for **neurocognitive disorder due to traumatic brain injury** require evidence of impact to the head along with loss of consciousness, amnesia following the trauma, disorientation and confusion, and neurological abnormalities such as seizures. The symptoms must occur immediately after the trauma or after recovering consciousness, and past the acute postinjury period.

traumatic brain injury (TBI)
Damage to the brain caused by exposure to trauma.

neurocognitive disorder due to traumatic brain injury
A disorder in which there is evidence of impact to the head along with cognitive and neurological symptoms that persist past the acute post-injury period.

According to the Centers for Disease Control and Prevention (2011), an estimated 1.7 million people a year in the United States experience TBI (Figure 7). Children aged 0 to 4 years, adolescents aged 15 to 19 years, and adults 65 years and older have the greatest risk of TBI. The highest rates of hospitalization and death due to TBI occur in adults 75 years of age and older. People within these age groups sustain accidental TBIs for different reasons. Children and adolescents are most likely to receive TBIs through falls, sports injuries, and accidents. In older adults, falls are the most common cause of TBIs.

As many as 12 to 20 percent of the veterans of the Iraq and Afghanistan wars may have experienced TBIs resulting from injuries from improvised explosive devices (IEDs). Most of these cases are relatively mild in severity, meaning that they involved loss of consciousness for 30 minutes or less, or post-traumatic amnesia of 24 hours or less. Most of these TBI victims recover within 6 months of their injury, but a subgroup of veterans do not. Another group may have undetectable symptoms until after their deployment. Not only does TBI carry with it significant health risks, but veterans who experienced TBIs are at higher risk of developing PTSD, anxiety, and adjustment disorders (Carlson, Nelson, Orazem, Nugent, Cifu, & Sayer, 2010). Unlike previous combat veterans, those who fought in the Iraq and Afghanistan wars were more likely to have head injuries because their modern helmets offered better protection than those worn by soldiers in previous wars. Thus, they survived the blast only to develop head (and other) serious injuries.

postconcussion syndrome (PCS)
A disorder in which a constellation of physical, emotional, and cognitive symptoms persists from weeks to years.

People undergoing mild TBI may experience a related condition known as **postconcussion syndrome (PCS)** in which they continue to have symptoms such as fatigue, dizziness, poor concentration, memory problems, headache, insomnia, and irritability. Individuals most at risk of developing PCS are those who had an anxiety or depressive disorder prior to their injury and acute post-traumatic stress for approximately 5 days after their injury. However, PCS may also develop in traumatized individuals with these characteristics who do not actually suffer a mild TBI (Meares et al., 2011).

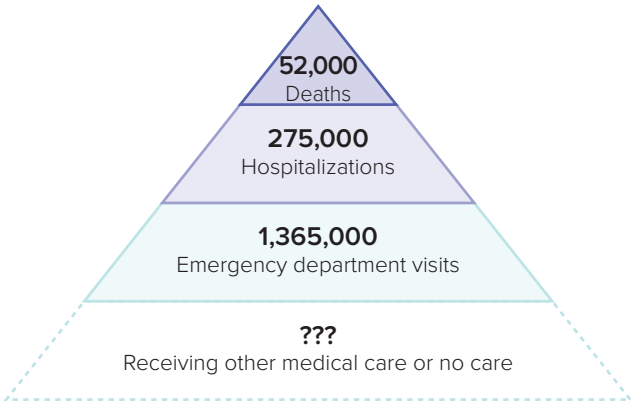


FIGURE 7 Prevalence Estimates and Associated Risks of Traumatic Brain Injury

MINI CASE

Neurocognitive Disorder Due to Traumatic Brain Injury

Harvey is a 57-year-old bookstore owner living in a small town. While bicycling to work one day, he was struck by a car and was rushed to the emergency room. In addition to receiving a broken leg, Harvey suffered a head injury and was unable to remember anything that had happened during the preceding 2 weeks. Furthermore, he had no idea how old he was, where he was born, or whether he was married. This inability to remember his personal past was a source of great distress to Harvey. In contrast, Harvey had no trouble remembering the ambulance ride to the hospital or the name of the emergency room physician who first examined him. Following a 3-day hospital stay, Harvey was transferred to a rehabilitation facility for 3 months, where memory therapy helped him learn mnemonic strategies for recalling important information.

Professional athletes may also suffer mild TBIs, particularly those who play contact sports such as football and hockey. Their injuries may not be properly assessed when they occur, leading them to return to play before they are fully ready to do so. Although they may appear to have recovered enough to go back onto the field, they may nevertheless suffer mental impairments that are only evident later. In one study of male and female college athletes involved in high-contact sports, researchers found memory impairments even in those players who did not appear to have suffered a concussion (Killam, Cautin, & Santucci, 2005). Unlike trauma victims, athletes are more likely to return to preinjury functioning within 2 days to 2 weeks (Iverson, 2005). However, repeated injuries over time such as those experienced by college and professional football players may lead to chronic traumatic encephalography (CTE), which causes a form of neurocognitive disorder and can lead to premature death. These individuals are particularly likely to experience deficits in executive functioning associated with the damage to their frontal lobes (Seichepine et al., 2013).

13.6 Neurocognitive Disorders Due to Substances/Medications and HIV Infection

A wide range of infectious diseases can cause the changes that occur with neurocognitive disorder. These include neurosyphilis, encephalitis, tuberculosis, meningitis, human immunodeficiency virus (HIV), and localized infections in the brain. People who experience kidney failure may have symptoms of neurocognitive disorder as a result of the toxic accumulation of substances that the kidneys cannot cleanse from the blood. People with certain kinds of brain tumors also experience cognitive impairments and other symptoms of neurocognitive disorder.

The individual's cognitive functioning can also be negatively affected by anoxia (oxygen deprivation to the brain), which may occur during surgery under general anesthesia or may result from carbon monoxide poisoning. Anoxia can have severe effects on many brain functions because neurons quickly die if they are deprived of oxygen. Because brain neurons do not replace themselves, significant neuron loss can lead to impairments in concrete thinking and functions such as new learning ability, attention, concentration, and tracking. The emotional effects of brain damage due to anoxia can include affective dulling and disinhibition, as well as depression. This can drastically reduce the person's ability to plan, initiate, and carry out activities.

Exposure to certain drugs and environmental toxins can cause brain damage and result in a condition called "substance/medication-induced neurocognitive disorder." These toxins include intense fumes from house paint, styrene used in plastics manufacturing, and fuels distilled from petroleum.

Nutritional deficiencies can also cause cognitive decline. People who are severely undernourished are prone to develop a deficiency of folate, a critical nutrient, leading to progressive cerebral atrophy. If the deficiency is not corrected by dietary improvements, the individual can become depressed and show various cognitive impairments, such as poor memory and impaired abstract reasoning.

The cognitive losses that occur with physical disorders and toxic reactions may be reversible if the person receives prompt and appropriate medical treatment. However, if the person fails to receive intervention for a treatable neurocogntive disorder in the early stages, the brain damage becomes irreversible. The more widespread the structural damage to the brain, the lower the chances that the person will ever regain lost functions.

Prior to the introduction of antiretroviral therapies for acquired immune deficiency syndrome (AIDS), the disease that can result from HIV, neurocogntive disorder in the late stages of the disease was a common and devastating complication (Gisslen, Hagberg, Brew, Cinque, Price, & Rosengren, 2007). With improvements in treatment, this condition, known as AIDS dementia complex, has become less prevalent; however, cases continue to rise among people who go undiagnosed and untreated, a situation that is particularly true in developing countries (Wu, Zhao, Tang, Zhang-Nunes, & McArthur, 2007; Zhao, Wei, Long, Tang, Zhou, & Dang, 2015).

13.7 Neurocognitive Disorders Due to Another General Medical Condition

Amnesia is the inability to recall information that was previously learned or to register new memories. In *DSM-5,* people with amnesia receive a diagnosis of **major neurocognitive disorder due to another general medical condition.** People with major neurocognitive disorder due to a general medical condition are unable to recall previously learned information or to register new memories. In previous editions of the *DSM,* the term "amnesia" was used to refer to this type of memory loss. In *DSM-5,* this form of neurocognitive disorder is indicated as being caused by a general medical condition. They can result from a wide variety of medical problems, including head trauma, loss of oxygen, or herpes simplex.

amnesia
Inability to recall information that was previously learned or to register new memories.

major neurocognitive disorder due to another medical condition
Cognitive disorders involving the inability to recall previously learned information or to register new memories.

Substance-induced persisting amnestic disorder occurs when drugs or medications cause serious memory impairment. An array of substances may cause this condition, including medications, illicit drugs, or environmental toxins such as lead, mercury, insecticides, and industrial solvents. The most common cause of this form of neurocognitive disorder is chronic alcohol use. The memory loss must persist over time for the clinician to assign the diagnosis of neurocognitive disorder due to another general medical condition. For some people, especially chronic abusers of alcohol, the neurocognitive disorder due to another general medical condition persists for life, causing such severe impairment that the individual may require custodial care. For others, such as those whose condition results from medications, full recovery is possible.

13.8 Neurocognitive Disorders: The Biopsychosocial Perspective

We can best understand the cognitive impairments that occur with the disorders that we discussed in this chapter, by definition, from a biological perspective. However, the biological perspective has not yet produced a viable treatment for one of the most devastating of these disorders, Alzheimer's disease. Until researchers find a cure, individuals and their families whose lives are touched by the disease must be willing to try a variety of approaches to alleviate the suffering. Many research programs are currently underway to explore strategies for reducing the stress placed on caregivers. Some of these strategies involve innovative, high-technology methods, such as computer networks. Others take the more traditional approach of providing emotional support to individuals

with Alzheimer's disease and their families. The application of cognitive-behavioral and other methods of therapy to help people cope with Alzheimer's is another useful approach. It seems that the bottom line in all this research on understanding and treating those affected by Alzheimer's disease is that it is not necessary for psychologists to wait until biomedical researchers discover a cure. They can do quite a bit to improve the quality of life for people with Alzheimer's and to help them maintain their functioning and dignity for as long as possible.

Return to the Case: Irene Heller

Irene's MRI showed multiple vascular legions on her cerebral cortex and the subcortical structures of her brain, confirming her diagnosis of neurocognitive disorder due to vascular disease. The qualifier of "with behavioral disturbance" was added to her diagnosis due to her history of wandering spells that had occurred with the onset of her symptoms.

Following her diagnosis, Irene was immediately started on medication, and after a few weeks she and her family began noticing that she had returned to her "premorbid" (previous) level of functioning. Upon a recommendation made by the neuropsychologist she saw for testing, Irene began to attend a support group for those who have been diagnosed with neurocognitive disorder due to vascular disease offered in a community center in her town. Irene avidly attends every week and has reported benefiting due to the social support aspect of the group as well as learning more about the disease and how it affects each person differently. The support group has also educated Irene to be mindful of any changes in her cognition or motor movements, and to seek consultation immediately with her physician should any new difficulties arise. Due to her improved memory, Irene's health remained stable as she was remembering to take her insulin as prescribed. Irene enjoyed taking part in her regular activities again and spending time with her family, no longer burdened by motor difficulties. Irene will undergo a brief battery of neuropsychological testing every 6 months to monitor for any further deterioration in her cognition and to assess efficacy of her treatment regimen.

Dr. Tobin's reflections: Neurocognitive disorder due to vascular disease can result from a stroke. Due to the patchy and irregular deterioration of Irene's symptoms it is more likely that her symptoms resulted from a more gradual process of cerebrovascular disease. In many cases, adults live for some time with mild symptoms of neurocognitive disorder. Irene was fortunate to have attentive children who noticed her symptoms relatively soon after they arose and she was able to seek treatment that I hope will slow the development of this disorder. She was also fortunate that her diagnosis was based on careful consideration of multiple sources of testing, as many older adults with neurocognitive disorder due to vascular disease are incorrectly diagnosed with Alzheimer's disease, which is irreversible and requires a different course of treatment and case planning.

SUMMARY

- Neurocognitive disorders (formerly called "delirium, dementia, amnestic, and other cognitive disorders") are those in which the central characteristic is cognitive impairment that results from causes such as brain trauma, disease, or exposure to toxic substances.
- Delirium is a temporary state in which individuals experience a clouding of consciousness in which they are unaware of what is happening and are unable to focus or pay attention. They experience cognitive changes in which their memory is foggy and they are disoriented, and they may have various other symptoms, such as rambling speech, delusions, hallucinations, and emotional disturbances. Delirium, which is caused by a change in the brain's metabolism, can result from various factors, including substance intoxication or withdrawal, head injury, high fever, and vitamin deficiency. The onset is generally rapid and the duration brief.
- The best-known of these disorders is neurocognitive disorder due to Alzheimer's disease. Symptoms are characterized by progressive cognitive impairment involving a person's

memory, communication abilities, judgment skills, motor coordination, and ability to learn new information. In addition to experiencing cognitive changes, individuals with this condition undergo changes in their personality and emotional state. It is challenging to make this diagnosis due to the fact that some conditions, such as vascular neurocognitive disorder and major depressive disorder, mimic the symptoms of Alzheimer's disease.

- The biological perspective is predominant among theories regarding the cause of Alzheimer's. Current research focuses on abnormalities in the nervous system—specifically, two types of structure changes in the brain. The first is the formation of neurofibrillary tangles, in which the cellular material within the cell bodies of neurons becomes replaced by densely packed, twisted microfibrils, or tiny strands, of protein. The second change involves the development of amyloid plaques, which are clusters of dead or dying neurons mixed with fragments of protein molecules. Although there is no cure for this disease, medications such as anticholinesterase agents can slow the progress of cognitive decline. In the absence of a biological cure, psychological perspectives have led to the use of psychopharmacological medication to alleviate secondary symptoms such as depression. Researchers are exploring social contributors, such as the role of certain behaviors in preventing the development of the disease. Additionally, experts are refining behavioral techniques for managing symptoms and developing strategies for alleviating caregiver burden.
- Neurocognitive disorders can also occur as the result of other disease processes as well as substances or medication. They may also be associated with infectious diseases, including AIDS, which is a disease that can result from HIV infection.
- Researchers are increasingly recognizing traumatic brain injury (TBI) as an important cause of mental and physical dysfunction. Symptoms include headaches, sleep disturbances, sensitivity to light and noise, and diminished cognitive performance on tests of attention, memory, language, and reaction time. These individuals may also suffer depression, anxiety, emotional outbursts, mood changes, or inappropriate affect.
- Major neurocognitive disorder due to another medical condition is a disorder in which people are unable to recall previously learned information or to register new memories. This disorder is due either to the use of substances or to medical conditions such as head trauma, loss of oxygen, and herpes simplex.

KEY TERMS

Akinesia
Amnesia
Amyloid plaques
Bradykinesia
Delirium
Frontotemporal neurocognitive disorder
Major neurocognitive disorders
Major neurocognitive disorder due to another medical condition
Mild neurocognitive disorders
Multi-infarct dementia (MID)
Neurocognitive disorder
Neurocognitive disorder due to Alzheimer's disease
Neurocognitive disorder due to Huntington's disease
Neurocognitive disorder with Lewy bodies
Neurocognitive disorder due to Parkinson's disease
Neurocognitive disorder due to prion disease (Creutzfeld-Jakob disease)
Neurocognitive disorder due to traumatic brain injury
Neurofibrillary tangles
Pick's disease
Postconcussion syndrome (PCS)
Prion disease
Pseudodementia
Secretases
Tau
Traumatic brain injury (TBI)
Vascular neurocognitive disorder

Personality Disorders

OUTLINE

Case Report: Harold Morrill

The Nature of Personality Disorders

What's in the *DSM-5*: Dimensionalizing the Personality Disorders

- Personality Disorders in *DSM-5*
- Alternative Personality Disorder Diagnostic System in Section 3 of the *DSM-5*

Cluster A Personality Disorders

- Paranoid Personality Disorder
- Schizoid Personality Disorder
- Schizotypal Personality Disorder

Cluster B Personality Disorders

- Antisocial Personality Disorder
  - Theories of Antisocial Personality Disorder
    - Biological Perspectives

You Be the Judge: Antisocial Personality Disorder and Moral Culpability

Real Stories: Ted Bundy: Antisocial Personality Disorder

- Psychological Perspectives
- Treatment of Antisocial Personality Disorder
- Borderline Personality Disorder
  - Theories and Treatment of BPD
- Histrionic Personality Disorder
- Narcissistic Personality Disorder

Cluster C Personality Disorders

- Avoidant Personality Disorder
- Dependent Personality Disorder
- Obsessive-Compulsive Personality Disorder

Personality Disorders: The Biopsychosocial Perspective

Return to the Case: Harold Morrill

Summary

Key Terms

Learning Objectives

14.1 Understand the nature of personality disorders and the alternative diagnostic system in the *DSM-5*.

14.2 Identify the characteristics, theories, and treatments of Cluster A personality disorders.

14.3 Identify the characteristics, theories, and treatments of Cluster B personality disorders.

14.4 Identify the characteristics, theories, and treatments of Cluster C personality disorders.

14.5 Analyze the biopsychosocial perspective on personality disorders.

CHAPTER 14

Case Report: Harold Morrill

Demographic information: 21-year-old Caucasian male.

Presenting problem: Harold presented for an emergency intake evaluation at his university's counseling center due to self-reported suicidal ideation. He reported to the intake counselor that he had a strong, pervasive desire to kill himself. He presented as angry and emotionally distraught, and he grew easily frustrated with the counselor several times throughout the interview. Harold reported that this was not the first time he had wanted to kill himself, and without being prompted showed the counselor a large, vertical scar down his left forearm indicating a previous suicide attempt. He stated that he was 17 at the time he slit his wrist, and that he had been under the influence of alcohol and cocaine at the time. He remarked that he barely remembered the incident. Following this suicide attempt, Harold had been admitted to an inpatient psychiatric unit and was stabilized on medication, though he discontinued his medication on his own once he was discharged, against the recommendations of his doctors.

Harold became highly agitated when asked questions about his past during the evaluation, at one point yelling at the counselor and threatening to storm out of the room. Once the counselor was able to calm him down, he tearfully stated, "I'm just so sick of feeling this way," and agreed to continue with the evaluation. This was in contrast to his initial presentation as pleasant and polite, even as he described his thoughts about ending his life.

Harold reported having few close interpersonal relationships. He stated that he didn't have any close friends at school and had switched dormitories four times during his freshman year alone. He was vague in describing the reasoning behind this, remarking only that "all my roommates have been total jerks."

Harold went on to discuss his history of romantic relationships throughout the past 4 years. He stated that each relationship lasted a few weeks, the longest lasting for 2 months. When describing the relationships, he reported that they usually ended due to "blow out" arguments. When asked about the nature of the arguments, he stated in each case he had accused the woman of infidelity and would immediately end the relationship. Harold elaborated that he felt "no one could ever make me happy. I don't know why I even try. Nothing that I ever do makes me feel better, so I keep trying new things and looking for new people. But none of it works." He related this to his recurrent thoughts of suicide and past suicide attempts. When asked about his family, Harold reported that he was "disgusted" with them and how they treated him as a child (see "Relevant history").

Harold reported that he frequently abuses alcohol—as many as 7 days per week—and that he typically drinks to the point of blacking out. He described that he mostly enjoys going to bars and did so with a "fake ID" before he turned 21. He explained that he enjoys meeting new people, and that drinking "helps me to not be so bored all of the time." Harold also reported a history of drug abuse including marijuana, cocaine, and ecstasy since the age of 13. Harold stated that he had been caught with substances by the police on campus, though he had avoided being arrested. He was arrested for a DUI during his freshman year and had attended alcohol education classes, which he called "a complete waste of my time." Following the arrest, Harold lost his driver's license which greatly upset him, as he typically enjoyed driving to the bars in town or other towns

Case Report *continued*

nearby when he was feeling tired of his own town. He regained his license and had been frequenting bars and drinking heavily until 3 weeks prior to the current intake evaluation.

Harold stated that for the past 3 weeks he had been spending most of his time alone in his room, saying, "Why would anyone want to spend time with such a lousy person? That's why I wanted to die." He had also quit his part-time job at a grocery store and was attending only a few classes per week. He was unable to recall a specific event that brought on his current depression. While being asked about his current depression, Harold burst into tears and pleaded with the clinician for help. "I just know I'm going to kill myself." He revealed burn marks on his legs that appeared to be recently inflicted. The clinician asked Harold about his current suicidal ideology, and he was able to contract for safety, meaning he agreed not to hurt himself and affirmed that if his thoughts about death grew stronger he would call the emergency room or the counseling center. Then Harold asked the clinician if she could be his therapist. She described the counseling center's policy, that as the intake clinician she could not see clients being evaluated for psychotherapy. "Just like a typical woman," he retorted. "You don't want to be with me. I think you're terrible at your job, anyway."

Relevant history: Harold stated that he had attended psychotherapy sessions in the past, but that he "hated every single one of them," referring to his therapists, when describing why he never stayed in therapy long. He had seen about five different therapists since the age of 14, but described the experiences as "uncomfortable and just weird. They didn't get me." When the clinician asked Harold why he had gone to therapy as an adolescent, he stated, "I think my mom thought I was messed up. I didn't think I needed it." He described his childhood as "a disaster" and his father as a severe alcoholic who was often emotionally abusive and sometimes physically abusive. He reported that his mother worked two jobs to support the family, and so he spent much of his time alone as a child.

Case formulation: Harold's behaviors and reported history during the evaluation match the criteria for a personality disorder as defined by the *DSM-5,* and his symptoms meet criteria for borderline personality disorder. Although he often abused substances, Harold's personality disorder was not a result of substance use, and instead is a reflection of his impulsivity and inability to cope with strong emotions that is typical of borderline individuals.

His symptoms of depression for the past 3 weeks meet criteria for a major depressive episode, though it is unknown whether these have been recurrent for Harold or this was a discrete, severe episode. Given his prior suicide attempts, it is possible that he has had recurrent depressive episodes, though these may be more closely related to the instability that is a feature of his borderline personality disorder. Thus, major depressive disorder was ruled out as a diagnosis.

Treatment plan: Dialectical behavior therapy (DBT) is currently the preferred treatment for borderline personality disorder. It consists of a combination of intensive individual psychotherapy and group therapy. Once Harold made a safety plan with the counselor, he was referred to a private DBT outpatient program 2 miles from his college campus. Harold was also referred to the psychiatrist on campus for a medication consultation.

Sarah Tobin, PhD

In this chapter, our focus shifts to the set of disorders that represent long-standing patterns of impairments in an individual's self-understanding, ways of relating to others, and personality traits. As we discussed in the chapter "Theoretical Perspectives", a personality trait is an enduring pattern of perceiving, relating to, and thinking about the environment and others, a pattern that characterizes the majority of a person's interactions and experiences. Most people are able to draw upon their personality traits in a flexible manner, adjusting their responses to the needs of the situation. When people become rigidly fixed on one particular trait or set of traits, however, they may place themselves at risk for developing a personality disorder.

14.1 The Nature of Personality Disorders

When does a personality trait become a disorder? What may be a characteristic way of responding can develop into a fixed pattern that impairs a person's ability to function satisfactorily. Perhaps you're the type of person who likes to have your room look "just so." If someone moves your books around or changes the arrangement of your clothes on the hanger, you feel a little bothered. At what point does your unhappiness with a change in the order of your possessions become so problematic that you have crossed over from a little finicky to having a personality disorder involving extreme rigidity? Should this behavioral pattern place you into a diagnostic category with a distinct set of criteria that separates you from people with other personality traits and related behaviors?

What's in the *DSM-5*

Dimensionalizing the Personality Disorders

The history of personality disorders, which are not so much "illnesses" as characteristics of an individual's core ways of relating to others and experiencing the self, have reflected tension between those who support categorical diagnoses and those who prefer a system of personality trait ratings. Proponents of the dimensional approach argue that you cannot summarize the many complex facets of personality in a discrete set of units. Unlike mood and anxiety disorders, which people may "overcome," the personality disorders are by definition enduring features of the individual. Personality traits can, and do, change over time. However, clinicians are used to thinking of these disorders in terms of categories. It is more convenient for clinicians to describe their "borderline" clients rather than to list all the personality traits that particular individuals display. Therefore, proponents of the categorical system argue that these diagnoses are a more legitimate way to capture the essence of a personality disorder.

Reflecting these debates, the area of personality disorders received, perhaps, the greatest attention from clinicians and researchers as they waited for the unveiling of the final revisions to the *DSM-5*. Researchers have been unhappy with the categorization system even back when the earlier *DSM*s were being developed. They believed that we cannot easily divide personality into separate and discrete chunks and that it was more realistic to provide ratings of pathological personality traits instead. Clinicians, by contrast, tended to prefer that the categorization system remain in place. To satisfy both camps, the *DSM-5* authors had initially proposed a compromise system that would have included categorical diagnoses for six of the personality disorders as well as a dimensional rating system of pathological personality traits. However, these changes were not implemented. When the American Psychiatric Association's Board of Directors took the final vote on approving *DSM-5*'s changes, they rejected any changes to the *DSM-IV-TR* system.

Although the dimensional system for the personality disorders was rejected, the APA Board decided it could be included in Section 3 of the *DSM-5,* where it could receive continued testing. It is possible that, should this be favorably received, a *DSM-5.1* will adopt dimensions in favor of categorical diagnoses.

Personality Disorders in *DSM-5*

A **personality disorder** is an ingrained pattern of relating to other people, situations, and events with a rigid and maladaptive pattern of inner experience and behavior, dating back to adolescence or early adulthood. As conceptualized in the *DSM-5,* the personality disorders represent a collection of distinguishable sets of behavior, falling into 10 distinct categories (plus one additional "not otherwise specified" diagnosis). Fitting the general definition of a psychological disorder, a personality disorder deviates markedly from the individual's culture and leads to distress or impairment. The types of behavior that these disorders represent can involve, for example, excessive dependency, overwhelming fear of intimacy, intense worry, exploitative behavior, or uncontrollable rage. With their current definitions, these behavior patterns, to fit the diagnostic criteria, must manifest themselves in at least two of four areas: (1) cognition, (2) affectivity, (3) interpersonal functioning, and (4) impulse control. As a result of these behaviors, the individual experiences distress or impairment.

personality disorder
Ingrained patterns of relating to other people, situations, and events with a rigid and maladaptive pattern of inner experience and behavior, dating back to adolescence or early adulthood.

The *DSM-5* groups the 10 diagnoses into three clusters based on shared characteristics. Cluster A includes paranoid, schizoid, and schizotypal personality disorders, which share features involving odd and eccentric behavior. Cluster B includes antisocial, borderline, histrionic, and narcissistic personality disorders, which share overdramatic, emotional, and erratic or unpredictable attitudes and behaviors. Cluster C includes avoidant, dependent, and obsessive-compulsive personality disorders, which share anxious

and fearful behaviors. The eleventh personality disorder is reserved for individuals who do not clearly meet one of the other 10 diagnostic criteria, which is why it receives the label "not otherwise specified."

Because the personality disorders fall into separate categories, clinicians evaluating individuals for a possible diagnosis must decide how many of the criteria a client meets within each category and assign a diagnosis on that basis. Either the client has the disorder or not. The clinician may start by trying to match the most prominent symptoms that the individual shows with the diagnostic criteria. If the client does not fit the criteria for that disorder, the clinician may either move to another disorder or decide that the client has a personality disorder "not otherwise specified" (technically the eleventh personality disorder category).

Currently, studies in both the United States and the United Kingdom yield an overall prevalence among nationally representative samples of 9 to 10 percent. Personality disorders are highly comorbid with drug dependence. For example, among people with antisocial personality disorder, the lifetime prevalence rate of alcohol dependence is 27 percent and 59 percent for nicotine dependence (Trull, Jahng, Tomko, Wood, & Sher, 2010).

Alternative Personality Disorder Diagnostic System in Section 3 of the *DSM-5*

Even as the authors were writing *DSM-5*, a number of prominent researchers went on record stating that the categorical diagnostic system was flawed. They maintained that there were too many fine distinctions that the diagnoses required. These distinctions, they maintained, were not sufficiently clear and there were many overlapping criteria. Consequently, clinicians could not empirically justify the diagnoses. Clinicians found that they were using most commonly the less than precise diagnosis of "personality disorder not otherwise specified" (Widiger & Trull, 2007). A second major flaw with the categorical rating system is that it did not allow for the possibility of a client's "somewhat" antisocial or narcissistic behavior. Clients either did or did not fit into a diagnostic category.

Although the *DSM*-5 authors eventually kept the categorical diagnostic system, as we mentioned, they included on a trial basis the dimensional ratings of pathological personality traits for six personality disorders. Note that the six personality disorders were those deemed most distinct from each other, down from 10 in *DSM-IV-TR*. This would eliminate the four that the authors felt were too rare or difficult to define (dependent, paranoid, histrionic, and schizoid).

For each of the six remaining disorders, there would have been a system for rating the corresponding personality and interpersonal functioning of each (Livesley, 2011). This dimensional system is shown in Table 1. It remains currently in Section 3, where clinicians and researchers can determine if it ultimately could replace the categorical diagnostic system.

To use the Section 3 dimensional ratings, clinicians assign one of six personality disorder diagnoses to their clients, and then evaluate them on five dimensions (divided into three groups). The first group of dimensions reflects "personality functioning" defined as the individual's sense of identity and self-direction. The second group of dimensions includes two ratings of "interpersonal functioning" that tap the client's ability to understand other people's perspectives (empathy) and form close relationships (intimacy). Clinicians rate individuals from mild to extreme in these domains. The third group is actually a single rating of the client on traits related to each of the six personality disorders.

Table 2 shows how personality disorders would be diagnosed using the dimensional criteria, and Table 3 defines each of the personality traits listed in Table 1. Keep in mind that this system is not yet in place, but is being actively investigated as an

TABLE 1 *DSM-5* Section 3 Personality Disorder Framework

	Personality Functioning		Interpersonal Functioning		Personality Traits
	Identity	**Self-direction**	**Empathy**	**Intimacy**	
Antisocial	Egocentrism; self-esteem derived from personal gain, power, or pleasure	Goal-setting based on personal gratification; absence of prosocial internal standards associated with failure to conform to lawful or culturally normative ethical behavior	Lack of concern for feelings, needs, or suffering of others; lack of remorse after hurting or mistreating another	Incapacity for mutually intimate relationships, as exploitation is a primary means of relating to others, including by deceit and coercion; use of dominance or intimidation to control others	**Antagonism:** Manipulativeness Deceitfulness Callousness Hostility **Disinhibition:** Irresponsibility Impulsivity Risk taking
Avoidant	Low self-esteem associated with self-appraisal as socially inept, personally unappealing, or inferior; excessive feelings of shame or inadequacy	Unrealistic standards for behavior associated with reluctance to pursue goals, take personal risks, or engage in new activities involving interpersonal contact	Preoccupation with, and sensitivity to, criticism or rejection, associated with distorted inference of others' perspectives as negative	Reluctance to get involved with people unless certain of being liked; diminished mutuality within intimate relationships because of fear of others shaming or ridiculing	**Detachment** Withdrawal Intimacy Avoidance Anhedonia **Negative affectivity** Anxiousness
Borderline	Markedly impoverished, poorly developed, or unstable self-image, often associated with excessive self-criticism; chronic feelings of emptiness; dissociative states under stress	Instability in goals, aspirations, values, or career plans	Compromised ability to recognize the feelings and needs of others associated with interpersonal hypersensitivity (i.e., prone to feel slighted or insulted); perceptions of others selectively biased toward negative attributes or vulnerabilities	Intense, unstable, and conflicted close relationships, marked by mistrust, neediness, and anxious preoccupation with real or imagined abandonment; close relationships often viewed in extremes of idealization and devaluation and alternating between over involvement and withdrawal	**Negative affectivity** Emotional lability Anxiousness Separation Hostility Depressivity **Disinhibition** Impulsivity Risk taking **Antagonism** Hostility
Narcissistic	Excessive reference to others for self-definition and self-esteem regulation; exaggerated self-appraisal may be inflated or deflated, or vacillate between extremes; emotional regulation mirrors fluctuations in self-esteem	Goal-setting is based on gaining approval from others; personal standards are unreasonably high in order to see oneself as exceptional, or too low based on a sense of entitlement; often unaware of own motivations	Impaired ability to recognize or identify with the feelings and needs of others; excessively attuned to reactions of others, but only if perceived as relevant to self; over- or underestimate own effect on others	Relationships largely superficial and exist to serve self-esteem regulation; mutuality constrained by little genuine interest in others' experiences and predominance of a need for personal gain	**Antagonism** Grandiosity Attention seeking

(continued)

TABLE 1 ***DSM-5* Section 3 Personality Disorder Framework (*Continued*)**

Obsessive-Compulsive Personality Disorder	Sense of self derived predominantly from work or productivity; constricted experience and expression of strong emotions	Difficulty completing tasks and realizing goals associated with rigid and unreasonably high and inflexible internal standards of behavior; overly conscientious and moralistic attitudes	Difficulty understanding and appreciating the ideas, feelings, or behaviors of others	Relationships seen as secondary to work and productivity; rigidity and stubbornness negatively affect relationships with others	**Compulsivity** Rigid perfectionism **Negative affectivity** Perseveration
Schizotypal Personality Disorder	Confused boundaries between self and others; distorted self-concept; emotional expression often not congruent with context or internal experience	Unrealistic or incoherent goals; no clear set of internal standards	Pronounced difficulty understanding impact of own behaviors on others; frequent misinterpretations of others' motivations and behaviors	Marked impairments in developing close relationships associated with mistrust and anxiety	**Psychoticism** Eccentricity Cognitive and perceptual dysregulation Unusual beliefs and experiences **Detachment** Restricted affectivity Withdrawal **Negative affectivity** Suspiciousness

alternative to the categorization system in *DSM-5* currently in use (e.g., Bach, Markon, Simonsen, & Krueger, 2015; Skodol, Morey, Bender, & Oldham, 2015). To date, the evidence generally supports the Section 3 dimensional rating system, but also suggests that further refinement is needed before it could replace the categorical system entirely (Yam & Simms, 2014).

TABLE 2 **General Criteria for a Personality Disorder in Section 3**

This description summarizes the Section 3 personality trait criteria from *DSM-5*.

- Moderate or greater impairment in personality as reflected in self and interpersonal functioning (Table 1)
- One or more pathological personality traits (Table 3)
- These impairments are relatively inflexible, pervasive across a range of situations, stable across time and can be traced back at least to adolescence or early adulthood.
- Another psychological disorder does not better explain these impairments, nor are they attributable to the physiological effects of a substance or another medical condition.
- The impairments are not better understood as normal for an individual's developmental level or social and cultural context.

TABLE 3 **Personality Domains in the *DSM-5* Section 3 Rating System**

Negative Affectivity involves experiencing negative emotions frequently and intensely.

Trait facets: Emotional lability, anxiousness, separation insecurity, perseveration, submissiveness, hostility, depressivity, suspiciousness, restricted affectivity (–).

Detachment involves withdrawal from other people and from social interactions.

Trait facets: Restricted affectivity, depressivity, suspiciousness, withdrawal, anhedonia, intimacy avoidance.

Antagonism involves behaviors that put the person at odds with other people.

Trait facets: Manipulativeness, deceitfulness, grandiosity, attention seeking, callousness, hostility.

Disinhibition involves engaging in behaviors on impulse, without reflecting on potential future consequences. Compulsivity is the opposite pole of this domain.

Trait facets: Irresponsibility, impulsivity, distractibility, risk taking, rigid perfectionism (–).

Psychoticism involves unusual and bizarre experiences.

Trait facets: Unusual beliefs & experiences, eccentricity, cognitive & perceptual dysregulation.

Lauren R. Few, et al. (2013). Examination of the Section III DSM-5 diagnostic system for personality disorders in an outpatient clinical sample. *Journal of Abnormal Psychology, 2013, 122*: 1057–1069.

14.2 Cluster A Personality Disorders

Cluster A of the personality disorders in *DSM-5* include those disorders characterized by eccentric behavior. In other words, individuals with these disorders show characteristics that might lead others to view them as slightly odd, unusual, or peculiar. They also show qualities suggesting they feel different, unlikable, and unable to fit into the social world, leaving them with the preference to avoid interpersonal relationships (Renton & Mankiewicz, 2015).

Paranoid Personality Disorder

People with **paranoid personality disorder** are extremely suspicious of others and are always on guard against potential danger or harm. Their view of the world is narrowly focused, in that they seek to confirm their expectations that others will take advantage of them, making it virtually impossible for them to trust even their friends and associates. They may accuse a spouse or partner of unfaithfulness, even if no substantiating evidence exists. For example, they may believe that an unexplained toll call that appears

paranoid personality disorder
A personality disorder whose outstanding feature is that the individual is unduly suspicious of others and is always on guard against potential danger or harm.

MINI CASE

Paranoid Personality Disorder

Anita is a computer programmer who constantly worries that other people will exploit her knowledge. She regards as "top secret" the new database management program she is writing. She even fears that, when she leaves the office at night, someone will sneak into her desk and steal her notes. Her distrust of others pervades all her interpersonal dealings. Her suspicions that she is being cheated even taint routine transactions in banks and stores. Anita likes to think of herself as rational and able to make objective decisions; she regards her inability to trust other people as a natural reaction to a world filled with opportunistic and insincere corporate ladder climbers.

on a telephone bill is proof of an extramarital affair. They are unable to take responsibility for their mistakes and, instead, project blame onto others. If others criticize them, they become hostile. They are also prone to misconstrue innocent comments and minor events as having a hidden or threatening meaning. They may hold grudges for years, based on a real or an imagined slight by another person. Although individuals with this disorder may be relatively successful in certain kinds of jobs requiring heightened vigilance, their emotional life tends to be isolated and constrained.

A certain amount of paranoid thinking and behavior might be appropriate in some situations, such as in dangerous political climates in which people must be on guard just to stay alive; however, people with paranoid personality disorder think and behave in ways that are unrelated to their environment. Particularly frustrating to relatives and acquaintances of these people is their refusal to seek professional help because they don't acknowledge the nature of their problem. In the unlikely event they do seek therapy, their rigidity and defensiveness make it difficult for the clinician to make progress and work toward any kind of lasting change.

Research on the divorce rates of people with histrionic and paranoid personality disorder suggests that these disorders interfere with the quality of interpersonal relationships (Disney, Weinstein & Oltmanns, 2012). With their guarded behavior and suspiciousness, it seems evident that these individuals would have difficulty establishing the type of interpersonal closeness that helps maintain the quality of a long-term intimate relationship.

Schizoid Personality Disorder

schizoid personality disorder
A personality disorder primarily characterized by an indifference to social relationships, as well as a limited range of emotional experience and expression.

An indifference to social and sexual relationships characterizes **schizoid personality disorder,** as well as a limited range of emotional experience and expression. Individuals with this disorder prefer to be by themselves rather than with others, and they appear to lack any desire for acceptance or love, even by their families. Sexual involvement with others holds little appeal. As you might expect, others perceive them as cold, reserved, withdrawn, and seclusive, yet the schizoid individual is unaware of, and typically insensitive to, the feelings and thoughts of others.

Throughout their lives, people with schizoid personality disorder seek out situations that involve minimal interaction with others. Those who are able to tolerate work are usually drawn to jobs in which they spend all of their work hours alone. They rarely marry, but rather choose solitary living, possibly in a single room, where they guard their privacy and avoid any dealings with neighbors. They do not appear particularly distressed or a risk to others; however, their self-imposed isolation and emotional constriction is maladaptive to their social functioning.

MINI CASE

Schizoid Personality Disorder

Dmitri, who works as a night security guard at a bank, likes his job because he can enter the private world of his thoughts without interruptions from other people. Even though his numerous years of service make him eligible for a daytime security position, Dmitri has repeatedly turned down these opportunities because daytime work would require him to deal with bank employees and customers. Dmitri has resided for more than 20 years in a small room at a boarding house. He has no television or radio, and he has resisted any attempts by other house residents to involve him in social activities. He has made it clear he is not interested in small talk and he prefers to be left alone. Neighbors, coworkers, and even his family members (whom he also avoids) perceive Dmitri as a peculiar person who seems strikingly cold and detached. When his brother died, Dmitri decided not to attend the funeral because he did not want to be bothered by all the carrying on and sympathetic wishes of relatives and others.

MINI CASE

Schizotypal Personality Disorder

Ronan is a college junior who has devised an elaborate system for deciding which courses to take, depending on the course number. He will not take a course with the number 5 in it, because he believes that, if he does so, he might have to "plead the Fifth Amendment." Rarely does he talk to people in his dormitory, believing that others are intent on stealing his term paper ideas. He has acquired a reputation for being somewhat of a "flake" because of his odd manner of dress, his reclusive tendencies, and his ominous drawings of sinister animals displayed on the door of his room. The sound of the nearby elevator, he claims, is actually a set of voices singing a monastic chant.

Both paranoid and schizoid personality disorders would have been eliminated in the new *DSM-5* system. Researchers believe that existing research does not support their continued inclusion in the psychiatric nomenclature as they cannot be uniquely identified (Hopwood & Thomas, 2012; Hummelen, Pedersen, Wilberg, & Karterud, 2015). For the present, however, they remain as diagnoses.

Schizotypal Personality Disorder

Confusions and distortions in the individual's basic sense of self are a core feature of **schizotypal personality disorder.** Such individuals lack a clear sense of direction or motivation, and do not have a clear set of standards against which to measure their behavior. Not only do they have difficulty understanding their own sense of self and motivation, but people with schizotypal personality disorder also have difficulty understanding the motives and behaviors of others. They associate the confusion that they feel about themselves and others with a lack of trust, causing them difficulty in establishing close relationships.

schizotypal personality disorder
A personality disorder that primarily involves odd beliefs, behavior, appearance, and interpersonal style. People with this disorder may have bizarre ideas or preoccupations, such as magical thinking and beliefs in psychic phenomena.

The pathological personality traits of people with schizotypal personality disorder fall along the extremely maladaptive end of the psychoticism dimension. Thus, individuals with this disorder may hold eccentric ideas, have unusual beliefs and experiences, and have difficulty in forming accurate perceptions and cognitions about their world, including holding more negative views about themselves than is warranted by objective data (Cohen, Auster, MacAulay, & McGovern, 2014). They also show a tendency to be high on the personality trait of openness to experience; specifically, openness to unusual ideas (Chmielewski, Bagby, Markon, Ring, & Ryder, 2014). As we show in Table 1, people with schizotypal personality disorder also have restricted affect and withdrawal tendencies, which reflect the pathological personality trait of detachment.

The social isolation, eccentricity, peculiar communication, and poor social adaptation that come with schizotypal personality disorder place it within the schizophrenic spectrum (Camisa et al., 2005). According to this view, there is overlap between the psychotic symptoms of schizotypal personality disorder and schizophrenia (Balaratnasingam & Janca, 2015).

Schizotypal symptoms may, furthermore, represent a latent form of schizophrenia, meaning that people who fit this diagnosis are vulnerable to developing a full-blown psychosis if exposed to difficult life circumstances that challenge their ability to maintain contact with reality. Supporting this position, researchers found that adolescents with schizotypal personality disorder and those with a particular genetic defect linked to schizophrenia showed similar patterns of performance in terms of experiencing disorganized symptoms, problems with focused attention, impaired tolerance to stress (Shapiro, Cubells, Ousley, Rockers, & Walker, 2011), and memory (Thompson et al., 2014).

Treatment for people with schizotypal personality disorder parallels interventions that clinicians commonly use in treating schizophrenia. Specifically, medications that act on dopamine are most effective and can help alleviate cognitive deficits in memory and executive functioning (McClure et al., 2010).

14.3 Cluster B Personality Disorders

People with Cluster B personality disorders behave in ways that are best described as dramatic, emotional, or erratic. These individuals act impulsively, seem to have an inflated view of their own importance or self-esteem, and are high in the desire to seek stimulation.

Antisocial Personality Disorder

antisocial personality disorder
A personality disorder characterized by a lack of regard for society's moral or legal standards and an impulsive and risky lifestyle.

Synonymous in the past with "psychopaths" or "sociopaths," the *DSM-5* uses the term **antisocial personality disorder** to apply to individuals who act in highly impulsive ways (as is typical of the Cluster B disorders) and lack a sense of morality, empathy for others, and the ability to feel regret when they've caused harm to others.

Television crime series portray serial killers in particular as having these antisocial qualities that lead them to commit acts of violence against others but not to feel concern for the pain they cause their victims. However, people with antisocial personality disorders obviously exist outside the world of crime fiction. In fact, they may become highly successful as long as their lack of compassion keeps them out of the criminal justice system.

The phenomenon of the "psychopath in the boardroom" describes just such individuals—corporate executives who ruthlessly exploit investors and employees alike, seeking their own gain at the expense of the bank accounts and livelihood of their victims (Jonson, 2011). Short of becoming successful company presidents, such individuals may also display their antisocial qualities through workplace bullying (Boddy, 2011).

The diagnosis of antisocial personality disorder has its origins in the work of Hervey Cleckley, whose 1941 book, *The Mask of Sanity*, represented the first scientific attempt to list and categorize the behaviors of the "psychopathic" personality. Cleckley (1976) developed a set of criteria for **psychopathy,** a cluster of traits that form so-called "Factor 1" of the personality of individuals with antisocial personality disorder. To these must be added the antisocial lifestyle that we will get to shortly.

psychopathy
A cluster of traits that form the core of the antisocial personality.

The specific traits in Factor 1, or psychopathy, include (1) lack of remorse or shame for harmful acts committed to others, (2) poor judgment and failure to learn from experience, (3) extreme egocentricity and incapacity for love, (4) lack of emotional

MINI CASE

Antisocial Personality Disorder

Tommy was the leader of a teenage street gang that had the reputation as the most vicious in the neighborhood. He grew up in a chaotic home atmosphere, his mother having lived with a series of violent men who were heavily involved in drug dealing and prostitution. At age 18, Tommy was jailed for brutally mugging and stabbing an older woman. This was the first in a long series of arrests for offenses ranging from drug trafficking to car thefts to counterfeiting. At one point, between jail terms, he met a woman at a bar and married her the next day. Two weeks later, he beat her when she complained about his incessant drinking and involvement with shady characters. Tommy left her when she became pregnant, and he refused to pay child support. From his vantage point now as a drug trafficker and leader of a child prostitution ring, Tommy shows no regret for what he has done, claiming that life has "sure given me a bum steer."

responsiveness to others, (5) impulsivity, (6) absence of "nervousness," and (7) a combination of unreliability, untruthfulness, and insincerity.

Cleckley used the term "semantic dementia" to capture the psychopath's inability to react appropriately to expressions of emotionality. As destructive as the psychopath's behaviors can be, other people may find it difficult to see the psychopath's true colors because they are able to disguise their egocentric and impulsive behaviors beneath a veneer of superficial charm and seeming intelligence.

In Cleckley's system, Factor 1 taps the core personality traits of psychopathy that include glibness and superficial charm, a grandiose sense of self-worth, pathological lying, a lack of empathy for others, lack of remorse or guilt, and an unwillingness to accept responsibility for one's actions. Though not used for diagnostic purposes, personality researchers also believe that related to psychopathy is the trait of fearless dominance, a tendency toward boldness that includes a desire to dominate social situations, charm, willingness to take physical risks, and an immunity to feelings of anxiety (Few, Lynam, Maples, MacKillop, & Miller, 2015; Lilienfeld et al., 2012). Personality researchers coined the fitting term **dark triad** to reflect the makeup of individuals high in psychopathy who additionally are highly self-centered and also tend to regard other people as objects to be exploited (e.g., Jonason, Strosser, Kroll, Duineveld, & Baruffi, 2015).

dark triad
Personality traits that include psychopathy, extreme self-centeredness, and a tendency to regard other people as objects to be used.

Factor 2 of Cleckley's system refers to the antisocial-lifestyle trait and revolves around impulsivity, a characteristic that can lead to behaviors expressed in an unstable lifestyle, juvenile delinquency, early behavioral problems, lack of realistic long-term goals, and a need for constant stimulation (Hare & Neumann, 2005).

The notion of psychopathy developed by Cleckley remains a key concept in descriptions of antisocial personality disorder. Building on Cleckley's work, Canadian psychologist Robert D. Hare developed a behavioral set of criteria by which to measure this set of traits. The Psychopathy Checklist–Revised (PCL-R) (Hare, 1997) is an assessment instrument of the core psychopathic personality traits, with an index to measure the antisocial lifestyle.

With this theoretical background, let's look specifically at the diagnostic criteria in the *DSM-5*. These require that an individual show a pervasive pattern that includes three of seven possible behaviors: failure to conform to social norms, deceitfulness, impulsivity, aggressiveness, disregard for safety of self or others, irresponsibility, and lack of remorse. Although people with this personality disorder do not actually experience feelings of remorse, they may feign their regret for harming others in order to get themselves out of a difficult situation when they get caught. These individuals also try hard to present themselves in as favorable a light as possible. You might think of them as the "smooth talkers" who can con anyone out of anything, such as asking someone for money or favors that they have no intention of repaying.

There is a difference between antisocial personality disorder and antisocial behavior. Stealing, lying, and cheating are examples of antisocial behavior, behaviors in which the psychopathic individual may or may not engage. There is also a difference between antisocial and criminal behavior. Engaging in criminal behavior means that the person actually breaks the law. Antisocial behavior may not be explicitly criminal but instead manifests itself in otherwise undesirable behaviors such as job problems, promiscuity, and aggressiveness (all reflecting a kind of impulsiveness).

Antisocial personality disorder seems to emerge in childhood, both in terms of the development of psychopathic traits and rates of breaking the law. We may consider a certain degree of antisocial behavior normative in teenagers; however, this behavior can have lifelong consequences if it leads teenagers to drop out of school, accumulate a criminal record and incarceration, and develop an addiction to drugs (Salekin, 2008).

Over the course of their adult years, people with antisocial personality disorder seem to become less likely to commit criminal acts (Moran, 1999). The rate of homicide offenses for people over the age of 35 is lower than for people under the age of 34 and even lower for people 50 and older (Bureau of Justice Statistics, 2011). Overall, the rates for violent crime drop from approximately 1,000 per 100,000 for people aged 35 to 39

Typical antisocial behaviors include lying, cheating, and stealing.

to 93 per 100,000 for people 60 and older (Federal Bureau of Investigation, 2004). Approximately 2 percent of all prisoners, federal and state, are 65 or older compared to 28 percent of those age 18 to 30 (Carson, 2014).

The components of psychopathy involving impulsivity, social deviance, and antisocial behavior are less prominent in prison inmates who are in their midforties and older (Harpur & Hare, 1994). Perhaps antisocial individuals experience burnout or have become more adept at avoiding detection, or perhaps some of the more extreme cases are eliminated from the population, because these people are killed or arrested in the course of their criminal activities.

Another possibility is that aging brings with it a reduction of the acting-out and impulsive behaviors that we associate with antisocial, as well as with histrionic and borderline, personality disorders. The **maturation hypothesis** suggests that older individuals are better able to manage their high-risk tendencies (Segal, Coolidge, & Rosowsky, 2000). A longitudinal study of men from adolescence to middle adulthood supports this hypothesis. Personality traits related to antisocial behavior decreased in a large majority of men in midlife (Morizot & Le Blanc, 2005).

maturation hypothesis
The proposition that people with antisocial personality and the other Cluster B disorders become better able to manage their behaviors as they age.

Theories of Antisocial Personality Disorder

As you have seen, antisocial personality disorder represents a deeply entrenched pattern of behavior, with wide-ranging effects on both the individual and the people with whom the individual comes into contact. In this section, we will consider the most compelling explanations for the development of this personality disorder and its related personality trait of psychopathy.

Biological Perspectives Family inheritance studies provide strong evidence in favor of genetic explanations of antisocial personality disorder, the personality trait of psychopathy, and antisocial behavior, with heritability estimates as high as 80 percent. To understand the mechanisms of genetic transmission, researchers focus on genes related to the activity of the monoamine neurotransmitters (dopamine, serotonin, and norepinephrine). Monoamine oxidase A, an enzyme coded by the MAOA gene, may play a particularly important role in this process (Kolla, Attard, Craig, Blackwood, & Hodgins, 2014). A mutation in this gene results in insufficient amounts of monoamine oxidase in the nervous system, which results in abnormally high levels of dopamine, serotonin, and norepinephrine. High levels of these neurotransmitters are, in turn, linked to greater impulsivity.

You Be the Judge

Antisocial Personality Disorder and Moral Culpability

If antisocial personality disorder is a psychological disorder, should people who meet the diagnosis be held responsible for criminal acts that they may commit? What about people who have the personality trait of psychopathy? Are they somehow more or less culpable? The question of criminal responsibility permeates the ethical literature on antisocial personality disorder and the related personality trait of psychopathy. According to Robert Hare (1997), when the judicial system applies the term "psychopathy" rather than "antisocial personality disorder" to an offender, that offender is likely to receive a harsher sentence because the court perceives the person (usually a male) as lacking any redeeming qualities. Canadian philosopher Ishtiyaque Haji (2010) challenges the idea that people high in psychopathy are mentally healthy and, thus, responsible for their crimes. He suggests that these individuals have less moral responsibility for their crimes than do people who are not high on the psychopathy trait. According to Haji, the emotional insensitivity that is a hallmark of psychopathy makes an individual less able to appreciate the moral consequences of his or her actions.

Carrying this argument further, consider the factors that may lead individuals to develop high levels of the psychopathy trait. Perhaps their lack of emotional sensitivity relates to an abnormality of brain development, as some researchers suggest. If they truly cannot experience empathy, how can they relate to the harm that they may be causing a victim? Similarly, if they lack the neurological basis for learning fear, and thus are less likely to avoid the negative consequences of criminal activity, is this flaw of brain development a fact that makes them similar to people who have a physical illness? Without the ability to appreciate the punishment that may follow a crime, people high in psychopathy cannot learn from their experiences and seem doomed to continue to become "emotionally depraved" (in Haji's words).

The question of whether people high in psychopathy have a true impairment that prevents them from recognizing the moral implications of their actions will, no doubt, continue. Each case of a serial murderer committed by an individual with antisocial personality disorder or one who is high on psychopathy seems to raise the issue all over again. With increasingly sophisticated evidence on the neurodevelopmental factors that predispose individuals to developing this disorder, we may eventually understand the issue with greater clarity.

Q: *You be the judge:* Should people with antisocial personality disorder be considered responsible for their illegal behaviors?

Researchers also believe that dependence of the mother on substances such as alcohol or drugs of abuse during pregnancy can lead to epigenetic influences through the process we described in the chapter "Theoretical Perspectives" known as DNA methylation (Gunter, Vaughn, & Philibert, 2010). Malnutrition in early life may serve as another risk factor for the development of antisocial personality disorder. In a study of children tested from ages 3 to 17, those who experienced poor nutrition at age 3 showed more aggressiveness and motor activity as they grew older. By age 17, they had a higher likelihood of conduct disorder, a precursor to antisocial personality disorder (Liu, Raine, Venables, & Mednick, 2004).

The hippocampus, the brain structure involved in short-term memory processing, seems to function abnormally in individuals with psychopathy. Although the volume of the hippocampus does not seem to differ between psychopath and nonpsychopath samples, these brain structures seem to have abnormal shapes in people with psychopathy (Boccardi et al., 2010). Neuroimaging studies also suggest that people high in psychopathy have deficits in frontal lobe functioning, meaning that they are less

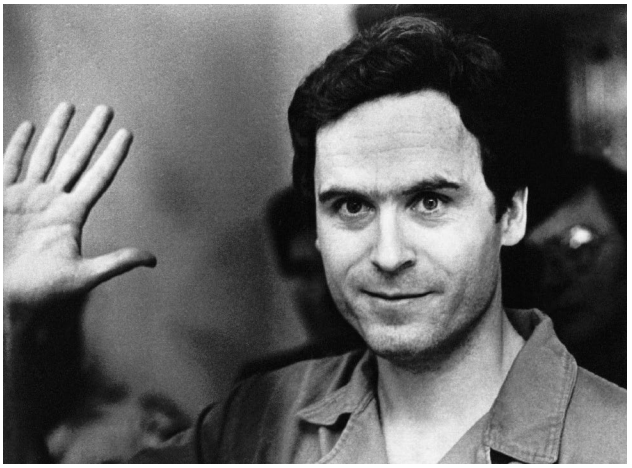
REAL STORIES

Ted Bundy: Antisocial Personality Disorder

Infamous serial killer Ted Bundy was born in 1946 in Burlington, Vermont. Although the identity of his father is unknown, various sources have suspected that it may be his grandfather who was abusive and violent toward Ted's mother. This caused Ted to harbor a lifelong resentment toward his mother for never revealing the identity of his father. In turn, Ted looked up to his grandfather who was known for his bigotry and propensity toward violence. As a child, Ted's mother recalls him engaging in strange behaviors, including placing knives around his mother's bed while she slept, waking to find him standing over her and smiling.

When Ted was 4 years old, his mother moved the family to Washington State, where she later met and married Johnny Bundy who formally adopted Ted. Johnny and Ted's mother had four children of their own and although they made a point to include Ted in all of their activities, he preferred to stay out of the family's affairs and kept mostly to himself. Ted described varying accounts of his early life to biographers, although in general it appears that he presented himself as a charming, outgoing young man. On the inside, however, Ted felt no desire to make any connection with others and had difficulty keeping friends and romantic partners.

After dropping out of college, Ted began working at a suicide hotline and enrolled in a community college where he studied psychology. Eventually, he went to law school at the University of Utah, although by the end of his first year he had stopped attending classes. He moved back to the Pacific Northwest and worked on political campaigns, and around this time, young women had begun disappearing. Profilers on the cases of the murdered women had Ted on their suspect list, although they had difficulty believing that such an engaging and motivated young man could be capable of such crimes. Between the years 1974 and 1978, Ted was responsible for the grisly murders of at least 30 women in Utah, Washington, Oregon, Idaho, and Florida. The details of these murders are gruesome. In his book *The Bundy Murders,* Kevin M. Sullivan describes the murders: "The planning, hunting, taking, and subsequent killing of his victims (not to mention his penchant for necrophilia) would prove to be a time-consuming process." Ted would reportedly approach his young female victims in public places, often in broad daylight, and pretend either to be an authority figure or to be injured before taking them to a more secluded area where he would molest, assault, and eventually murder them.



Executed in 1989 for murder, Ted Bundy admitted to being responsible for the deaths of at least 30 people.

Ted escaped from prison following his first arrest. He was finally convicted for the murder of Kimberly Leach. Again in his book *The Bundy Murders,* Sullivan describes this murder: "He was intoxicated, but not with alcohol. His intoxication was the deep and vicious craving to which he had surrendered himself long ago. This craving, which had so utterly taken control and superseded every other aspect of his life, would never stop seeking victims as long as he was alive."

After his conviction, Bundy was sentenced to death by electrocution in the state of Florida in 1989. Sullivan described in his book how Ted gained a high-profile status in the media during his trial and subsequent time spent on death row. During his trial, Ted attempted to use his law school experience to argue his way out of a guilty conviction.

Dr. Emmanuel Tanay, a professor of psychiatry at Wayne State University, conducted a clinical interview with Ted with an aim to find Ted not guilty by reason of insanity. Consider this excerpt from the interview:

"In the nearly three hours which I spent with Mr. Bundy, I found him to be in a cheerful even jovial mood; he was witty but not flippant, he spoke freely; however, meaningful communication was never established. He was asked about his apparent lack of concern so out of keeping with the charges facing him. He acknowledged that he is facing a possible death sentence, however, 'I will cross that bridge when I get to it.' Mr. Bundy has an incapacity to recognize the significance of evidence held against him. It would be simplistic to characterize this as merely lying inasmuch as he acts as if his perception of the significance of evidence was real . . . In his decision-making process, Mr. Bundy is guided by his emotional needs, sometimes to the detriment of his legal interests. The pathological need of Mr. Bundy to defy authority, to manipulate his associates and adversaries, supplies him with 'thrills' to the detriment of his ability to cooperate with his counsel."

In the end, Ted decided not to plead insanity. As Sullivan writes, Ted did not believe his behavior was consistent with the legal definition of insanity. "The removal and sequestering of his victims' heads and having sex with the dead did not, in his mind, constitute mental aberration. He would refer to this sort of thing only as 'my problem.'"

After the court rejected his final appeal, Ted Bundy was executed by electric chair on the morning of January 24, 1989. Of his execution, Sullivan described Ted's "conciliatory" and accepting attitude, as well as an apparent lack of negative feeling toward the legal process which eventually brought an end to his life. "When it came to his last statement," Sullivan writes, "he spoke only of giving his 'love to my family and friends.'"

From *The Bundy Murders: A Comprehensive History* by Kevin M. Sullivan. ©2009 by Kevin M. Sullivan.

able to inhibit input from subcortical areas of the brain that are involved in aggression (Pridmore, Chambers, & McArthur, 2005).

Psychological Perspectives Closely related to the biological perspective is the hypothesis that antisocial personality disorder causes neuropsychological deficits reflected in abnormal patterns of learning and attention. Recall that Cleckley believed that psychopathic individuals lack emotional reactivity. David Lykken (1957) took this idea into the lab and demonstrated that psychopathic individuals exposed to aversive stimuli indeed failed to show the normal fear response. Consequently, they do not learn from their negative experiences. We call this deficit of classical conditioning passive avoidance, meaning that the correct responses involve learning to avoid responding to a previously punished stimulus. Poor passive avoidance learning in people high in the personality trait of psychopathy may be related to deficits in the activation of limbic system circuits responsible for emotional processing (Birbaumer et al., 2005).

Individuals with antisocial personality disorder may engage in manipulative behaviors due to a lack of remorse about hurting other people.

People high in psychopathy also have difficulty processing negative emotional stimuli such as sad facial expressions (Sommer et al., 2006). Researchers believe that this emotional processing deficit could relate to the inability that these individuals have to develop a sense of morality. Because they can't empathize with their victims, they do not feel remorse over harming them.

The **response modulation hypothesis** attempts to explain the failure of individuals high in psychopathy to learn from negative experience and to process emotional information (Glass & Newman, 2009). According to this explanation, people have a dominant and nondominant focus of their attention in any given situation. For example, you may be focusing your attention now on your reading, but at the same time, in the background, you are surrounded by noises such as music, other students talking, or the sound of traffic. Although your primary responses right now are to understand what you are reading, you might switch over to the secondary cues if something changes to require your attention, such as another student talking directly to you. You need to pay enough attention to those secondary cues to switch if necessary, but not so much that you are unable to carry out your primary task.

response modulation hypothesis
The proposal that individuals high on the trait of psychopathy are unable to pay enough attention to secondary cues in order to learn from situations in which they must switch attention.

According to the response modulation hypothesis, individuals high on the trait of psychopathy are unable to pay enough attention to secondary cues to switch (i.e., modulate) their attention when necessary. Therefore, in a passive avoidance task, they pay attention only to the trials in which they will receive a reward and do not learn from trials in which they incur punishment. In their behavior in the outside world, this pattern would translate into a tendency to focus only on what they can get from a situation (money, power, or other desired goals) and not consider that if they pursue these rewards that punishment might result. Similarly, they focus on their own pleasure, but not on the pain they may cause the people they hurt.

The majority of research on psychopathy is focused on men and, in fact, researchers primarily developed and tested the response modulation hypothesis on male populations. Interestingly, when researchers examined both emotion processing and passive avoidance learning in women, they did not find differences between women high and low in psychopathy. It is possible that women are better able to attend to nondominant responses compared to men (Vitale, MacCoon, & Newman, 2011).

Early life experiences can also serve as important influences on whether an individual develops antisocial personality disorder. The parents of individuals with this disorder are more likely to have been overburdened, lack parenting skills, and themselves exhibit antisocial behaviors (Lykken, 2000).

Treatment of Antisocial Personality Disorder

The accepted wisdom for many years in the field of abnormal psychology was that people with antisocial

personality disorder are untreatable, and current therapy effectiveness studies unfortunately continue to support the difficulty of working with this population (Wilson, 2014). A combination of being unable to learn from negative experiences along with an inability to experience empathy would seem to make them resistant to approaches involving either insight or behavioral interventions. Indeed, the problems of working with these individuals include the very characteristics of the disorder itself: a seeming lack of motivation to change, a tendency toward deception and manipulation, and a lack of deep or lasting emotion.

Given these problems in investigating psychotherapy outcomes, the question is one of defining reasonable treatment goals. Should researchers measure the effectiveness of therapy in terms of re-arrest or recividism (return of symptoms), or should they focus instead on changes in job performance, relationships with others, and involvement in noncriminal activities (such as sports or hobbies) (Salekin, Worley, & Grimes, 2010)?

Reflecting these many difficulties both in working with the population and in defining reasonable goals of therapy, at present there is no one accepted method of treatment shown to be effective in reducing the core features of the disorder (Hatchett, 2015). Nevertheless therapists can take a pragmatic approach to helping clients satisfy their needs through prosocial ways, such as cooperation rather than exploitation and manipulation. Motivational interviewing, focused on providing clients with opportunities to connect to core values and the need for fulfillment, can also be of value as a means to help these clients make better life decisions (Mitchell, Tafrate, & Freeman, 2015).

Borderline Personality Disorder

borderline personality disorder (BPD)
A personality disorder characterized by a pervasive pattern of poor impulse control and instability in mood, interpersonal relationships, and sense of self.

The hallmark of this next Cluster B personality disorder is extreme instability in the individual's sense of self and relationships. Formal diagnosis of **borderline personality disorder (BPD)** rests on the individual's demonstration of at least five of nine possible behaviors, including frantic efforts to avoid abandonment; unstable and intense relationships; identity disturbance; impulsivity in areas such as sexuality, spending, or reckless driving; recurrent suicidal behavior; unstable affect; chronic feelings of emptiness; difficulty controlling anger; and occasional feelings of paranoia or dissociative symptoms.

The term "borderline" in this personality disorder relates to its origins in the 1930s as a condition on the "border" between neurotic and psychotic forms of psychopathology, on the edge of schizophrenia. The criteria are very different now than they were at the time, reflecting continuing revisions of the criteria of this disorder, but the terminology remains with us today.

MINI CASE

Borderline Personality Disorder

Anastasia is a 28-year-old account executive with a long history of interpersonal problems. At the office, her co-workers view her as intensely moody and unpredictable. On some days, she is pleasant and high spirited, but on other days she exhibits uncontrollable anger. People are often struck by her inconsistent attitudes toward her supervisors. She vacillates between idealizing them and devaluing them. For example, she may boast about the brilliance of her supervisor one day, only to deliver a burning criticism the next day. Her co-workers keep their distance from her, because they have become annoyed with her constant demands for attention. She has also gained a reputation in the office for her promiscuous involvements with a variety of people, male and female. On several occasions, colleagues have reprimanded her for becoming inappropriately involved in the personal lives of her clients. One day, after losing one of her accounts, she became so distraught that she slashed her wrists. This incident prompted her supervisor to insist that Anastasia obtain professional help.

Individuals with borderline personality may experience chronic feelings of emptiness.

The symptoms of BPD influence the lives of people with the disorder in a number of significant ways. Importantly, their insecurity goes to such an extreme that they rely on other people to help them feel "whole." Even after they have passed through the customary time of identity questioning that most people experience in adolescence, these individuals remain unsure and conflicted about their life's goals. Their chronic feelings of emptiness also lead individuals with BPD almost to morph their identities into those of the people to whom they are close. Unfortunately for them, the more that they seek the reassurance and closeness of others, the more they drive these people away. As a result, their disturbed feelings only become more intense, and they become more and more demanding, moody, and reckless. In this way, the symptoms of the disorder become cyclical and self-perpetuating, often escalating to the point at which the individual requires hospitalization.

A term that aptly describes the way that people with BPD often relate to others is **splitting.** This means that their preoccupation with feelings of love for the object of their desire and attention can readily turn to extreme rage and hatred when that love object rejects them. They may apply this all-good versus all-bad dichotomy to other experiences and people as well. The intense despair into which they can become thrust may also lead them to perform suicidal gestures, either as a way to gain attention or to derive feelings of reality from the physical pain that this action causes. These so-called **parasuicides** may lead to hospitalization, where clinicians detect that the act was, in fact, a gesture and not a true desire to end their lives.

splitting
A defense, common in people with borderline personality disorder, in which individuals perceive others, or themselves, as being all good or all bad, usually resulting in disturbed interpersonal relationships.

parasuicide
Attempted suicide, often a call for help.

BPD's lifetime prevalence in the United States is 7 percent. The prevalence is much higher (15 to 20 percent) in psychiatric hospitals and outpatient community settings (Gunderson, 2011). At one time, researchers believed that women were more likely to have BPD than were men, but they consider the prevalence equal between the genders. However, there are gender differences in specific symptoms and in other disorders that occur in conjunction with a diagnosis of BPD. Men with BPD are more likely to have substance use disorder and antisocial personality characteristics. Women have higher rates of mood and anxiety disorders, eating disorders, and post-traumatic stress disorder. These differences in the nature of their associated disorders may account for the previous estimates of higher rates of the disorder in women, who clinicians more likely encountered in mental health settings. In contrast, clinicians are more likely to see men in substance use disorder programs (Sansone, Dittoe, Hahn, & Wiederman, 2011).

A diagnosis of BPD prior to the age of 19 may signify that the individual will face a difficult life ahead. In a review of 18 studies on long-term outcomes of BPD among children and adolescents, researchers found evidence that diagnosis prior to adulthood predicted significant social, educational, work, and financial impairment in the years to come (Winsper et al., 2015).

Overall, however, there is a trend for individuals who have BPD to improve over the course of their lives in that their symptoms become less severe. Among a sample of 175 adults with BPD studied over the course of 10 years, 85 percent no longer had symptoms by the end of the period, although they improved at slower rates than did people with either major depressive disorder or other personality disorders. Furthermore, they remained less well adapted socially over time than did people with other personality disorders. Thus, although people with BPD may experience improved functioning in terms of their psychiatric disorder, they continue to face challenges in such areas as work and interpersonal relationships (Gunderson et al., 2011).

Theories and Treatment of BPD

Looked at from a biological perspective, BPD appears to have high heritability (42 to 68 percent). Areas of the brain that appear abnormal in individuals with BPD include the amygdala and prefrontal cortex, regions involved in emotional processing and regulation. Further biological underpinnings for BPD include serotonin and dopamine, and some researchers believe that deficits in receptors that respond to the body's naturally producing opioids may also occur, leading the individuals with the disorder to experience a wide range of symptoms from engaging in self-harm behaviors to seeking relief in substance abuse (Bandelow, Schmahl, Falkai, & Wedekind, 2010).

Although biological factors may certainly create a vulnerability to developing BPD, the psychological perspective is more prominent in the approach taken by clinicians who provide treatment. Disturbances in emotional functioning form an important component of the diagnosis of BPD and correspondingly, researchers have focused their efforts on identifying the specific psychological processes that contribute to these emotional disturbances. People with BPD seem to have an inability to regulate emotions, known as **emotional dysregulation,** limitations in the ability to withstand distress (distress tolerance), and avoidance of emotionally uncomfortable situations and feelings (experiential avoidance).

emotional dysregulation
Lack of awareness, understanding, or acceptance of emotions; inability to control the intensity or duration of emotions; unwillingness to experience emotional distress as an aspect of pursuing goals; and inability to engage in goal-directed behaviors when experiencing distress.

You might be able to imagine how these difficulties can translate into the symptoms of BPD in everyday life when individuals with BPD encounter stressful situations. More so than other people, these individuals dislike emotionally tense situations, feel uncomfortable when distressed, and have great difficulty handling their anger when something does go wrong. Researchers investigating the relationships among these three types of emotional disturbance in a sample of young adult outpatients found that, after controlling for depressive symptoms, it was experiential avoidance that had the highest relationship to BPD symptoms (Iverson, Follette, Pistorello, & Fruzzetti, 2011).

Early childhood experiences play an important role in the development of BPD. These include childhood neglect or traumatic experiences, and marital or psychiatric difficulties in the home. Additionally, children who were insecurely attached are more likely to develop into adults with BPD (Gunderson, 2011).

As we pointed out earlier, people with BPD experience significant challenges in social functioning, but they can achieve substantial relief of their symptoms. The treatment with the greatest demonstrated effectiveness is **dialectical behavior therapy (DBT),** a form of behavioral therapy. Psychologist Marsha Linehan developed DBT specifically to treat individuals with BPD who might otherwise not respond to conventional psychotherapy (Linehan, Cochran, & Kehrer, 2001). In DBT, the clinician integrates supportive and cognitive behavioral treatments with the goal of reducing the frequency of the client's self-destructive acts and to increase his or her ability to handle emotional distress.

dialectical behavior therapy (DBT)
Treatment approach for people with borderline personality disorder that integrates supportive and cognitive-behavioral treatments to reduce the frequency of self-destructive acts and to improve the client's ability to handle disturbing emotions, such as anger and dependency.

The term "dialectical" in DBT refers to the back-and-forth process in which the clinician accepts clients as they are, but also confronts them about their problematic

behavior, moving them slowly toward greater control over their feelings and behaviors. Therapists working from this perspective help their clients find new ways to analyze their problems and to develop healthier solutions. Clinicians help clients regulate their emotions, develop greater effectiveness in handling social relationships, tolerate emotional distress, and develop self-management skills. Using a process called core mindfulness, DBT clinicians teach their clients to balance their emotions, reason, and intuition as they approach life's problems. Although important for any type of psychotherapy, the building of the therapeutic alliance seems particularly crucial in DBT, and specifically in reducing the likelihood of suicide attempts (Bedics, Atkins, Harned, & Linehan, 2015).

Mentalization therapy, in which clients are helped to identify their feelings, can also help these individuals gain control over their dysfunctional thoughts and corresponding emotions (Caligor, Levy, & Yeomans, 2015). In the early steps, the therapist provides support and empathy, an essential ingredient of much psychotherapy. Moving to next steps, therapists then help clients clarify and elaborate on what they're feeling by putting their feelings at the moment into words. Now they can start to identify their own feelings and where those feelings originate. Finally, clients learn how to use what they gained through putting feelings into words with their therapist to the relationships with people in their lives outside of therapy (Daubney & Bateman, 2015).

mentalization therapy
A form of therapy in which clients are helped to identify their feelings by gaining control over their dysfunctional thoughts.

Another evidence-based treatment for BPD, **transference-focused psychotherapy,** uses the client–clinician relationship as the framework for helping clients achieve greater understanding of their unconscious feelings and motives (Levy et al., 2006). Psychiatrically based management incorporates psychodynamic therapy as developed for BPD treatment, along with family interventions and pharmacologic treatment (Gunderson & Links, 2008).

transference-focused psychotherapy
A treatment for borderline personality disorder that uses the client-clinician relationship as the framework for helping clients achieve greater understanding of their unconscious feelings and motives.

Regardless of the specific treatment approach that they use, clinicians have the greatest success if they follow a set of basic principles (Table 4). These principles set the

TABLE 4 **Needs Involved in Basic Principles of Effective Treatment for Clients with BPD**

Need for Clinicians to:	Explanation
Take over a primary role in treatment	One clinician discusses diagnosis, assesses progress, monitors safety, and oversees communication with other practitioners and family.
Provide a therapeutic structure	The clinician establishes and maintains goals and roles, particularly outlining limits on his or her availability and a plan to manage the client's possible suicidal impulses or other emergencies.
Support the client	The clinician validates the client's emotions of distress and desperation, providing hopeful statements that change is possible.
Involve the client in the therapeutic process	The clinician recognizes that progress depends on the client's active efforts to take control over his or her behavior.
Take an active role in treatment	The clinician is active in therapy, focuses on situations in the here-and-now, and helps the client connect his or her feelings to events in the past.
Deal with the client's suicidal threats or self-harming acts	The clinician expresses concern about and listens patiently to threats, but behaves judiciously (i.e., not always recommending hospitalization).
Be self-aware and ready to consult with colleagues	The clinician may require consultation when the client-clinician relationship becomes problematic.

Gunderson, J. G. (2011). Clinical practice. Borderline personality disorder. *New England Journal of Medicine, 364,* 2037–2042. Used by permission of Massachusetts Medical Society.

MINI CASE

Histrionic Personality Disorder

Lynnette is a 44-year-old high school teacher who is notorious for her outlandish behavior and inappropriate flirtatiousness. Several of her students have complained to the principal about her seductive behavior during individual meetings. She often greets students with overwhelming warmth and apparent concern over their welfare, which leads some to find her appealing and engaging at first; however, they invariably become disenchanted when they realize her shallowness. To her colleagues, she brags about her minor accomplishments as if they were major victories, yet if she fails to achieve a desired objective, she sulks and breaks down into tears. She is so desperate for the approval of others that she will change her story to suit whomever she is talking to at the time. Because she is always creating crises and never reciprocates the concern of others, people have become immune and unresponsive to her frequent pleas for help and attention.

stage for the clinician to help the client because they focus on providing key features that can be therapeutic for people with this specific disorder. Although many of these principles could generalize beyond clients with BPD, the need to establish clear boundaries, expectations, structure, and support are particularly important for individuals with this diagnosis.

The last principle encourages clinicians to seek support themselves when the client's symptoms lead to difficulties within therapy. For example, the symptom of splitting shown by individuals with BPD may lead them alternatively to devalue and idealize the clinician. In these cases, the clinician may experience complicated reactions and would benefit from obtaining the outside perspective of a supervisor or consultant.

Histrionic Personality Disorder

histrionic personality disorder
A personality disorder characterized by exaggerated emotional reactions, approaching theatricality, in everyday behavior.

Clinicians diagnose **histrionic personality disorder** in people who show extreme pleasure at being the center of attention and who behave in whatever way necessary to ensure that this happens. "Histrionic" in this disorder's name refers to the theatrical nature of people who demonstrate its symptoms. They want to be on stage, admired, and praised.

Formal diagnosis of histrionic personality disorder relies on criteria involving excessive concern with physical appearance along with constant and extreme efforts to draw attention to self. Other people perceive these individuals as flirtatious and seductive, and furious if they don't get the attention they seek. These individuals want immediate gratification of their wishes and overreact to even minor provocations, usually in an exaggerated way, such as by weeping or fainting.

Although their relationships are superficial, people with histrionic personality disorder presume that they are actually close and intimate, referring to casual acquaintances as good friends. Their cognitive style is vague and impressionistic, making them easily influenced by others and lacking in the ability to solve problems on their own.

This disorder was at one time regarded as synonymous with Freud's characterization of the "hysteric" individual (typically a woman). With the decline in psychoanalytic thinking, this disorder has fallen out of use (Blashfield, Reynolds, & Stennett, 2012). It is rarely diagnosed and difficult to distinguish reliably from other personality disorders. In fact, it was almost eliminated in the proposed reworking of *DSM-5,* but was retained as part of the decision to leave the personality disorder categories from *DSM-IV-TR* as is.

To some extent, individuals with these traits may be successful because of their outward self-confidence and attention-grabbing behavior, but in the long run their

flightiness, tendency to flirt, and shallowness lead to instability in close relationships, including higher divorce rates (Disney et al., 2012).

Despite the questions about its validity as a diagnosis, researchers continue to investigate personality traits associated with this disorder. For example, the "colorful" personality includes people who would not receive the diagnosis but who enjoy expressing themselves in a dramatic fashion, have difficulty listening to others, tend to interrupt, and enjoy being the focus of attention (Furnham, 2014).

Narcissistic Personality Disorder

People who meet the criteria for the diagnosis of **narcissistic personality disorder (NPD)** have as their core characteristic an extreme form of egocentrism in which they see themselves as the center of the universe. In what is now a term in widespread popular use, "narcissism" refers to the excessive self-love believed to be a predominant feature of NPD. Anyone in a relationship with a person truly having NPD (versus being highly narcissistic) knows how difficult such a person can be to tolerate. Entitled, haughty, and unable to see the world from anyone's perspective but their own, people with NPD seem to show little regard for the people who care about them. Ironically, however, people with NPD are highly dependent on the way they believe others perceive them, and as a result need constant flattery, attention, and reassurance.

narcissistic personality disorder (NPD)
A personality disorder primarily characterized by an unrealistic, inflated sense of self-importance and a lack of sensitivity to the needs of other people.

The sense of entitlement is one of NPD's most prominent symptoms, but it is a sword that can cut both ways. Because they see themselves as exceptional, they may set their personal standards unrealistically high, being satisfied with nothing less than perfection. Conversely, they may regard themselves as deserving of whatever they want, and therefore not push themselves as hard as they could, setting their personal standards far too low while believing they are deserving of the best others can offer to them.

NPD involves other paradoxes as well. Although people with this disorder may seem not to care what others think, in reality they derive their self-definition and self-esteem from the way that they believe other people view them. Furthermore, although they are highly sensitive to the opinions others have of them, they lack the ability to empathize with other people. Although they may be involved in a long-term relationship, it is unlikely to be truly intimate due to the fact that they are almost entirely focused on themselves, their feelings, and how people perceive them. Their sense of entitlement translates into personality traits of grandiosity, and their desire for admiration leads them to seek out recognition whenever possible.

MINI CASE

Narcissistic Personality Disorder

Chad is a 26-year-old man who has been desperately trying to succeed as an actor. However, he has had only minor acting jobs and has been forced to support himself by working as a waiter. Despite his lack of success, he brags to others about all the roles he rejects because they aren't good enough for him. Trying to break into acting, he has been selfishly exploitative of any person whom he sees as a possible connection. He has intense resentment for acquaintances who have obtained acting roles and devalues their achievements by commenting that they are just lucky, yet, if anyone tries to give him constructive criticism, Chad reacts with outrage, refusing to talk to the person for weeks. Because of what he regards as his terrific looks, he thinks he deserves special treatment from everyone. At the restaurant, Chad has recurrent arguments with his supervisor, because he insists that he is a "professional" and that he should not have to demean himself by clearing dirty dishes from the tables. He annoys others because he always seeks compliments on his clothes, hair, intelligence, and wit. He is so caught up in himself that he barely notices other people and is grossly insensitive to their needs and problems.

grandiose narcissism
The form of narcissistic personality disorder in which individuals think of themselves entirely in an inflated and self-aggrandizing way.

vulnerable narcissism
The form of narcissistic personality disorder in which individuals have an internally weak sense of self and so become despondent when they feel that someone who is important to them is humiliating or betraying them.

Perhaps the greatest paradox in NPD is the combination of grandiosity and vulnerability that these individuals have in their sense of self. Some individuals with NPD seem to think of themselves entirely in an inflated and self-aggrandizing way. These are the NPD individuals clinicians refer to as high on **grandiose narcissism.** Although they do not like being challenged or contradicted, they are able to brush off any negative comments. Ironically, though, grandiose narcissists are the most likely to level insulting remarks to others (Park & Colvin, 2015).

Those high on **vulnerable narcissism,** by contrast, have an internally weak sense of self and so become despondent when they feel that someone who is important to them is humiliating or betraying them (Besser & Priel, 2010). The *DSM-5* does not explicitly make this distinction, but clinicians and researchers maintain that it is an important differentiation (Caligor et al., 2015).

Prevalence studies reveal a wide variation in estimates of NPD's prevalence in the population. Averaging across these studies, researchers believe that NPD may occur in approximately 1 percent of the population. However, the rates are far higher in populations of individuals seeking clinical treatment, with those estimates ranging from 2 to as high as 36 percent (Dhawan, Kunik, Oldham, & Coverdale, 2010). Some researchers maintain that social media are having the effect of creating a population of narcissists, and although this is a debatable point, a narcissist is not the same as a person with NPD. Furthermore, there can be a healthy form of narcissism associated with having a positive sense of self-esteem (Akehurst & Thatcher, 2010).

The traditional Freudian psychoanalytic approach regards narcissism as the individual's failure to progress beyond the early, highly self-focused stages of psychosexual development when they derive gratification solely from within themselves. Theorists operating within the object relations approach regard the narcissistic individual as having failed to form a cohesive, integrated sense of self. The narcissistic individual expresses insecurity, paradoxically, in an inflated sense of self-importance as he or she tries to make up for early parental support (Kohut, 1966, 1971). Lacking a firm foundation of a healthy self, these individuals develop a false self that they precariously base on grandiose and unrealistic notions about their competence and desirability (Masterson, 1981).

The broader psychodynamic perspective, incorporating the object relations view, now understands narcissistic personality disorder, from this perspective, as the adult's expression of this childhood insecurity and need for attention. The disorder is no longer seen from the stricter Freudian standpoint as involving unresolved psychosexual issues.

Following from this logic, clinicians who work within the psychodynamic perspective attempt to provide a corrective developmental experience, using empathy to support the client's search for recognition and admiration. At the same time, the clinician attempts to guide the client toward a more realistic appreciation that no one is flawless. As clients feel that their therapists increasingly support them, they become less grandiose and self-centered (Kohut, 1971). Part of this process may involve a form of reparenting in which the therapist works with the client to meet early, unmet needs (Behary & Dieckmann, 2013).

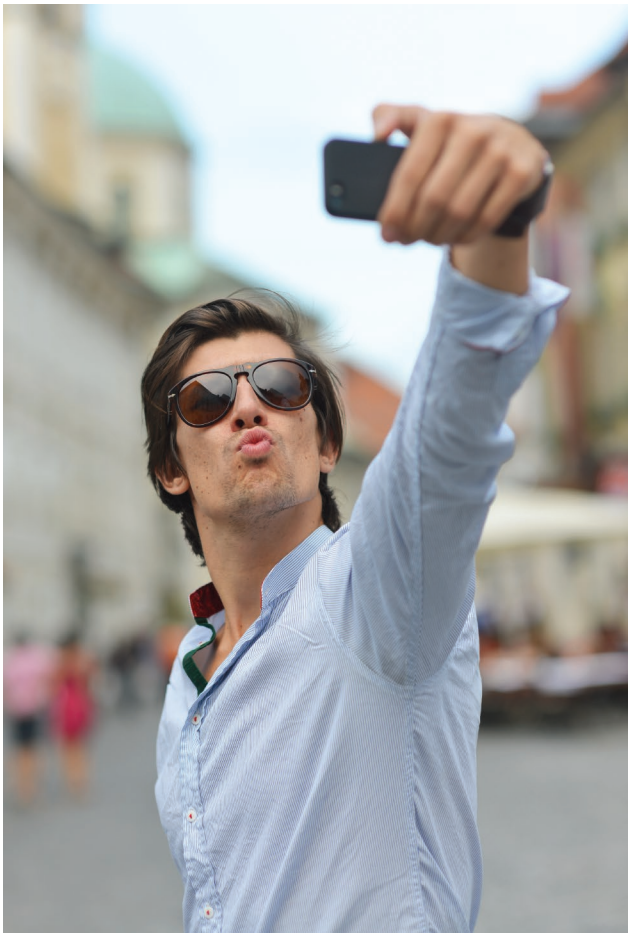
Cognitive-behavioral theorists focus on the maladaptive ideas that their clients hold, particularly the view held by people with the grandiose variety of the disorder in which they regard themselves as exceptional people who deserve far better treatment than ordinary humans. These grandiose beliefs hamper their ability to perceive their experiences realistically, and as a result, these individuals encounter problems when their inflated ideas about themselves clash with their experiences of failure in the real world.

Rather than simply confront them with their erroneous beliefs, clinicians working in the cognitive-behavioral perspective structure interventions that work with, rather than against, the client's self-aggrandizing and egocentric tendencies (Freeman & Fox, 2013). This allows the individual to accept the therapist's help because the intervention

seems less threatening. For example, rather than try to convince the client to act less selfishly, the therapist might try to show that there are better ways to reach important personal goals. At the same time, the therapist avoids capitulating to the client's demands for special favors and attention. Interestingly, this approach is not all that different from the contemporary psychodynamic perspective that supports the individual's need to feel recognized and accepted while still helping the individual develop a more realistic sense of self.

The cognitive-behavioral perspective does, however, involve a more deliberate attempt to set an agenda with clear treatment goals. This structured framework then becomes the basis for helping the client learn how to set limits in other areas of life (Beck, Freeman, & Davis, 2004).

Unfortunately, people with NPD are difficult to treat because they tend not to have insight into their disorder. Moreover, the therapists who treat them may experience strong negative reactions to them due to the very nature of their symptoms of grandiosity and entitlement, making them critical and demeaning of their therapists (Dhawan, Kunik, Oldham, & Coverdale, 2010). Their extreme perfectionism can also obstruct treatment. Clients with NPD have filled their lives with success and accomplishments that preserve their self-esteem and ward off their insecurities. As a result, it is particularly difficult for them to confront their anxieties and inner securities (Ronningstam, 2011).



Individuals with narcissistic personality disorder often devote their lives to seeking approval from others despite having very little concern for the well-being of other people.

14.4 Cluster C Personality Disorders

In Cluster C of the *DSM-5* personality disorders, we find a set of disorders that include the qualities of extreme anxiety, fearfulness, and concern over openly expressing their feelings. People with a Cluster C personality disorder tend to be inner directed and may draw little attention to themselves, in contrast to those individuals with personality disorders in Cluster B.

Avoidant Personality Disorder

People with **avoidant personality disorder** define themselves as lacking in social skills and having no desirable qualities that would make others want to be with them. Their symptoms go beyond being "shy." Instead, their feelings of shame and inadequacy are so strong that they prefer not to be around others. They stay away almost entirely from social encounters, and are especially likely to avoid any situation with the potential for them to feel embarrassed. They may set unrealistically high standards for themselves, which in turn lead them to avoid encountering situations in which they feel doomed to fail.

avoidant personality disorder
A personality disorder in which people have low estimation of their social skills and are fearful of disapproval, rejection, and criticism or being ashamed or embarrassed.

Convinced that they are socially inferior to others, people with avoidant personality disorder become extremely sensitive to rejection and ridicule, interpreting the most innocent remark as criticism. Rather than risk people making fun of them or rejecting them, they prefer to be alone. Involvement in an intimate relationship presents a severe threat because they fear shame or ridicule should they expose their flaws to a partner.

Thus, people with avoidant personality disorder are high on the negative pole of the personality traits of detachment and negative affectivity. They are withdrawn, unlikely

MINI CASE

Avoidant Personality Disorder

Eduard is a delivery person for a large equipment corporation. His co-workers describe Eduard as a loner, because he does not spend time in casual conversation and avoids going out to lunch with others. Little do they know that every day he struggles with the desire to interact with them, but is too intimidated to follow through. Recently, he turned down a promotion to become manager because he realized that the position would require a considerable amount of day-to-day contact with others. What bothered him most about this position was not just that it would require interaction with people, but also that he might make mistakes that others would notice. Although he is 53 years old, Eduard has hardly dated. Every time he feels interested in a woman, he becomes paralyzed with anxiety over the prospect of talking to her, much less asking her for a date. When female co-workers talk to him, he blushes and nervously tries to end the conversation as soon as possible.

to experience intimacy, and unable to feel pleasure. Their negative affectivity takes the form of chronic and extreme anxiety.

Researchers believe that avoidant personality disorder exists along a continuum extending from the normal personality trait of shyness to social anxiety disorder (e.g., Reich, 2010). According to this view, avoidant personality disorder is a more severe form of social anxiety disorder (Rettew, 2000). Data from a longitudinal study involving over 34,000 adults found people with avoidant personality disorder were more likely to continue to experience symptoms of social anxiety disorder even after adjusting for a number of demographic factors (Cox, Turnbull, Robinson, Grant, & Stein, 2011). It is possible that the link between social anxiety disorder and avoidant personality disorder is both involve excessive self-criticism, which in turn leads people with these disorders to expect the same level of criticism from others.

People with avoidant personality disorder stay away from social contact of any kind for a significant portion of the time due to excessive fears of embarrassment or rejection by others.

The contemporary psychodynamic approach to this disorder regards it as the expression of fear of attachment in close relationships. People with this disorder avoid getting close to others because they fear being abandoned or neglected in the same way as they had been in early childhood by their caregiver (Levy, Johnson, Clouthier, Scala, & Temes, 2015).

Cognitive-behavioral approaches regard avoidant personality disorder as reflecting the individual's hypersensitivity to rejection by others because, as children, people with this disorder were harshly criticized by their parents (Carr & Francis, 2010). According to this view, the dysfunctional attitudes that these individuals hold center on the core belief that they are flawed and unworthy of other people's regard. Because of their perceived unworthiness, they expect that people will not like them; therefore, they avoid getting close to others to protect themselves from what they believe is inevitable rejection. Contributing to their dilemma are their distorted perceptions of experiences with others. Their sensitivity to rejection causes them to misinterpret seemingly neutral and even positive remarks. Hurt by this presumed rejection, they retreat inward, placing further distance between themselves and others.

The main goal of therapists working in the cognitive-behavioral framework is to break the client's negative cycle

of avoidance. Clients learn to articulate the automatic thoughts and dysfunctional attitudes that interfere with their ability to establish relationships with others. Although clinicians point out the irrationality of these beliefs, they do so in a supportive atmosphere. In order for these interventions to be successful, however, clients must learn to trust the therapist rather than see the therapist as yet another person who may ridicule or reject them.

Cognitive-behavioral therapists may also use graduated exposure to present the client with social situations that are increasingly more difficult to confront. They may also train the client in specific skills intended to improve his or her intimate relationships. Consistent with the theory that dysfunctional cognitions are an important factor in this disorder, a pilot study of brief cognitive therapy showed that it produced improvements in negative affect and quality of life among individuals with avoidant personality disorder symptoms (Rees & Pritchard, 2015).

Dependent Personality Disorder

Individuals with **dependent personality disorder** are strongly drawn to others. However, they are so clinging and passive that they may achieve the opposite of their desires as others become impatient with their lack of autonomy. Convinced of their inadequacy, they cannot make even the most trivial decisions on their own.

dependent personality disorder
A personality disorder whose main characteristic is that the individual is extremely passive and tends to cling to other people, to the point of being unable to make any decisions or to take independent action.

Others may characterize individuals with dependent personality disorder as "clingy" and, indeed, when alone, they feel despondent and abandoned. They are likely to throw themselves wholeheartedly into relationships and, therefore, become devastated when relationships end. This extreme dependence causes them to urgently seek another relationship to fill the void. Even when with others, they become preoccupied with the fear of being left. They cannot comfortably initiate new activities on their own because they are hampered by worries that they will make mistakes unless others guide their actions.

As you might imagine, people with this disorder go to extremes to avoid having people dislike them—for example, by stating that they agree with others even when they do not. Such individuals may also seek approval by taking on responsibilities that no one else wants, but if anyone criticizes them, they feel shattered.

Research on the personality traits of individuals with dependent personality disorder suggests that they have unusually high levels of agreeableness. Although we tend to think of agreeableness as an adaptive trait, at high levels, agreeableness can become a tendency to be overly docile, self-sacrificing, and clinging (Samuel & Gore, 2012).

Cognitive-behavioral treatment for people with dependent personality disorder appears to be effective, particularly if the clinician alternates as needed between changing behaviors and challenging the client's faulty beliefs (Brauer & Reinecke, 2015). Mindfulness

MINI CASE

Dependent Personality Disorder

Betty has never lived on her own; even while a college student 30 years ago, she commuted from home. She was known by her classmates as someone who was dependent on others. Relying on others to make choices for her, she did whatever her friends advised, whether it involved the choice of courses or the clothes she should wear each day. The week after graduation, she married Ken, whom she had dated all senior year. She was particularly attracted to Ken because his domineering style relieved her of the responsibility to make decisions. As she has customarily done with all the close people in her life, Betty goes along with whatever Ken suggests, even if she does not fully agree. She fears that he will become angry with her and leave her if she rocks the boat. Although she wants to get a job outside the home, Ken has insisted that she remain a full-time homemaker, and she has complied with his wishes. However, when she is home alone, she calls friends and desperately pleads with them to come over for coffee. The slightest criticism from Ken, her friends, or anyone else can leave her feeling depressed and upset for the whole day.

training can also be useful in helping individuals with this disorder identify and manage their interpersonal anxiety (McClintock & Anderson, 2015).

Obsessive-Compulsive Personality Disorder

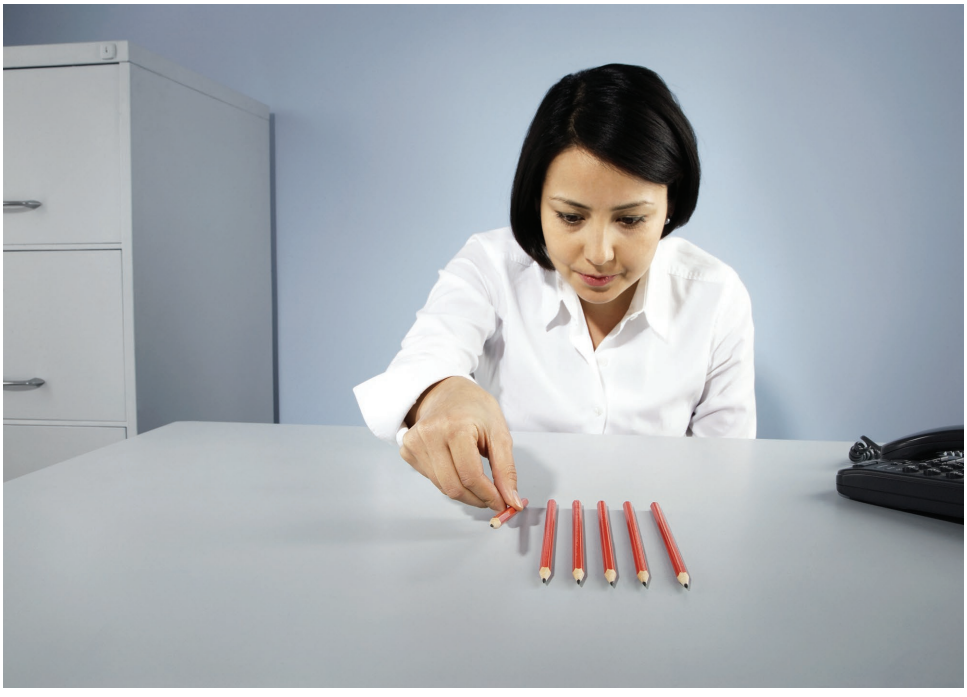
obsessive-compulsive personality disorder (OCPD)
A personality disorder involving intense perfectionism and inflexibility manifested in worrying, indecisiveness, and behavioral rigidity.

People with **obsessive-compulsive personality disorder (OCPD)** have a set of symptoms that revolve around defining their sense of self and self-worth in terms of their work productivity. Unlike those with NPD, people with OCPD are not specifically looking for approval from their work accomplishments, but instead throw themselves into their work to the exclusion of their social relationships. Unfortunately, the extreme perfectionism that people with OCPD have about their work makes it difficult for them to complete a task because they can always see a flaw in what they have done. Their work products are never good enough to meet their unrealistic standards. They can also be overly moralistic because they stick to overly conscientious standards that almost anyone would find difficult to meet.

The interpersonal relationships of people with OCPD also suffer due to their difficulty understanding how others feel, particularly when those feelings differ from their own. Because they have such high standards for themselves, people with OCPD are critical of other people who they see as not matching their own expectations. Others, in turn, perceive those with OCPD as rigid and stubborn.

The pathological personality trait of compulsivity that people with OCPD have to an excessive degree reflects this rigid perfectionism. Things must be "just so," or they are miserable. They also experience a great deal of negative affect and tend to go back over and over what they've done, looking for flaws. This is the quality of perseveration.

The words "obsessive" and "compulsive" as applied to the OCPD personality disorder have a different meaning than in the context of OCD (which we describe in the chapter "Anxiety, Obsessive-Compulsive, and Trauma- and Stressor-Related Disorders"). Unlike those with OCD, people with OCPD do not experience obsessions and compulsions. The reason the hyphenated term "obsessive-compulsive" is used in OCPD is because it refers to this combination of a rigidly compulsive (i.e., fixated on certain



A woman with obsessive-compulsive personality disorder is so highly driven for order and perfection that she is unable to tolerate having disorganized objects in her environment.

MINI CASE

Obsessive-Compulsive Personality Disorder

For as long as he can remember, Trevor has been preoccupied with neatness and order. As a child, his room was meticulously clean. Friends and relatives chided him for excessive organization. For example, he insisted on arranging the toys in his toy closet according to color and category. In college, his rigid housekeeping regimens both amazed and annoyed his roommates. He was tyrannical in his insistence on keeping the room orderly and free from clutter. Trevor has continued this pattern into his adult life. He is unhappy that he has not found a woman who shares his personal habits, but consoles himself by becoming immersed in his collection of rare record albums featuring music of the 1940s. Trevor, a file clerk, prides himself on never having missed a day of work, regardless of health problems and family crises. However, his boss will not offer Trevor a promotion because she feels he is overly attentive to details, thus slowing up the work of the office as he checks and rechecks everything he does. He enhances his sense of self-importance by looking for opportunities in the office to take control. For example, when his co-workers are planning a party, Trevor tends to slow down matters because of his annoying concerns about every detail of the event. More often than not, his co-workers try to avoid letting him get involved because they object to his rigidity, even in such trivial matters.

routines) personality tendency with an obsessive concern with perfectionism. Nevertheless, with *DSM-5* having reconceptualized OCD in terms of a spectrum, it is possible that OCPD may someday be reclassified within this group of disorders (Fineberg, Kaur, Kolli, Mpavaenda, & Reghunandanan, 2015). This would eliminate the need for OCPD to exist as a separate diagnosis because it would then apply to people who have the long-standing personality traits of rigidity and perfectionism implied in the OCPD diagnosis.

It is important to keep in mind that there is a difference between the hard-working, well-organized person with high standards and a concern about getting a job done right and the person with OCPD. The pursuit of perfection these individuals engage in becomes self-defeating rather than constructive.

In understanding the causes of OCPD from a psychodynamic standpoint, historically it is worth pointing out that Freud believed people with an obsessive-compulsive style to not have progressed from, or are constantly returning to, the anal stage of psychosexual development. More contemporary psychodynamic theorists no longer focus entirely on psychosexual stages, but instead give more attention to cognitive factors and prior learning experiences as central to the development of OCPD.

As a maladaptive personality disposition, OCPD can also be looked at from the perspective of trait theory. These individuals would be maladaptively high on the Five Factor Model traits of Conscientiousness (Samuel, Riddell, Lynam, Miller, & Widiger, 2012). The trait framework would not propose a mechanism for acquiring OCPD, however, but implies it might be hard wired into the individual from an early age.

From the standpoint of cognitive-behavioral theory, people with this disorder have unrealistic expectations about being perfect and avoiding mistakes (Beck et al., 2004). Their feelings of self-worth depend on their behaving in ways that conform to an abstract ideal of perfectionism. If they fail to achieve that ideal (which, inevitably, they must), they regard themselves as worthless. In this framework, obsessive-compulsive personality disorder is based on a problematic way of viewing the self.

Clinicians using cognitive-behavioral treatment for clients with OCPD face challenges due to characteristic features of this personality disorder. The person with OCPD tends to intellectualize, to ruminate over past actions, and to worry about making mistakes. Cognitive-behavioral therapy, with its focus on examining the client's thought processes, may reinforce this ruminative tendency. Consequently, therapists may use more traditional behavioral techniques, such as thought stopping with the intention of having the

client "stop" when he or she is overtaken by ruminative worry (Millon, Davis, Millon, Escovar, & Meagher, 2000).

Another approach is metacognitive interpersonal therapy, a procedure that causes patients to "think about their thinking." In this procedure, clinicians help their clients take a step back and learn to identify their problematic ruminative thinking patterns in the context of building a supportive therapeutic alliance (Dimaggio et al., 2011).

14.5 Personality Disorders: The Biopsychosocial Perspective

The personality disorders represent a fascinating mix of long-standing personal dispositions and behavior patterns and disturbances in identity and interpersonal relationships.

Although we tend to focus on these disorders as they appear at one point in time, clearly they evolve over an individual's life. The *DSM* authors will likely continue to refine and elaborate on their scientific base if not their classification. We may hope that mental health professionals will develop not only a better understanding of this form of disturbance, but also, perhaps, a richer appreciation for the factors that contribute to normal personality growth and change through life.

Return to the Case: Harold Morrill

Harold was enrolled for a year-long contract at a local DBT center where he attended twice-weekly psychotherapy and three therapy groups per week. The program focused on teaching emotion regulation skills, mindfulness, interpersonal effectiveness, and distress tolerance. By fostering a supportive relationship with Harold, his therapist was able to model correct emotional regulation and validation of a wide range of emotions, so that Harold would not feel the need to resort to extreme measures in order to gain attention from others.

Dr. Tobin's reflections: Like many individuals with borderline personality disorder, Harold grew up in what is known as an invalidating environment—with parents who were more or less absent in his upbringing. He found that acting in an extreme manner was the only way he was able to get attention from his parents, and so this became the only way for him to connect with others. He even displayed this in the intake evaluation by showing the clinician the marks of his self-mutilation, threatening to storm out of the room, and spontaneously bursting into tears. Further, he showed interpersonal instability in his request of the clinician to be his therapist and then immediately turning on her (or "devaluing") when told that she could not see him for therapy. Unlike females with borderline personality disorder (who make up the majority of individuals with the disorder) who often present with largely depressed affect, males tend to present with more of an angry affect and are more likely to engage in substance abuse as a coping mechanism. Females are more likely to be sexually promiscuous or to engage in eating disordered behaviors in order to cope with their extreme emotions.

It is typical for an individual with borderline personality disorder to present for treatment only after a suicide attempt or having strong suicidal ideation, as the disorder is ego-syntonic—meaning that the individual rarely understands that the behavior is abnormal. With the appropriate treatment, Harold's chances of continuing to experience highly unstable and shifting mood and relational patterns greatly decreases. You may be wondering why Harold was not referred for substance abuse treatment. It was the opinion of the intake clinician that his substance abuse, especially his alcohol use, was secondary to his personality disorder. It is typical for DBT treatment programs to require clients to abstain from abusing substances during the course of treatment. Further, with more appropriate mood regulation skills, Harold's substance abuse may remit. Should he continue to abuse substances throughout his treatment, he will then be referred for a specific substance use disorder treatment program.

SUMMARY

- A personality disorder is an ingrained pattern of relating to other people, situations, and events with a rigid and maladaptive pattern of inner experience and behavior, dating back to adolescence or early adulthood. In the *DSM-5*, personality disorders represent a collection of distinguishable sets of behavior, falling into 10 distinct categories. These 10 diagnoses are grouped into three clusters based on shared characteristics. Cluster A includes paranoid, schizoid, and schizotypal personality disorders, which share the features of odd and eccentric behavior. Cluster B includes antisocial, borderline, histrionic, and narcissistic personality disorders, which share overdramatic, emotional, and erratic or unpredictable attitudes and behaviors. Cluster C includes avoidant, dependent, and obsessive-compulsive personality disorders, which share anxious and fearful behaviors.
- Because the personality disorders are grouped into discrete categories, clinicians evaluating individuals for a possible diagnosis must decide how many of the criteria a client meets within each category and assign a diagnosis on that basis. Either the client has the disorder or not. The clinician may start by trying to match the most prominent symptoms that the individual shows with the diagnostic criteria. If the client does not fit the criteria for that disorder, the clinician may either move to another disorder or decide that the client has a personality disorder "not otherwise specified."
- The diagnosis of antisocial behavior has its origins in the work of Hervey Cleckley, whose 1941 book, *The Mask of Sanity*, represented the first scientific attempt to list and categorize the behaviors of the "psychopathic" personality. Cleckley (1976) developed a set of criteria for psychopathy, a cluster of traits that includes lack of remorse or shame for harmful acts committed against others; poor judgment and failure to learn from experience; extreme egocentricity and incapacity for love; lack of emotional responsiveness to others; impulsivity; absence of "nervousness"; and unreliability, untruthfulness, and insincerity. Building on Cleckley's work, Canadian psychologist Robert D. Hare (1997) developed the Psychopathy Checklist–Revised (PCL-R), an assessment instrument whose two factors are the core psychopathic personality traits and an antisocial lifestyle. The core personality traits include glibness and superficial charm, a grandiose sense of self-worth, pathological lying, a lack of empathy for others, lack of remorse or guilt, and an unwillingness to accept responsibility for one's actions.
- Borderline personality disorder involves extreme instability in the individual's sense of self and relationships. Theories focus on disturbances in emotional regulation, and effective treatments include dialectical behavioral therapy and mentalization therapy.
- Narcissistic personality disorder is divided into two types: grandiose and vulnerable, but both involve unrealistically high self-focus and preoccupation.
- The personality disorders are historically regarded as very difficult to treat, but they are proving to respond to cognitive-behavioral therapy in which clients are helped to question their long-standing assumptions and change their disturbed behaviors. Understanding of these disorders will likely change as *DSM* increasingly moves to a dimensional diagnostic approach.

KEY TERMS

Antisocial personality disorder
Avoidant personality disorder
Borderline personality disorder (BPD)
Dark triad
Dependent personality disorder
Dialectical behavior therapy (DBT)
Emotional dysregulation
Grandiose narcissism
Histrionic personality disorder
Maturation hypothesis
Mentalization therapy
Narcissistic personality disorder (NPD)
Obsessive-compulsive personality disorder (OCPD)
Paranoid personality disorder
Parasuicide
Personality disorder
Psychopathy
Response modulation hypothesis
Schizoid personality disorder
Schizotypal personality disorder
Splitting
Transference-focused psychotherapy
Vulnerable narcissism

Ethical and Legal Issues

OUTLINE

Case Report: Mark Chen

Ethical Standards

What's in the *DSM-5*: Ethical Implications of the New Diagnostic System

- Competence
- Informed Consent
- Confidentiality
- Relationships with Clients, Students, and Research Collaborators

You Be the Judge: Multiple Relationships Between Clients and Psychologists

- Record Keeping

Ethical and Legal Issues in Providing Services

- Commitment of Clients
- Right to Treatment
- Refusal of Treatment and Least Restrictive Alternative

Forensic Issues in Psychological Treatment

- The Insanity Defense

Real Stories: Susanna Kaysen: Involuntary Commitment

- Competency to Stand Trial
- Understanding the Purpose of Punishment
- Concluding Perspectives on Forensic Issues

Return to the Case: Mark Chen

Summary

Key Terms

Learning Objectives

15.1 Explain ethical standards including competence, informed consent, confidentiality, relationships with clients/students/research collaborators, and record keeping.

15.2 Explain ethical and legal issues in providing services, including commitment of clients, right to treatment, and refusal of treatment and least restrictive alternatives.

15.3 Understand forensic issues in psychological treatment, such as the insanity defense, competency to stand trial, and the purpose of punishment.

CHAPTER 15

Case Report: Mark Chen

Demographic information: 19-year-old Asian American male.

Presenting problem: Mark has been attending individual psychotherapy at a private outpatient clinic on a weekly basis for 8 months after initially presenting to treatment following a major depressive episode. Mark had never before received psychiatric treatment, and after confiding to the resident director of his dormitory that he had been having a difficult time with his transition to college, she gave him information on nearby therapy clinics, as the small college had no counseling center of its own. Shortly after beginning therapy, the clinician referred him to a psychiatrist who prescribed an SSRI. Mark responded well to both therapy and the antidepressant, and his symptoms had remitted within about 4 weeks, although he still experienced a persistently low mood. He continued to come for weekly psychotherapy sessions to work on the issues underlying his depression. His mood has been relatively stable and he has few complaints about depressive symptomatology for the majority of the time since starting therapy. Mark started to become more involved with extracurricular activities at school and began attending more social events. Over the past three sessions, however, Mark has been presenting with increased depressive symptoms. He reported sleeping about 10 to 12 hours per night and still does not feel rested. He is eating only once per day, having difficulty concentrating, and experiences frequent, unprovoked crying episodes. These symptoms are similar to those that he reported when he initially presented for therapy. Mark also admitted that he had not left his dorm room except to come to his therapy session. During his most recent therapy session, Mark's affect was markedly depressed and despondent. He was tearful as he reported that he was feeling increasingly hopeless and was having recurrent thoughts about ending his life. He was unable to identify a particular stressor for this current episode, remarking that "all of a sudden things just feel so . . . pointless." He stated that he had been having thoughts about suicide for about 2 weeks, but that the thoughts had become much more pervasive over the past few days.

During the session, Mark's therapist responded to his report of suicidality by performing a safety evaluation. He asked if Mark had thought about how he would commit suicide, to which Mark responded that he was in possession of a rope at home and planned on hanging himself in his dorm room from a ceiling beam. He then asked Mark about how strong his intention was to commit suicide, to which Mark responded that he had planned on hanging himself that morning, but decided to come in for one last therapy session and to "say goodbye."

Recently in therapy Mark had been discussing how he felt significant pressure from his family to achieve high grades in college. As a double major in economics and political science, Mark explained that he had been finding it difficult to keep up with all of his coursework and attain "acceptable" grades. Much of his work in therapy had focused on his low self-image and propensity to undervalue not only his achievements, but also his abilities to perform well in school and in other areas. Mark had been working with his therapist to learn strategies to help generate feelings of self-worth and to take pride in his accomplishments so far. During this work, Mark often struggled to find ways to take pride in himself and his work. He attributed this to his family, and how, as he explained, "they never think I'm good enough, no matter what I do. I always have to be doing better.

Case Report *continued*

They're never satisfied." He stated that his parents had been a source of constant pressure for his entire life. Mark has no siblings, and so he believed this added to their "excessive nagging." Although Mark recognized that this was a source of distress, he found it difficult to "fight back" and value himself as he had never learned to do this on his own. Throughout therapy, Mark and his clinician discussed ways to improve the relationship with his family. Mark found this difficult given that he and his parents got into arguments when they spoke on the phone. Several times, he had thought about cutting off contact with them altogether; however, this presented a challenge, given that Mark's parents supported him financially. Due to his intensive focus on schoolwork, Mark had little time in college to make friends and was often by himself in his dorm room. He reported that even when he had down time, he was constantly worrying about his schoolwork and found it quite difficult to relax.

Relevant history: Mark has experienced three depressive episodes prior to starting therapy. His first depressive episode lasted for approximately 8 months, and remitted without intervention. The other two subsequent episodes lasted for approximately 2 to 3 months each and also remitted on their own. Although these episodes were much shorter than the first, the period in between episodes had greatly decreased. The period between starting therapy and his current depressive episode was the longest period of time in between episodes to date. Although he reported thoughts of suicide during his prior depressive episodes, he had never had a plan or clear intent to commit suicide. Mark reported that he wasn't sure if his family had any history of depression or mood disorders.

Case formulation: Due to his prior depressive episodes and absence of a manic episode, Mark carries a diagnosis of major depressive disorder, recurrent. In addition, he currently meets criteria for a major depressive episode. We add the qualifier of "severe" to the diagnosis, due to his intent and plan to commit suicide.

Treatment plan: Mark's clinician determined that he posed a significant threat to himself, based on his report that he had a plan and intent to commit suicide. The clinician asked Mark if he could agree to make a contract to protect his safety. He would allow Mark to leave the session only if Mark agreed to call 911 should he feel an increase in intent to commit suicide. Mark was unable to state that he would be safe should he go home, and the clinician informed Mark that he would have to go to the hospital immediately. The clinician called 911, and an ambulance transported Mark to a nearby psychiatric hospital for stabilization.

Sarah Tobin, PhD

Psychologists are guided in both their clinical and research work by the professional guidelines established by the major professional organization, the American Psychological Association (APA). These guidelines do not hold legal power, but individual states and territories in the United States establish strict codes required for psychologists and other mental health professionals to obtain and keep their licenses. Not only are health professionals required to follow these standards, but they must regularly recertify their ability to provide services by obtaining continuing education to ensure that they are able to practice according to the highest standards.

15.1 Ethical Standards

To be considered a "psychologist," many states require that the individual pass a rigid set of licensing requirements. All states in the United States have a board of psychologists that carry out the legal requirements for obtaining and retaining a psychology license. These requirements typically include passing an examination, obtaining a certain number of hours of supervised training, receiving recommendations from other licensed psychologists, and, to remain licensed, participation in a certain number of hours of continuing education.

As we discussed in the chapter "Diagnosis and Treatment", psychologists follow the APA Ethical Principles of Psychologists and Code of Conduct (Ethics Code) (2010). The

"general principles" are not enforceable rules, but are intended for psychologists to consider in arriving at an ethical course of action. In contrast, the "Ethical Standards" are enforceable rules. Failure to follow these rules could result in sanctions, including loss of membership in APA and loss of a state professional license. In making decisions about their professional behavior, psychologists must consider this Ethics Code as well as any applicable laws and regulations of their state psychology boards.

There are 10 standards contained within the Ethics Code, which we summarize in Table 1. Since writing the first version in 1953, APA has rewritten the Ethics Code to keep up with changes in electronic communication and, most recently, to set forth codes that psychologists in the military should follow that prohibit their participation in interrogation of suspected terrorists. APA is also active in developing codes of conduct for the provision of Internet-based psychotherapy (Fisher & Fried, 2008). We will focus here on several key components of the Ethics Code that generalize across several of the specific areas.

TABLE 1 **Summary of APA Ethics Code**

Standard	Summary
1: Resolving Ethical Issues	How psychologists should resolve ethical conflicts, report ethical violations, and cooperate with professional ethics committees.
2: Competence	Establishes the fact that psychologists must work within their boundaries of competence based on their training, experience, consultation, and supervision; describes what psychologists should do in emergencies; sets forth criteria for delegating work to others; describes how to resolve personal problems and conflicts that might interfere with their ability to provide services.
3: Human Relations	Provides criteria that psychologists must follow when they relate to employees, clients, and trainees; describes how psychologists should avoid conflict of interest; regulates the nature of informed consent in research, clinical practice, or consulting, including administering psychological services through corporations.
4: Privacy and Confidentiality	Sets forth the principles for protecting research participants and clients; mandates that any public information (such as published research) includes reasonable steps to disguise the person or organization.
5: Advertising and Other Public Statements	Instructs psychologists not to provide false statements through advertising or other public outlets, in media presentations, and testimonials; sets forth limits to in-person solicitation from potential clients or people in need of care.
6: Record Keeping and Fees	Provides conditions that psychologists must follow in maintaining their records, charging clients for services, and providing reports to payors of service or sources of research funding.
7: Education and Training	Regulates the activities of psychologists in the classroom, as supervisors or trainers, and as developers of education and training programs.
8: Research and Publication	Offers specific guidelines for psychologists who conduct research including informing participants about their rights to offering inducements for research participation, using deception in research, debriefing participants, providing humane care for animals, reporting research results, avoiding plagiarism, and taking precautions in publishing of research articles.
9: Assessment	Describes the code for psychologists in conducting assessments, including how assessment data should be collected, use of informed consent, release of test data, principles of test construction, scoring and interpretation of test results, and maintenance of test security.
10: Therapy	Sets forth code for psychologists who provide therapy including obtaining informed consent, conducting therapy with individuals, couples, families and groups, interrupting and terminating therapy, and avoiding sexual intimacies with clients, relatives of clients, and former clients.

What's in the *DSM-5*

Ethical Implications of the New Diagnostic System

Following release of the *DSM-5* draft in late 2011, a number of mental health professional organizations composed a joint response to what they perceived as potentially disastrous consequences of addition of some diagnoses and removal of others. For example, by eliminating the category of "Asperger's Syndrome," critics contend that they will be leaving potentially untreated many thousands of individuals who suffer from its symptoms. In the chapter "Neurocognitive Disorders", we discussed the potential problems involved in broadening the dementia diagnosis to include individuals with mild cognitive impairments. Such changes would create the opposite problem of potentially mislabeling individuals who are experiencing normal age-related changes in memory.

The *DSM-5* was written in a manner intended to reflect the latest scientific evidence in the most objective manner possible. Inevitably, however, there will be room for debate as researchers and clinicians examine the available research studies and the evidence they infer from working with their clients. There are also social and political implications of changes in the diagnostic system. If individuals do not receive a diagnosis, as may happen with children formerly diagnosed with autistic disorder, then they cannot qualify for certain types of insurance to cover the costs of their education, treatment, and medications. Politicians then are faced with making decisions about how to allocate public funding for treatment, education, and research.

Another significant change in the *DSM-5* that has widespread implications is the shift from diagnosing major depressive disorder in the cases of people who are suffering from bereavement after the loss of a loved one. In the *DSM-IV-TR,* people who suffered the symptoms of bereavement were excluded from the diagnosis of major depressive disorder, a situation called the "bereavement exclusion." The elimination of the bereavement exclusion could mean that a clinician would diagnose an individual experiencing depressive symptoms following the death of someone close to him or her with major depressive disorder. That person will now have a psychiatric diagnosis that could potentially interfere with his or her ability to find employment in certain sectors.

However, if they don't assign a diagnosis to a client with clinically significant symptoms, does this mean their clients will be unable to obtain medication to treat their symptoms? Conversely, in order to continue to provide services to their clients who may no longer qualify for a diagnosis, should they find ways around the changing guidelines to ensure their clients do receive the diagnosis?

Unfortunately, because psychological symptoms are more difficult in many cases to identify than are physical symptoms, the debate about appropriate diagnostic categories and criteria will no doubt continue throughout each subsequent edition of the *DSM.* Maintaining your awareness of these continued debates can ultimately help you and the people you know receive the best care possible. If you continue in a professional career in mental health, it will be vital for you to stay on top of both the latest literature and the latest diagnostic issues to provide the best treatment possible for your own clients.

Competence

As you can see from Standard 2, psychologists are expected to have appropriate competence to carry out therapy, consulting, teaching, and research. They achieve this competence, first of all, in their post-baccalaureate training. APA provides accreditation to clinical doctoral training programs in the United States to ensure that these programs provide future psychologists with sufficient breadth and depth to form the basis for their career in providing mental health services. As we mentioned briefly in the chapter "Diagnosis and Treatment," upon completing their coursework, PhD and PsyD (Doctor of Psychology) graduates must obtain intensive supervision as interns and postdoctoral trainees. They must then pass a nationally administered licensing exam and complete any additional requirements of their particular state. To maintain their license, they must take and complete a required number of continuing education courses within each year or two after licensure and be able to document this participation.

The result of this intensive training is that psychologists have the competence to assess, conceptualize, and provide interventions for clients whom they accept into treatment. On a related note, Standard 5 also instructs psychologists to be truthful about their areas of expertise. Clinicians who claim to be, for example, sports psychologists should have received training in this field, preferably with supervision under a professional with appropriate training credentials. When clinicians advertise their specialty, they should have suitable expertise, including current familiarity with a field, in order to be able to offer those services.

emotional competence
Within a range of acceptable variations, clinicians should be free of a diagnosable psychological disorder.

Turning to other requirements of professional training, clinicians should also have the **emotional competence** to be able to provide services to their clients. This means that, within a range of acceptable variations, they should be free of a diagnosable psychological disorder. Should they develop such a disorder, they should receive treatment and consider suspending their practice until their symptoms are in remission or, minimally, under control. To ensure that mental health professionals meet these standards of competence, they are expected to conduct regular self-scrutiny, in which they objectively evaluate their competence to carry out their work. They can also benefit from seeking supervision or consultation from another professional, perhaps one with more experience or expertise.

A witness testifies in a court hearing to protect a relative with a psychological disorder.

In a court of law, counsel often asks psychologists to give expert testimony, such as providing testimony about the limits of eyewitness memory or the nature of a psychiatric diagnosis. If they do, they must make clear the limits of their areas of expertise. If they do not have expertise in a particular area, they must obtain consultation from an expert who does.

Even more complicated than the role of expert witness is the task of conducting evaluations in child protection cases. Such evaluations are necessary in situations in which there are concerns about the child's welfare. For example, if there has been evidence or charges involving abuse, a court might call a mental health professional to make recommendations about the child's care. A judge might appoint a clinician as an agent of the court or a child protection agency, or one of the parents might hire the clinician. In some instances, the clinician is a **guardian *ad litem,*** a person whom the court appoints to represent or make decisions for a person (e.g., minor or incapacitated adult) who is legally incapable of doing so in a civil legal proceeding.

guardian *ad litem*
A person appointed by the court to represent or make decisions for a person (e.g., a minor or an incapacitated adult) who is legally incapable of doing so in a civil legal proceeding.

Other challenges present themselves when clients seek the services of clinicians whose needs are beyond the clinician's area of competence. In these cases, the clinician should either make a referral or obtain appropriate supervision. For example, a clinician who does not treat older adults with neurocognitive disorder may receive a referral from a middle-aged client seeking help with her mother who is experiencing memory problems. Unless the clinician is qualified to provide psychological assessments of older adults, the clinician should recommend that someone else evaluate the mother.

To assist psychologists in evaluating their competencies in areas that may be outside of their areas of expertise, APA has developed guidelines in specific areas of treatment. APA has approved a variety of practice guidelines and related criteria as APA policy in such areas as treatment of gay, lesbian, and bisexual clients (Table 2), child protection evaluations (Table 3), psychological practice with older adults (Table 4), psychological practice with girls and women (Table 5), and assessment of and intervention with people with disabilities (Table 6). These guidelines are intended to educate practitioners and provide recommendations about professional conduct. As such, they are useful tools for psychologists in practice to develop and maintain competencies and/or learn about new practice areas.

Increasingly, psychologists who specialize in a particular field are seeking board certification with "diplomate status." The American Board of Professional Psychology (ABPP) sets forth criteria for certification and arranges for the testing of potential diplomates

TABLE 2 Guidelines for Psychotherapy with Lesbian, Gay, and Bisexual Clients

1. Psychologists understand that homosexuality and bisexuality are not indicative of mental illness.
2. Psychologists are encouraged to recognize how their attitudes and knowledge about lesbian, gay, and bisexual issues may be relevant to assessment and treatment and seek consultation or make appropriate referrals when indicated.
3. Psychologists strive to understand the ways in which social stigmatization (i.e., prejudice, discrimination, and violence) poses risks to the mental health and well-being of lesbian, gay, and bisexual clients.
4. Psychologists strive to understand how inaccurate or prejudicial views of homosexuality or bisexuality may affect the client's presentation in treatment and the therapeutic process.
5. Psychologists strive to be knowledgeable about and respect the importance of lesbian, gay, and bisexual relationships.
6. Psychologists strive to understand the particular circumstances and challenges faced by lesbian, gay, and bisexual clients.
7. Psychologists recognize that the families of lesbian, gay, and bisexual people may include people who are not legally or biologically related.
8. Psychologists strive to understand how a person's homosexual or bisexual orientation may have an impact on his or her family of origin and the relationship to that family of origin.
9. Psychologists are encouraged to recognize the particular life issues or challenges that are related to multiple and often conflicting cultural norms, values, and beliefs that lesbian, gay, and bisexual members of racial and ethnic minorities face.
10. Psychologists are encouraged to recognize the particular challenges that bisexual individuals experience.
11. Psychologists strive to understand the special problems and risks that exist for lesbian, gay, and bisexual youth.
12. Psychologists consider generational differences within lesbian, gay, and bisexual populations and the particular challenges that lesbian, gay, and bisexual older adults may experience.
13. Psychologists are encouraged to recognize the particular challenges that lesbian, gay, and bisexual individuals experience with physical, sensory, and cognitive-emotional difficulties.
14. Psychologists support the provision of professional education and training on lesbian, gay, and bisexual issues.
15. Psychologists are encouraged to increase their knowledge and understanding of homosexuality and bisexuality through continuing education, training, supervision, and consultation.
16. Psychologists make reasonable efforts to familiarize themselves with relevant mental health, educational, and community resources for lesbian, gay, and bisexual people.

Ethical Issues

Even though a person may be in extreme distress, on his or her admission to a psychiatric hospital, the clinician must obtain informed consent.

American Psychological Association. (2012b). Guidelines for psychological practice with lesbian, gay, and bisexual clients. *American Psychologist, 67,* 10–42.

by experts in each particular specialty. If you see "ABPP" after a psychologist's signature, this means that the individual has received this official certification. Doctoral students in clinical psychology are being advised to track their training so that they can qualify for this status early in their careers.

APA also serves a more general credentialing role in the profession, providing accreditation of clinical training programs, approval of specialty fields (such as neuropsychology or geropsychology), as well as curriculum standards for programs ranging from high school to postgraduate training in psychology.

Informed Consent

Although we typically think only of research when we hear the term "informed consent," this criterion for ethical behavior applies to other contexts, including therapy. The reason for this is that clinical psychologists are expected to provide their clients with knowledge ahead of time about what they can expect to occur in treatment. At the outset of therapy, clinicians should provide clients with a written statement that outlines the goals of treatment, the process of therapy, the client's rights, the therapist's responsibilities, the treatment risks, the techniques that he or she will use, what the client should pay, and the limits of confidentiality. If the treatment involves medication, the clinician should make

TABLE 3 Guidelines for Psychological Evaluations in Child Protection Matters

1. The primary purpose of the evaluation is to provide relevant, professionally sound results or opinions in matters where a child's health and welfare may have been and/or may in the future be harmed.
2. In child protection cases, the child's interest and well-being are paramount.
3. The evaluation addresses the particular psychological and developmental needs of the child and/or parent(s) that are relevant to child protection issues, such as physical abuse, sexual abuse, neglect, and/or serious emotional harm.
4. The role of the psychologist conducting evaluations is that of a professional expert who strives to maintain an unbiased, objective stance.
5. The serious consequences of psychological assessment in child protection matters place a heavy burden on psychologists.
6. Psychologists gain specialized competence.
7. Psychologists are aware of personal and societal biases and engage in nondiscriminatory practice.
8. Psychologists avoid multiple relationships.
9. Based on the nature of the referral questions, the scope of the evaluation is determined by the evaluator.
10. Psychologists performing psychological evaluations in child protection matters obtain appropriate informed consent from all adult participants and, as appropriate, inform the child participant. Psychologists need to be particularly sensitive to consent issues.
11. Psychologists inform participants about the disclosure of information and the limits of confidentiality.
12. Psychologists use multiple methods of data gathering.
13. Psychologists neither overinterpret nor inappropriately interpret clinical or assessment data.
14. Psychologists conducting a psychological evaluation in child protection matters provide an opinion regarding the psychological functioning of an individual only after conducting an evaluation of the individual adequate to support their statements or conclusions.
15. Recommendations, if offered, are based on whether the child's health and welfare have been and/or may be seriously harmed.
16. Psychologists clarify financial arrangements.
17. Psychologists maintain appropriate records.

the client aware of possible short-term and long-term side effects. The clinician has a responsibility to ensure that the client is aware of these issues, receives answers to any questions, and has the opportunity to refuse treatment. The client is then prepared to decide whether or not to continue in treatment.

There are possible complications. Psychotherapy is an imprecise procedure, and it is not always possible to predict its course, risks, or benefits. The clinician's job, however, is to give a best estimate at the onset of therapy and to provide further information as therapy proceeds. Most people are able to discuss these matters with the clinician and to make an informed choice. There are special cases, however, when prospective clients are unable to understand the issues in order to make informed consent. These cases include children and people who are unable to understand the full nature of the treatment that they might enter due to cognitive or other psychological disabilities. In these cases, the clinician must work with the individual's family or other legally appointed guardians.

Confidentiality

Several of the standards in the APA Ethics Code cover the issue of confidentiality. This means that the client can expect that what takes place in therapy is private. Confidentiality is long regarded as a sacred part of the clinician–client relationship and is strictly maintained by licensed psychologists (Fisher & Vacanti-Shova, 2012). Safeguards against the disclosure of confidential information exist within the laws of most states. In order to adhere to the highest standards of professional practice, clinicians should have a

TABLE 4 Guidelines for Psychological Practice with Older Adults

Attitudes	
Guideline 1.	Psychologists are encouraged to work with older adults within their scope of competence, and to seek consultation or make appropriate referrals when indicated.
Guideline 2.	Psychologists are encouraged to recognize how their attitudes and beliefs about aging and about older individuals may be relevant to their assessment and treatment of older adults, and to seek consultation or further education about these issues when indicated.
General Knowledge about Adult Development, Aging, and Older Adults	
Guideline 3.	Psychologists strive to gain knowledge about theory and research in aging.
Guideline 4.	Psychologists strive to be aware of the social/psychological dynamics of the aging process.
Guideline 5.	Psychologists strive to understand diversity in the aging process, particularly how sociocultural factors such as gender, ethnicity, socioeconomic status, sexual orientation, disability status, and urban/rural residence may influence the experience and expression of health and of psychological problems in later life.
Guideline 6.	Psychologists strive to be familiar with current information about biological and health-related aspects of aging.
Clinical Issues	
Guideline 7.	Psychologists strive to be familiar with current knowledge about cognitive changes in older adults.
Guideline 8.	Psychologists strive to understand problems in daily living among older adults.
Guideline 9.	Psychologists strive to be knowledgeable about psychopathology within the aging population and cognizant of the prevalence and nature of that psychopathology when providing services to older adults.
Assessment	
Guideline 10.	Psychologists strive to be familiar with the theory, research, and practice of various methods of assessment with older adults, and knowledgeable of assessment instruments that are psychometrically suitable for use with them.
Guideline 11.	Psychologists strive to understand the problems of using assessment instruments created for younger individuals when assessing older adults, and to develop skill in tailoring assessments to accommodate older adults' specific characteristics and contexts.
Guideline 12.	Psychologists strive to develop skill at recognizing cognitive changes in older adults, and in conducting and interpreting cognitive screening and functional ability evaluations.
Intervention, Consultation, and Other Service Provision	
Guideline 13.	Psychologists strive to be familiar with the theory, research, and practice of various methods of intervention with older adults, particularly with current research evidence about their efficacy with this age group.
Guideline 14.	Psychologists strive to be familiar with and develop skill in applying specific psychotherapeutic interventions and environmental modifications with older adults and their families, including adapting interventions for use with this age group.
Guideline 15.	Psychologists strive to understand the issues pertaining to the provision of services in the specific settings in which older adults are typically located or encountered.
Guideline 16.	Psychologists strive to recognize issues related to the provision of prevention and health promotion services with older adults.
Guideline 17.	Psychologists strive to understand issues pertaining to the provision of consultation services in assisting older adults.
Guideline 18.	In working with older adults, psychologists are encouraged to understand the importance of interfacing with other disciplines, and to make referrals to other disciplines and/or to work with them in collaborative teams and across a range of sites, as appropriate.
Guideline 19.	Psychologists strive to understand the special ethical and/or legal issues entailed in providing services to older adults.
Education	
Guideline 20.	Psychologists are encouraged to increase their knowledge, understanding, and skills with respect to working with older adults through continuing education, training, supervision, and consultation.

TABLE 5 Guidelines for Psychological Practice with Girls and Women

Guideline 1.	Psychologists strive to be aware of the effects of socialization, stereotyping, and unique life events on the development of girls and women across diverse cultural groups.
Guideline 2.	Psychologists are encouraged to recognize and utilize information about oppression, privilege, and identity development as they may affect girls and women.
Guideline 3.	Psychologists strive to understand the impact of bias and discrimination upon the physical and mental health of those with whom they work.
Guideline 4.	Psychologists strive to use gender and culturally sensitive, affirming practices in providing services to girls and women.
Guideline 5.	Psychologists are encouraged to recognize how their socialization, attitudes, and knowledge about gender may affect their practice with girls and women.
Guideline 6.	Psychologists are encouraged to employ interventions and approaches that have been found to be effective in the treatment of issues of concern to girls and women.
Guideline 7.	Psychologists strive to foster therapeutic relationships and practices that promote initiative, empowerment, and expanded alternatives and choices for girls and women.
Guideline 8.	Psychologists strive to provide appropriate, unbiased assessments and diagnoses in their work with women and girls.
Guideline 9.	Psychologists strive to consider the problems of girls and women in their sociopolitical context.
Guideline 10.	Psychologists strive to acquaint themselves with and utilize relevant mental health, education, and community resources for girls and women.
Guideline 11.	Psychologists are encouraged to understand and work to change institutional and systemic bias that may impact girls and women.

Guidelines for Psychological Practice with Girls and Women, American Psychological Association, February 2007. http://www.apa.org/about/division/girlsandwomen.pdf. Copyright © by the American Psychological Association.

clearly articulated protocol regarding the way in which they will inform clients about the nature, extent, and limits of confidentiality.

The content of therapy is privileged communication. In other words, the clinician may not disclose any information about the client in a court of law without the client's expressed permission. The protection offered by confidentiality allows clients in therapy to discuss freely their symptoms, problems in relationships with others, and early childhood history, all of which may contain extremely personal and delicate information. Confidentiality also protects research subjects from having the information they disclose to an investigator revealed to the public without their express consent.

There are, however, exceptions to confidentiality. Legally, there are instances in which the court is entitled to receive information that emerges within the context (Barsky & Gould, 2002). These include child custody cases, trials in which a defendant is using mental disability as a defense in a criminal trial, and when a court appoints a psychologist to determine whether the defendant is competent to stand trial. Court-ordered assessments are an exception to the confidentiality standard. Defendants must be informed of this limitation in writing and acknowledge their understanding.

The principle of confidentiality also has limits in cases involving abuse. Every state requires some form of mandated reporting by professionals when they learn firsthand of cases involving child abuse or neglect. Abuse, which may be physical or sexual, is an act by a caretaker that causes serious physical or emotional injury. Neglect is the intentional withholding of food, clothing, shelter, or medical care. The purpose of mandated reporting is to protect victims from continuing abuse and neglect, to initiate steps toward clinical intervention with the abused individual, and to deter, punish, and rehabilitate abusers. Psychologists include individuals who are vulnerable people, those who are handicapped or intellectually disabled. Vulnerable individuals also include impaired elders who cannot otherwise protect themselves. Some states require that psychologists report not only financial, emotional, physical, or sexual abuse, but also self-neglect by persons age 60 or older who do not attend

TABLE 6 Guidelines for Assessment of and Intervention with Persons with Disabilities

Disability Awareness, Training, Accessibility, and Diversity

Guideline 1. Psychologists strive to learn about various disability paradigms and models and their implications for service provision.

Guideline 2. Psychologists strive to examine their beliefs and emotional reactions toward various disabilities and determine how these might influence their work.

Guideline 3. Psychologists strive to increase their knowledge and skills about working with individuals with disabilities through training, supervision, education, and expert consultation.

Guideline 4. Psychologists strive to learn about federal and state laws that support and protect people with disabilities.

Guideline 5. Psychologists strive to provide a barrier-free physical and communication environment in which clients with disabilities may access psychological services.

Guideline 6. Psychologists strive to use appropriate language and respectful behavior toward individuals with disabilities.

Guideline 7. Psychologists strive to understand both the common experiences shared by persons with disabilities and the factors that influence an individual's personal disability experience.

Guideline 8. Psychologists strive to recognize social and cultural diversity in the lives of persons with disabilities.

Guideline 9. Psychologists strive to learn how attitudes and misconceptions, the social environment, and the nature of a person's disability influence development across the life span.

Guideline 10. Psychologists strive to recognize that families of individuals with disabilities have strengths and challenges.

Guideline 11. Psychologists strive to recognize that people with disabilities are at increased risk for abuse and address abuse-related situations appropriately.

Guideline 12. Psychologists strive to learn about the opportunities and challenges presented by assistive technology.

Testing and Assessment

Guideline 13. In assessing people with disabilities, psychologists strive to consider disability as a dimension of diversity together with other individual and contextual dimensions.

Guideline 14. Depending on the context and goals of assessment and testing, psychologists strive to apply the assessment approach that is most psychometrically sound, fair, comprehensive, and appropriate for clients with disabilities.

Guideline 15. Psychologists strive to determine whether accommodations are appropriate for clients to yield a valid test score.

Guideline 16. Consistent with the goals of the assessment and disability-related barriers to assessment, psychologists in clinical settings strive to appropriately balance quantitative, qualitative, and ecological perspectives and articulate both the strengths and limitations of assessment.

Guideline 17. Psychologists in clinical settings strive to maximize fairness and relevance in interpreting assessment data of clients who have disabilities by applying approaches which reduce potential bias and balance and integrate data from multiple sources.

Interventions

Guideline 18. Psychologists strive to recognize that there is a wide range of individual response to disability, and collaborate with their clients who have disabilities, and when appropriate, with their clients' families to plan, develop, and implement psychological interventions.

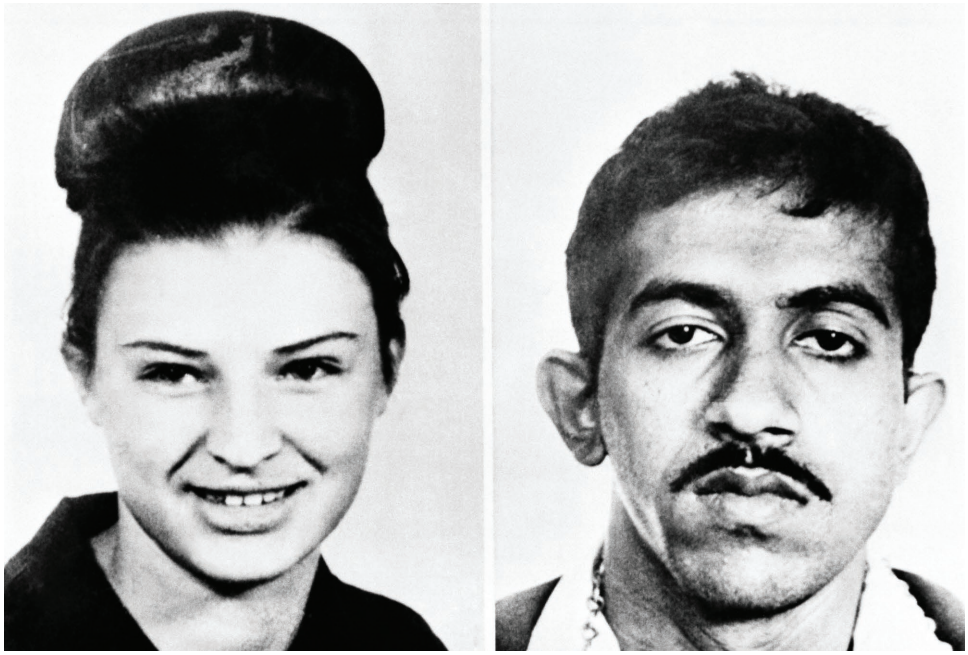
Guideline 19. Psychologists strive to be aware of the therapeutic structure and environment's impact on their work with clients with disabilities.

Guideline 20. Psychologists strive to recognize that interventions with persons with disabilities may focus on enhancing well-being as well as reducing distress and ameliorating skill deficits.

Guideline 21. When working with systems that support, treat, or educate people with disabilities, psychologists strive to keep the clients' perspectives paramount and advocate for client self-determination, integration, choice, and least restrictive alternatives.

Guideline 22. Psychologists strive to recognize and address health promotion issues for individuals with disabilities.

American Psychological Association. (2012a). Guidelines for assessment of and intervention with persons with disabilities. *American Psychologist, 67,* 43–62.



Tatiana Tarasoff (left), a junior at the University of California, was stabbed to death on the doorstep of her home by Prosenjit Poddar (right), who had told his therapist that he intended to kill her.

to their needs for food, clothing, safe and secure shelter, personal care, and medical treatment.

Another exception to the principle of confidentiality involves instances in which the clinician learns that a client is planning to hurt another person. These cases face the psychologist with a **duty to warn (or otherwise protect).** The duty to warn mandate requires that the clinician inform the intended victim about possible dangers posed by the client's behavior.

duty to warn (or otherwise protect)
The clinician's responsibility to notify a potential victim of a client's harmful intent toward that individual.

Duty-to-warn laws have their origins in a famous case, *Tarasoff v. Regents of the University of California* ("Tarasoff v The Regents of the University of California 551 P 2d 334, [California 1976]") which involved a community college student named Tatiana Tarasoff who was shot and fatally stabbed by a man named Prosenjit Poddar, a graduate student who came from India in 1967 to study electronics and naval architecture at the University of California, Berkeley. Poddar met Tarasoff, a young woman who lived with her parents near campus. He began to pursue her romantically, but she was not interested in him, rejecting his marriage proposal. This was in March 1969. Poddar became despondent and told his roommate that he wanted to blow up Tarasoff's house. The roommate advised Poddar to seek treatment and in June 1969, Poddar saw a psychiatrist at the university health services who then prescribed antipsychotic medications and referred him to a psychologist for therapy. In August 1969, Poddar told the psychologist, repeatedly announcing his homicidal thoughts, about Tarasoff. After the psychologist warned Tarasoff that he would restrain him if he continued to express these thoughts, Poddar abruptly discontinued therapy. Although the psychologist and psychiatrist told the police about Poddar's intentions and they then confronted him, Poddar denied this intention, and the law took no further actions. Poddar began to stalk Tarasoff and in October 1969, found her home alone and killed her. He then turned himself over to the police. Tarasoff's parents sued the university and the police and, finally, in December 1976, the California Supreme Court ruled in favor of the

James E. Holmes appears in Arapahoe County District Court, Monday, July 23, 2012, in Centennial, Colorado following his arrest for the Aurora movie theater massacre that killed 12 and wounded 70.

parents. The essential question was "whether a psychotherapist must, on pain of a civil suit for damages, recognize that a patient poses a risk of serious harm or death to an identified third party and then must warn or otherwise protect that third party" (Herbert, 2002) (p. 419).

The ramifications of this landmark decision continue to be felt by psychologists who struggle to differentiate between their clients' serious threats and random fantasies. In trying to make these distinctions, clinicians recurrently weigh the client's right of confidentiality against concern for the rights of other people. In a more recent case, in April 2007, a student at Virginia Polytechnic Institute and State University named Seung-Hui Cho killed 32 people and wounded 25 others. He had received treatment from a mental health facility after having demonstrated threatening and harassing behavior on campus. In Virginia's version of the Tarasoff duty-to-warn statute, mental health caregivers must "take charge" of an individual in order to implicate duty-to-warn liability. Although Cho named no specific victims, the case once again raised questions about the legal responsibilities of mental health professionals when their clients express homicidal or suicidal intentions.

Relationships with Clients, Students, and Research Collaborators

APA's Ethics Code makes clear that psychologists must take steps to ensure that they conduct all dealings with other individuals, including other psychologists, with the utmost of professionalism. In therapy, clear roles and boundaries are essential in order for the client to feel safe and trusting, and for the clinician to maintain objectivity and effectiveness. When a clinician violates boundaries within a therapeutic relationship, clients can experience a variety of nontherapeutic outcomes that only make their symptoms worse.

An extreme form of violation of the therapeutic relationship involves sexual intimacy with clients, which is explicitly forbidden in the ethical codes of the mental health professions. In fact, psychologists are prohibited from becoming sexually involved with a client for at least 2 years after treatment discontinues (or longer in many cases).

multiple relationships
Unethical relationships occurring when a psychologist is in a professional role with a person and has another role with that person that could impair the psychologist's "objectivity, competence, or effectiveness in performing his or her functions as a psychologist" or otherwise risks exploiting or harming the other person.

Psychologists must also refrain from **multiple relationships,** particularly with their clients in a therapy context. The APA Ethics Code defines multiple relationships as occurring when a psychologist is in a professional role with a person and has another role with that person that could impair the psychologist's "objectivity, competence, or effectiveness in performing his or her functions as a psychologist" or otherwise risks exploiting or harming the other person. However, multiple relationships that we reasonably would not expect to cause impairment or risk exploitation or harm are not unethical.

There are other ethical guidelines that affect how psychologists relate to others. In August 2015, at the APA Annual Convention, its governance body, the Council of Representatives, voted to amend the Ethics Code explicitly to prohibit any of its members from participating in enhanced interrogation methods. The resolution states that psychologists "shall not conduct, supervise, be in the presence of, or otherwise assist any national security interrogations for any military or intelligence entities, including private contractors working on their behalf, nor advise on conditions of confinement insofar as these might facilitate such an interrogation" (American Psychological Association, 2015). Critics had argued for a decade that this explicit prohibition must be included in the organization's ethical codes.

Other ethical safeguards include the prohibition that psychologists avoid harming others, refrain from engaging in relationships that involve conflict of interest, and exploit other people with whom they have a professional relationship. When psychologists collaborate on research, for example, they should give or take credit only for work that they have actually performed. They must also disclose their source of funding for publications based on research funded by that source.

You Be the Judge

Multiple Relationships Between Clients and Psychologists

The APA Ethics Code explicitly prohibits most multiple relationships between psychologists and their clients. However, given the nature of the therapist–client relationship, it is almost inevitable that potential multiple relationships can develop. In evaluating the ethics of a multiple relationship, we should distinguish between sexual and nonsexual. Sexual relationships are prohibited for at least 2 years after the ending of a therapeutic relationship. The boundaries around sexual relationships, however, can be much murkier. In rural communities or small towns, for example, psychologists may find it almost impossible to avoid such dilemmas in situations ranging from retail sales to education to provision of other professional services. Social interactions between therapists and their clients may also prove difficult, even in larger communities with multiple intersection social circles. In the chapter "Assessment", we discussed the ethics facing psychologists in the legal system. Here we will look more generally at multiple relationships as they affect psychologists in their clinical practice.

According to research on multiple relationships (Lamb, Catanzaro, & Moorman, 2004), social interactions, in fact, are the largest group of situations in which psychologists find themselves potentially facing complications from encountering their clients. Psychologists also reported relationships in the spheres of business, financial dealings, and religious affiliations. These relationships were more likely to occur between psychologists and their former clients than with their current clients. In the area of sexual intimacy, the researchers asked the psychologists to indicate whether the potential had ever existed for them to have relationships with their clients. However, even though they may have been tempted, these psychologists did not follow through on their interest due to their personal ethics, values, and morals. They also were highly unlikely to pursue a sexual relationship with a former client. At least half of the psychologists also indicated that they wished to avoid dual relationships and/or did not want to take advantage of the unequal power dynamics between themselves and clients. Relatively few respondents mentioned that they refrained from these relationships due to possible legal repercussions or from having their peers or professional associations sanction them.

The results of this survey suggest that psychologists adhere to high ethical standards in their relationships with current and former clients. As the study's authors acknowledge, however, it is possible that the participants who were the guiltiest of multiple relationships were the least likely to respond.

Q: *You be the judge:* Turning back to the ethical issue, consider the pros and cons of multiple relationships. Once a professional relationship is over, is it absolutely necessary for the psychologist not to become involved with a former client, particularly if he or she had a close connection during the course of treatment? On the other hand, you can argue that the very nature of the client–therapist relationship is such that each should respect the boundaries, even for years after treatment has ended. Should ethics codes be as stringent as they are in the area of multiple relationships?

Record Keeping

In an age of increasing use of electronic health care records (including maintenance of files on portable tablets), the need to protect clients becomes even more critical. These concerns led in 1996 to passage by the U.S. Congress of a complex series of rules governing patient records. This legislation, the **Health Insurance Portability and Accountability Act of 1996 (HIPAA),** went into effect in several stages beginning in 2003 and ending in 2008. To enforce the new HIPAA rules, there are civil monetary penalties for failure on the part of the employer, health care provider, or the insurance company.

Health Insurance Portability and Accountability Act of 1996 (HIPAA)
U.S. legislation intended to ensure adequate coverage and protect consumers from loss of insurance coverage when they change or lose their jobs.

Title I of HIPAA protects workers and their families from loss of health care insurance when they change or lose their jobs. Prior to HIPAA, people moving from one job to another were vulnerable to losing their health insurance if they had a history of serious illness. For example, if a man who was treated for a cancerous condition took a new job, he might have encountered the disturbing fact that he could not receive insurance coverage because of his illness.

Title II is intended to regulate the ways in which providers and insurance companies maintain and transmit medical records, called protected health information. In an electronic age, when organizations often send health records and billing information via the Internet, health care professionals must take special care to protect confidential medical records.

The Ethics Code also governs the way in which psychologists charge fees for their services. They must inform clients about the fees that they charge prior to beginning any interventions and should reach an agreement with clients about arrangements for billing. Fee practices must also be consistent with the law. Surprisingly, psychologists can barter with their clients for services—that is, accept goods, services, or other nonmonetary remuneration in return for psychological services. They cannot do so, however, if this arrangement would be clinically counterindicated or exploitative of their clients.

15.2 Ethical and Legal Issues in Providing Services

Psychologists and other mental health professionals face a number of issues in ensuring that clients receive the best possible treatment. At the same time, clinicians must balance the rights of clients with those of the community, issues that create ethical and legal dilemmas.

Commitment of Clients

commitment
An emergency procedure for involuntary psychiatric hospitalization.

In the best of all possible situations, clients who are in need of psychological treatment seek it themselves; however, clients are not always in a position to judge when they need the care of a psychologist. In these cases, the mental health professional may consider recommending **commitment,** an emergency procedure for involuntary hospitalization. Clinicians begin commitment proceedings in the cases of people who, if not hospitalized, are likely to create harm for self or other people as a result of mental illness.

parens patriae
The state's authority to protect those who are unable to protect themselves.

The concept of commitment stems from the legal principle that the state has the authority to protect those who are unable to protect themselves. The law refers to this authority as ***parens patriae.*** This responsibility is vested in various professionals, such as psychologists, physicians, and nurse specialists, who are authorized to sign an application for a time-limited commitment (usually 10 days). If a health professional is not accessible, a police officer may file commitment papers. In this application, the professional states why the failure to hospitalize the individual would result in the likelihood of serious harm due to mental illness.

In some instances, the application for commitment goes to a district court judge, perhaps instigated by the concerns of a family member (though a family member cannot directly apply for commitment). After hearing the reasons for commitment, the judge may issue a warrant to apprehend the mentally ill person in order for that individual to receive a qualified professional assessment. Once the individual is hospitalized, subsequent applications and hearings may be necessary to extend the period of commitment.

More than two dozen states now give courts, police officers, psychiatrists, mental health professionals, and families the option to coerce mentally ill individuals who have broken the law into treatment rather than to arrest them. Those supporting legislation permitting outpatient commitment assert that the benefits to society, in addition to the therapeutic benefits for the individual, outweigh the risks. In 1999, New York State

A court hearing is held to determine if a client should receive involuntary psychological treatment. These hearings involve expert testimony from psychologists who have evaluated the client.

enacted "Kendra's Law," which provides for the state's court-ordered involuntary outpatient commitment program, termed assisted outpatient treatment (AOT). The law is named after the tragic death of Kendra Webdale, who was pushed in front of a subway train in Manhattan by a stranger who had untreated schizophrenia. Recent evidence shows that the program has resulted in decreased hospitalization and improved service engagement and medication adherence (Swartz et al., 2010).

Right to Treatment

The admission to psychiatric hospitals, whether voluntary or involuntary, is only the beginning of the story for people entering these facilities. Once admitted, the client enters a world that is unfamiliar to most people causing them to feel frightened and confused. If hospitalized against their will, they may feel outraged. To minimize these reactions, health professionals try to ensure that they give clients appropriate care and that they understand their legal rights immediately upon entry to a facility. We have already discussed the importance of obtaining informed consent, when possible, prior to beginning treatment to ensure that clients understand the nature of treatment, the options available, and the client's rights.

Perhaps the most important legal right of the person entering a psychiatric hospital is the **right to treatment.** It may seem odd that we need laws to ensure that patients in hospitals receive treatment, but, as you read the legal history of these statutes, you will understand why they are necessary. The right to treatment emerged as the outcome of a landmark legal case, *Wyatt v. Stickney* ("Wyatt v. Stickney, 325 F. Supp. 781 [M.D. Ala. 1971]; 344 F. Supp. [M.D. Ala. 1972]"). In this case, a patient named Ricky Wyatt instituted a class action suit against the commissioner of mental health for the state of Alabama, Dr. Stickney, in response to the horrifying conditions in psychiatric and mental retardation facilities. These institutions failed to provide even a minimum of treatment, and were so inhumane that they were actually detrimental to the patient's mental health. At the time, the court relied on a principle put forth by a legal scholar invoking the constitutional right to due process in making the ruling against Alabama. In other words, the court ruled that mental health professionals cannot commit people to an institution that is supposed to help them unless they can guarantee that institutionalization will help them. Otherwise, their commitment constitutes the equivalent of imprisonment without a trial. Similarly, people with psychiatric disorders are, therefore, entitled

right to treatment
Legal right of person entering psychiatric hospital to receive appropriate care.

to treatment in the community, rather than relegation to institutions. In order to fulfill the conditions of this act, the government is obligated to provide funding for community-based treatment.

Patients also have the right to a humane environment, including privacy; appropriate clothing; opportunities for social interaction; mail, telephone, and visitation privileges; comfortable furnishings; physical exercise; and adequate diet. A related right is that of liberty and safety ("Youngberg v. Romeo, 457 U.S. 307 [1982]"), which includes the right to move about the ward and receive protection from violent patients. Seclusion and mechanical restraints are forbidden unless medically indicated and, when clinicians use them, they can only use them for a limited amount of time and only for appropriate purposes (La Fond, 1994).

Refusal of Treatment and Least Restrictive Alternative

Just as clients have a right to treatment, they also have a right to refuse unwanted treatment. It is accepted in our society that competent adults have the right to either accept or decline medical treatment. In view of the serious side effects of certain psychotherapeutic medications, some U.S. states have enacted laws that give the client the right to refuse unwanted medications. In these cases, the clinician must obtain a written order from a court of law, documenting the need for medication.

substituted judgment
Using substituted judgment, health professionals and family members try to make the decision that the patient would have made if he or she were able to make decisions.

least restrictive alternative
A treatment setting that provides the fewest constraints on the client's freedom.

Similarly, clients may regard as harsh, or even punitive, treatments such as the application of aversive noise or unpleasant shock and therefore refuse such treatment if they are capable of giving or withholding informed consent. However, cognitively compromised clients incapable of making informed decisions about such interventions may require protection by the law. A court can, in these cases, apply a doctrine called **substituted judgment** for people deemed incompetent of making such treatment decisions themselves. In substituted judgment, health professionals and family members try to make the decision that the patient would have made if he or she were able to make decisions (Torke, Alexander, & Lantos, 2008). For example, a judge would attempt to determine whether the client would willingly approve the administration of aversive shock as a treatment designed to stop from engaging in life-threatening head-banging behavior.

This woman is a patient in an eating disorder day-treatment facility, where part of her treatment involves ingesting a certain amount of calories per day. Since she has decision-making capacity, she reserves the right to refuse this treatment, even if her care providers do not think this is in her best interest.

Clients also have the right for placement in what we call the **least restrictive alternative** to treatment in an institution, meaning that adult protective services provided in a manner no more restrictive of a vulnerable adult's liberty and no more intrusive than necessary to achieve and ensure essential services. This right was established in 1975 by a landmark ruling in the U.S. Supreme Court ("O'Connor v. Donaldson [1975] 95 S. Ct. 2486"). In 1943, Kenneth Donaldson was a 34-year-old father of three working in a General Electric defense plant when he showed what appeared to be symptoms of paranoid schizophrenia. Sent to a state hospital, he was given 23 electroshock treatments and resumed normal life. In the mid-1950s he developed paranoid delusions that he was being poisoned. At the instigation of his father, he was committed to Florida's Chattahoochee State Hospital in 1956, where he remained for 15 years. Steadfastly denying he was ill, he refused all treatment once he was hospitalized. However, Donaldson never exhibited signs of threatening behavior. His disorder, which clinicians diagnosed as paranoid schizophrenia, went into remission soon after his commitment. Nevertheless, Donaldson was kept in the hospital for nearly two decades, during which time he was denied many fundamental privileges.

The evidence showed that Donaldson's confinement was a simple regime of enforced custodial care, not a program designed to alleviate or cure his supposed illness. Numerous witnesses had testified that Donaldson had received nothing but custodial care while at the hospital. For substantial periods, Donaldson was simply kept in a large room that housed 60 patients, many of whom were under criminal commitment. Donaldson's requests for ground privileges, occupational training, and an opportunity to discuss his case with the hospital superintendent, D.J.B. O'Connor, or other staff members were repeatedly denied.

The Supreme Court's ruling in Donaldson's favor, along with several less-known cases, paved the way for major changes in the mental health system. This case established the legal principle that the presence of mental illness in a person is not sufficient reason for confinement to a mental hospital.

15.3 Forensic Issues in Psychological Treatment

At the interface between psychology and the law, forensic psychologists provide advice to the judicial system in many ways. We have already seen that psychologists may serve as expert witnesses. More generally, forensic issues in psychological treatment involve determining whether an individual who commits a crime should be incarcerated or be treated in a mental health facility.

The Insanity Defense

Insanity is a legal term that refers to the individual's lack of moral responsibility for committing criminal acts. The **insanity defense** is the argument a lawyer presents acting on behalf of the client that, because of the existence of a mental disorder, the client should not be held legally responsible for criminal actions. Criminal law is based on the principle that people have free choice in their actions and that, if they break the law, they must be held responsible. We judge people determined to be "insane" to lack freedom of choice over controlling their behavior, as well as the mental competence to distinguish right from wrong. The insanity defense originated as an attempt to protect people with mental disorders from punishment for harmful behavior resulting from their disturbed psychological state.

insanity
A legal term that refers to the individual's lack of moral responsibility for committing criminal acts.

insanity defense
The argument, presented by a lawyer acting on behalf of the client, that, because of the existence of a mental disorder, the client should not be held legally responsible for criminal actions.

The insanity defense emerged from various legal precedents and the legal profession's attempts at clarification. In 1843, the court handed down the **M'Naghten Rule** in a landmark case involving a Scottish woodcutter named Daniel M'Naghten. Under the delusional belief that God was commanding him, M'Naghten killed an English government official. When M'Naghten went to trial, the defense argued that he should not be held responsible for the murder because his mental disorder prevented him from knowing the difference between right and wrong. He believed that he was following the commands of a higher power and, therefore, saw nothing wrong in his behavior. This is why the M'Naghten Rule is referred to as the "right-wrong test."

M'Naghten Rule
The "right-wrong test" used in cases of the insanity defense to determine whether a defendant should be held responsible for a crime.

Most jurisdictions in the United States adopted the M'Naghten Rule, but legislatures and courts eventually modified and expanded the definition. Legislators later added the **irresistible impulse** test to the M'Naghten Rule to take into account the possibility that some disturbed behaviors may result from people's inability to inhibit actions that they feel compelled to carry out. Although they may know that an act is wrong, they are unable to stop themselves from acting on their impulses.

irresistible impulse
The legal argument that although clients in a forensic setting know an act was wrong, they were unable to stop themselves from acting on their impulses.

The **Durham Rule** later expanded the insanity defense after a court decision in 1954 asserted that a person is not criminally responsible if the "unlawful act was the product of mental disease or defect." Its intent was to protect individuals with disturbed psychological functioning due to any of a variety of conditions, including personality disorders. This expansion of the insanity defense put the burden on mental health experts to prove

Durham Rule
An expansion of the insanity defense based on determining that the individual was not criminally responsible if the unlawful act was due to the presence of a psychological disorder.

REAL STORIES

Susanna Kaysen: Involuntary Commitment

"Don't you think you need a rest?"

"Yes," I said.

He strode off to the adjacent room, where I could hear him talking on the phone.

I have thought often of the next 10 minutes–my last 10 minutes. I had the impulse, once, to get up and leave through the door I'd entered, to walk the several blocks to the trolley stop and wait for the train that would take me back to my troublesome boyfriend, my job at the kitchen store. But I was too tired.

He strutted back into the room, busy, pleased with himself.

"I've got a bed for you," he said. "It'll be a rest. Just for a couple of weeks, okay?" He sounded conciliatory, or pleading, and I was afraid.

"I'll go Friday," I said. It was Tuesday, maybe by Friday I wouldn't want to go.

He bore down on me with his belly. "No. You go now."

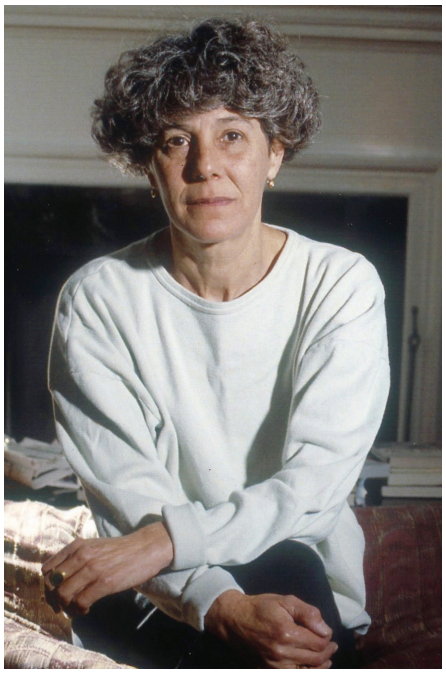
I thought this was unreasonable. "I have a lunch date," I said.

"Forget it," he said. "You aren't going to lunch. You're going to the hospital." He looked triumphant.

In 1967, Susanna Kaysen, then 19 years old, was committed to McLean Hospital in Belmont, Massachusetts, following a suicide attempt in which she consumed 50 aspirin pills along with vodka. In her book, *Girl, Interrupted*, Susanna provides her own insight into her experience contrasted with actual documents from her commitment that she later obtained. Throughout the book, Susanna questions the judgment of her psychiatrist who decided to commit her, a decision that resulted in a hospitalization lasting nearly 2 years. Susanna discusses mental illness from a philosophical standpoint, and uses her experience, as well as the experiences of her fellow patients, as a way of questioning whether she was really in need of inpatient treatment, whether she was really "crazy." As you can note from the passage above, the book also underscores the changes that have taken place over the past 50 years in procedures and laws regarding involuntary psychiatric hospitalizations. Although perhaps her doctor at the time felt that Susanna was a threat to herself, given her suicide attempt as well as a history of some self-harming behaviors (cutting and wrist-banging), his process of commitment did not include a thorough risk assessment, and was solely based on his clinical judgment.

When Susanna was admitted to McLean, clinicians diagnosed her with borderline personality disorder. Looking back at her case now, it appears that her symptoms point more to a diagnosis of major depressive episode. In *Girl, Interrupted*, Susanna contemplates the meaning of her diagnosis at the time and whether her symptoms as described in the *DSM* matched up with her true experience.

In her time at McLean, Susanna thought at length about the implications of her hospitalization for her own mental health. At times throughout the book it appears that she is trying to reason with herself and make a case for committing herself. We could argue that this was actually harmful to her, that she had to make herself believe that she needed to be there. By today's standards, we would deem this unethical, given that her treatment was causing more harm than good. Also by current ethical standards, mental health professionals would consider her length of stay almost unimaginable, given that the average length of stay is now closer to about 1 week for most inpatient hospitalizations. At the time of the book, however, a patient's stay was dictated by the family's ability to pay for hospitalization. Currently, clinicians focus on stabilizing the patient as efficiently as possible so that he or she may safely return to the community. In the end, the hospital allowed Susanna to sign herself out and she moved into her own apartment.



Susanna Kaysen wrote about her experience in an inpatient psychiatric facility in *Girl, Interrupted.* In the book, she questions the validity of her diagnosis and if she should have been hospitalized for her symptoms.

In the book, Susanna discusses her difficult transition back to living independently following her hospitalization. She details the agonizing experience of trying to explain the gaps in time between jobs on her resume to potential employers. She had to list the address of the hospital, which was well known to belong to McLean, which added to the stigma she faced when applying for jobs, leases, or even a driver's license, following her discharge.

In reflecting on her experience of being hospitalized, Susanna speaks to the lasting memories of that time, as well as the long-term impact of the diagnosis on her sense of identity.

"Maybe I was just flirting with madness the way I flirted with my teachers and my classmates. I wasn't convinced I was crazy, though I feared I was. Some people say that having any conscious opinion on the matter is a mark of sanity, but I'm not sure that's true. I still think about it. I'll always have to think about it . . . It's a common phrase I know. But it means something particular to me: the tunnels, the security screens, the plastic forks, the shimmering, ever-shifting borderline that like all boundaries beckons and asks to be crossed. I do not want to cross it again."

Susanna Kaysen. *Girl, Interrupted,* Vintage, 1994.

whether or not a defendant was mentally disturbed, even when there was no evidence of overt psychosis.

In an attempt to develop uniform standards for the insanity defense, the **American Law Institute's (ALI) guidelines** in 1962 (Sec. 4.01) took a middle position between the pre–Durham Rule codes and the liberal standing the Durham Rule takes. According to the ALI, people are not responsible for criminal behavior if their mental disorder prevents them from appreciating the wrongfulness of their behavior or from exerting the necessary willpower to control their acts (the irresistible impulse rule). The important term here is "appreciating." In other words, knowing what is right and wrong is not equivalent to understanding that one's behavior is wrong.

American Law Institute's (ALI) guidelines
Guidelines proposing that people are not responsible for criminal behavior if their mental disorder prevents them from appreciating the wrongfulness of their behavior.

The ALI code allows for the introduction of medical and psychiatric evidence, in contrast to the M'Naughten Rule and thus provides a modern test for the insanity defense. Another important feature of the ALI code is the exclusion from the insanity defense of people whose only maladaptive behavior is repeated criminal or otherwise antisocial conduct. The ALI guideline is a more viable standard of insanity than the Durham Rule, because it takes the question of guilt or innocence away from mental health experts and places it in the hands of the jury, who can then make a determination based on the evidence related to the crime itself.

In the years following the publication of the ALI standards, the courts applied the insanity defense much more widely. However, the situation changed once again after John Hinckley attempted to assassinate President Ronald Reagan in 1981. Hinckley was obsessed with actress Jodie Foster believing that, if he killed the president, Jodie Foster would be so impressed that she would fall in love with him and marry him. When the case went to trial, the jury determined that Hinckley's actions justified the insanity defense. He was sent to St. Elizabeth's Hospital in Washington, D.C., where he remains to this day. This case brought to the nation's attention the rarely used but controversial insanity plea as it had been broadened through the Durham and ALI standards. The public was particularly outraged about the possibility that an assassin could potentially get away with murder on the grounds of having a mental disorder.

In response to the Hinckley case, Congress passed the Insanity Defense Reform Act of 1984, which added the criterion of "severe disturbance" to the insanity defense. This meant that people with personality disorders would no longer be able to plead insanity. The law also moved the burden of proof. Previously, the defense needed to provide reasonable doubt regarding the prosecution's argument that the defendant was sane. The Reform Act meant that the defense must now prove that the defendant fit the legal definition of insanity, which is a more difficult argument to make.

The case of John Hinckley, who in 1981 tried to assassinate President Ronald Reagan, raised public concern over possible misuse of the insanity defense. Hinckley, who was declared insane by the courts, was not imprisoned; instead he was committed to treatment at St. Elizabeth's Hospital in Washington, D.C., where he still resides.

Individual states vary in the nature of the insanity defense that they use in criminal proceedings. Some states have moved toward separating the question of guilt from that of mental disorder by allowing the plea of "guilty, but mentally ill." The court does not exonerate defendants who use this plea from the crime, but gives them special consideration in sentencing.

Partly because of the storm of criticism following the Hinckley case, however, the court took a very different route in 1992. This time, the case involved a 31-year-old man, Jeffrey Dahmer, who confessed to murdering and dismembering 17 boys and young men and explained that he was driven to kill out of a compulsion to have sex with dead bodies. The trial took place in Milwaukee for the 15 murders that Dahmer claimed to have committed in Wisconsin. Dahmer's defense attorney argued that Dahmer's crimes could only have been committed by someone who fit the legal definition of insane. The jury rejected his guilty but mentally ill plea as they believed him to be responsible for his crimes and able to appreciate the wrongfulness of his

Lyle and Erik Menendez continue to serve life sentences in prison for murdering their parents in 1989.

conduct. He was sentenced to consecutive life terms for the murder of each of his victims. In 1994, Dahmer was killed at the age of 34 by another inmate.

Other highly publicized cases since Dahmer's have brought out other subtleties in the insanity defense as we currently construe it. In California, the Menendez brothers admitted to the premeditated murder of their parents in response, they claimed, to years of sexual and emotional abuse. The brothers, 23 and 26 at the time of the crime, admitted to the killings, but claimed they had acted in self-defense. Their defense attorneys presented the argument of "imperfect self-defense," asserting that they acted out of the mistaken belief that their parents were about to kill them, a belief that stemmed from a lifelong history of physical, emotional, and sexual abuse. The defense claimed that, on the night of the killings one of the brothers, in an altered mental state, retrieved his shotgun, loaded it, and burst in on his parents. The prosecution, which proved its case, claimed that the brothers instead were motivated by the $14 million they stood to inherit after the death of their parents.

The irresistible impulse defense came to light in the highly publicized case of Lorena Bobbitt, a Virginia woman who claimed to be temporarily insane as the result of years of physical and psychological abuse by her husband, leading her to cut off his penis. She claimed that at that point she was overcome with what she called "pictures," or mental images, of his abusive actions toward her. The jury concluded that she was temporarily insane and acquitted her of all charges of malicious and unlawful wounding. As mandated by Virginia law, the judge in the case ordered Lorena Bobbitt to be evaluated at a state psychiatric hospital to determine whether or not she posed a danger to herself or others. After the 45-day period, she was released.

Yet another variant of the insanity defense occurred in the case of Andrea Yates who, in June 2001, drowned her five children in the bathtub of her Texas home. Yates had a history of profound postpartum depression following the births of her fourth and fifth children. Although her case seemed to merit the insanity plea, the court convicted her of capital murder in March 2002. In 2006, an appeals court overturned the verdict on the basis of the fact that one of the trial expert witnesses had presented false testimony relevant to her mental state at the time of the killings. In July 2006, the court moved her from a high-security mental health facility to a low-security state mental hospital.

The trials of Lee Boyd Malvo and John Allen Muhammed presented the case of two individuals who had committed homicides in which one individual but not the other committing the same crimes qualified for the insanity defense. The pair was arrested in October 2002 after committing sniper attacks in which they murdered 10 people in the Washington, D.C., area. The prosecution asserted that Muhammed, a man in his forties,

Anders Behring Breivik, a right-wing extremist, was declared sane and guilty of murdering 77 people in Norway in 2011 following a psychiatric evaluation.

had undertaken the shooting spree and ordered 17-year-old Malvo to help him. Malvo's defense attorneys pleaded the insanity defense on the grounds that he was indoctrinated and therefore had a form of mental illness. Because he was a teenager under the power of a much older man, he did not know right from wrong. However, the jury rejected this version of the insanity defense.

The opposite situation occurred in the case of Theodore Kaczynski, known as the "Unabomber." Over an 18-year period, Kaczynski mounted a campaign from his cabin in Montana against the "industrial-technological system." He admitted that he killed three people and had maimed many others by sending package bombs to government addresses. From his history and extensive clinical evaluation, there was compelling evidence that he had schizophrenia, paranoid type. However, he refused to use the insanity defense as he did not consider himself to have a psychological disorder.

Competency to Stand Trial

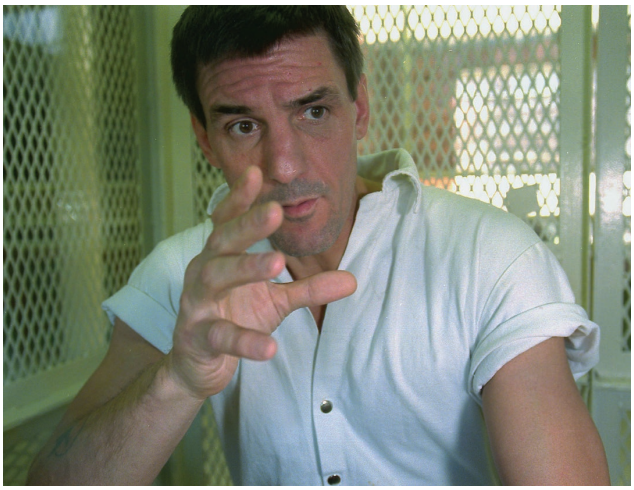
The determination of **competency to stand trial** pertains to the question of whether defendants are aware of and able to participate in criminal proceedings against them. This determination is based on the principle that people should be able to participate in their own defense. To make this determination, a forensic expert evaluates the defendant's cognitive capacity, emotional stamina, and ongoing symptoms. In some cases, the court may demand postponing the trial until the defendant's symptoms subside, if necessary, by mandating that the individual receive medication. Although structured instruments are available for the purpose of making these determinations, the majority of forensic experts rely on their clinical judgment (Bartol & Bartol, 2012).

competency to stand trial
A prediction by a mental health expert of the defendant's cognitive and emotional stability during the period of the trial.

Understanding the Purpose of Punishment

Separate from the issue of competency to stand trial is the question of whether a mentally ill person who is convicted of a capital offense is able to understand the nature and purpose of a death sentence. The case of Scott Louis Panetti, which the U.S. Supreme Court heard in 2007, highlights some of the complexities of this question.

In 1992, Panetti killed his in-laws while holding hostage his estranged wife and their 3-year-old daughter. Even though Panetti had a lengthy history of mental illness and psychiatric hospitalizations, the Texas court sentenced him to death. In 2003, Panetti



For almost two decades the case of Scott Louis Panetti has been the focus of legal debate and controversy. Panetti's death sentence in Texas was overturned by the U.S. Supreme Court on the premise that Panetti lacked understanding of why he was being put to death.

petitioned the Texas state appeals court to determine his competency for execution. Panetti asserted his belief that satanic forces had sought his execution to prevent him from preaching the Gospel. His defense lawyers claimed that since Panetti could not understand why the jury sentenced him to death, the death penalty would constitute cruel and unusual punishment and therefore violate the Eighth Amendment of the Constitution. The Texas Department of Criminal Justice objected to this argument, contending that capital punishment in such cases should not rest on whether a convict has rational understanding of the reasons for execution, but on the convict's moral culpability at the time he or she committed the crime.

In 2007, the U.S. Supreme Court blocked Panetti's execution and returned the case to the U.S. District Court in Austin, Texas. The court based this decision in part on arguments that the American Psychological Association, the American Psychiatric Association, and the National Alliance on Mental Illness put forward. These organizations jointly submitted a brief stating that individuals with psychotic conditions, such as Panetti, may experience delusions and a disrupted understanding of reality. Also, these individuals may be unable to connect events or understand cause and effect—namely, the connection between the murder and the punishment.

Concluding Perspectives on Forensic Issues

As you can see from our discussion of forensic issues, there is an entire body of knowledge forming on the border between psychology and the law. Mental health professionals are playing an increasingly important role in the legal system and, at the same time, are finding that they must familiarize themselves with an array of forensic issues. Clearly, the areas of intersection between psychology and the law will continue to grow as society looks for interventions that are humane, ethical, and effective.

Return to the Case: Mark Chen

Mark was hospitalized for 5 days. While on the unit, health care professionals thoroughly assessed Mark, focusing on his suicidality and depressive symptoms. He attended group therapy and worked with a psychiatrist to change his medication regimen. Once he had stabilized and was no longer suicidal, he was released from the hospital. His parents picked him up and he decided to stay with them for the rest of the semester and to return to school for the following year.

Prior to his hospitalization, Mark's parents were not aware that their son was experiencing psychological difficulties. Much to Mark's surprise, they stated that they understood his need to stay home to recuperate. Since his parents lived several hours away from where he attended school, Mark and his therapist decided to have weekly telephone sessions in order to continue their work together. Their work focused on the relationship between Mark and his parents, and Mark used his time at home to learn to discuss how he felt that the pressure they had placed on him had been a source of much stress.

Dr. Tobin's reflections: Clinicians are sometimes faced with the difficult decision of hospitalizing their therapy clients. Mark's clinician performed the appropriate steps to determine his level of safety. He was in great need of hospitalization as he appeared to be an immediate threat to his life, thus the clinician was ethically bound to break confidentiality and commit Mark to the hospital. Luckily, Mark and his clinician had a strong enough alliance that Mark felt he should come in for "one last session" rather than ending his life. This may have been a "cry for help," because Mark knew that the clinician would be able to help him.

Mark's first depressive episode was severe, lasting around 8 months. Usually, the more severe the initial episode, the more persistent and severe subsequent episodes will become. Considering that the current work with his clinician is the first time that Mark has

received psychological treatment, a part of the treatment will be to help Mark gain a sense of insight into his psychological struggles. For instance, in the future, should Mark begin to notice the same pattern of symptoms that led to his current depressive episode, he may then recognize that his symptoms may turn more severe if he does not bring them to the attention of his therapist or psychiatrist.

Finally, conducting psychotherapy over the phone, or "teletherapy," is becoming increasingly a more common way of performing therapy and is covered by APA's Ethics Code. If both parties agree that it will be the best way to maintain the therapeutic alliance over a certain period of time, as in Mark's case, it may be a suitable alternative to stopping therapy altogether. Because Mark did plan on returning to school and continuing to work with his therapist, it appears that teletherapy was an appropriate way to continue with their work to that point and avoid a rupture in his progress.

SUMMARY

- Clinicians have various roles and responsibilities. We expect them to have the intellectual competence to assess, conceptualize, and treat clients whom they accept into treatment, in addition to having the emotional capability of managing the clinical issues that emerge. When beginning work with clients, they should obtain the client's informed consent to ensure that the client understands the goals of treatment, the therapy process, the client's rights, the therapist's responsibilities, the treatment risks, the techniques that the clinician will use, financial issues, and the limits of confidentiality.
- Confidentiality is the principle that the therapist must safeguard disclosures in therapy as private. With only a few exceptions, the content of therapy is privileged communication; that is, the clinician may not disclose any information about the client in a court without the client's expressed permission. Exceptions to confidentiality include instances involving mandated reporting and duty to warn (or otherwise protect). Mental health professionals are mandated by law to report information involving the abuse or neglect of children or other people who are unable to protect themselves. The duty to warn involves the clinician's responsibility to take action to inform a possible victim of a client's intention to do harm to that person.
- In their relationships with clients, we expect clinicians to adhere to the highest standards of ethical and professional conduct. They are to avoid inappropriate relationships, such as sexual intimacy with clients, and must maintain neutrality and distance in their dealings with clients. In overseeing the business aspects of psychotherapy practice, mental health professionals face various challenges, particularly when operating within managed health care delivery systems. Sometimes clinicians must serve in roles that present unique ethical challenges (e.g., expert witness, child custody evaluations, and evaluations of people with dementia).
- Clinicians are sometimes involved in the process of commitment, an emergency procedure for the involuntary hospitalization of a person who, if not hospitalized, is likely to create harm for self or others as a result of mental illness. Hospitalized clients have the right to treatment—the right to a humane environment with appropriate amenities, in addition to liberty and safety. Clients also have the right to refuse unwanted treatment, unless a court deems that the client is at risk of harming self or others without needed intervention. Clients also have the right for placement in the least restrictive alternative to treatment in an institution.
- The major forensic issues that pertain to the field of mental health involve the insanity defense and the competency to stand trial. The insanity defense is the argument that the lawyer acting on behalf of the client presents, which states that, because of the existence of a mental disorder, the law should not hold the client legally responsible for criminal actions. Various controversies have emerged during the past two decades regarding the insanity defense, as courts have struggled with issues of assessing a defendant's responsibility in well-publicized cases involving violent assault and murder. The determination of competency to stand trial pertains to the question of whether defendants are aware of and able to participate in criminal proceedings against them.

KEY TERMS

American Law Institute's (ALI) guidelines
Commitment
Competency to stand trial
Durham Rule
Duty to warn (or otherwise protect)
Emotional competence
Guardian *ad litem*
Health Insurance Portability and Accountability Act of 1996 (HIPAA)
Insanity
Insanity defense
Irresistible impulse
Least restrictive alternative
M'Naghten Rule
Multiple relationships
Parens patriae
Right to treatment
Substituted judgment

GLOSSARY

A

Acceptance and Commitment Therapy (ACT) A form of cognitive therapy that helps clients accept the full range of their subjective experiences, such as distressing thoughts and feelings, as they commit themselves to tasks aimed at achieving behavior change that will lead to an improved quality of life.

active phase A period in the course of schizophrenia in which psychotic symptoms are present.

acute stress disorder An anxiety disorder that develops after a traumatic event, and lasts for up to 1 month with symptoms such as depersonalization, numbing, dissociative amnesia, intense anxiety, hypervigilance, and impairment of everyday functioning.

adaptive testing Testing in which the client's responses to earlier questions determine the subsequent questions presented to them.

agoraphobia Intense anxiety triggered by the real or anticipated exposure to situations in which they may be unable to get help should they become incapacitated.

akinesia A motor disturbance in which a person's muscles become rigid and movement is difficult to initiate.

alcohol myopia theory Proposes that as individuals consume greater amounts of alcohol, they are more likely to make risky choices because the immediate temptation of the moment overcomes the long-term consequences of the behavior.

allele One of two different variations of a gene.

American Law Institute's (ALI) guidelines Guidelines proposing that people are not responsible for criminal behavior if their mental disorder prevents them from appreciating the wrongfulness of their behavior.

amnesia Inability to recall information that was previously learned or to register new memories.

amphetamine A stimulant that affects both the central nervous and the autonomic nervous systems.

amyloid plaques A characteristic of Alzheimer's disease in which clusters of dead or dying neurons become mixed together with fragments of protein molecules.

analog observations Assessments that take place in a setting or context such as a clinician's office or a laboratory specifically designed for observing the target behavior.

anorexia nervosa (AN) An eating disorder characterized by an inability to maintain normal weight, an intense fear of gaining weight, and distorted body perception.

anterograde amnesia Amnesia involving the inability to remember new information.

antisocial personality disorder A personality disorder characterized by a lack of regard for society's moral or legal standards and an impulsive and risky lifestyle.

anxiety A future-oriented and global response, involving both cognitive and emotional components, in which an individual is inordinately apprehensive, tense, and uneasy about the prospect of something terrible happening.

anxiety disorders Disorders characterized by excessive fear and anxiety, and related disturbances in behavior.

anxiety sensitivity theory The belief that panic disorder is caused in part by the tendency to interpret cognitive and somatic manifestations of stress and anxiety in a catastrophic manner.

anxiolytic An antianxiety medication.

apnea Total absence of airflow.

archetypes In Jung's theory, a set of images common to all human experience.

asociality Lack of interest in social relationships.

Asperger's disorder A term once used to describe individuals with high-functioning autism spectrum disorder.

Assertive Community Treatment (ACT) Where a team of professionals from psychiatry, psychology, nursing, and social work reach out to clients in their homes and workplaces.

attachment figure The person who is the target of the individual's strongest emotional bond.

attachment style The way a person relates to a caregiver figure.

attention-deficit/hyperactivity disorder (ADHD) A neurodevelopmental disorder involving a persistent pattern of inattention and/or hyperactivity.

autism spectrum disorder A neurodevelopmental disorder involving impairments in the domains of social communication and performance of restricted, repetitive behaviors.

automatic thoughts Ideas so deeply entrenched that the individual is not even aware that they lead to feelings of unhappiness and discouragement.

aversive conditioning Classical conditioning in which the individual associates a maladaptive response with a stimulus that could not itself cause harm.

avoidant personality disorder A personality disorder in which people have low estimation of their social skills and are fearful of disapproval, rejection, and criticism or being ashamed or embarrassed.

avoidant/restrictive food intake disorder A disorder in which individuals avoid eating out of concern about aversive consequences or restrict intake of food with specific sensory characteristics.

avolition A lack of initiative, either not wanting to take any action or lacking the energy and will to take action.

axis A class of information in previous *DSM*s regarding an aspect of the individual's functioning.

B

Barnum effect The tendency for clinicians unintentionally to make generic and vague statements about their clients that do not specifically characterize the client.

behavioral activation Behavioral therapy for depression in which the clinician helps the client identify activities associated with positive mood.

behavioral assessment A form of measurement based on objective recording of the individual's behavior.

behavioral genetics Research area focused on determining the role of hereditary factors in psychological disorders.

behavioral interviewing Assessment process in which clinicians ask questions about the target behavior's frequency, antecedents, and consequences.

behavioral medicine An interdisciplinary approach to medical conditions affected by psychological factors that is rooted in learning theory.

behavioral perspective A theoretical perspective in which it is assumed that abnormality is caused by faulty learning experiences.

behavioral self-report A method of behavioral assessment in which the individual provides information about the frequency of particular behaviors.

binge eating The ingestion of large amounts of food during a short period of time, even after reaching a point of feeling full, and a lack of control over what or how much is eaten.

binge-eating disorder an eating disorder in which individuals engage in binge eating, lack control over their eating, and engage in binges for at least twice a week for 6 months.

biological perspective A theoretical perspective in which it is assumed that disturbances in emotions, behavior, and cognitive processes are caused by abnormalities in the functioning of the body.

biological sex The sex determined by a person's chromosomes.

biopsychosocial perspective A model in which the interaction of biological, psychological, and sociocultural factors is seen as influencing the development of the individual.

bipolar disorder A mood disorder involving manic episodes—intense and disruptive experiences of heightened mood, possibly alternating with major depressive episodes.

bipolar disorder, rapid cycling A form of bipolar disorder involving four or more episodes within the previous year that meet the criteria for manic, hypomanic, or major depressive disorder.

body dysmorphic disorder A disorder in which individuals are preoccupied with the idea that a part of their body is ugly or defective.

borderline personality disorder (BPD) A personality disorder characterized by a pervasive pattern of poor impulse control and instability in mood, interpersonal relationships, and sense of self.

bradykinesia A motor disturbance involving a general slowing of motor activity.

brief psychotic disorder A disorder characterized by the sudden onset of psychotic symptoms that are limited to a period of less than a month.

bulimia nervosa An eating disorder involving alternation between the extremes of eating large amounts of food in a short time, and then compensating for the added calories either by vomiting or other extreme actions to avoid gaining weight.

buprenorphine A medication used in the treatment of heroin addiction.

C

caffeine A stimulant found in coffee, tea, chocolate, energy drinks, diet pills, and headache remedies.

case formulation A clinician's analysis of the factors that might have influenced the client's current psychological status.

case study An intensive study of a single person described in detail.

catatonia A condition in which the individual shows marked psychomotor disturbances.

childhood disintegrative disorder A disorder in *DSM-IV-TR* in which the child develops normally for the first 2 years and then starts to lose language, social, and motor skills, as well as other adaptive functions, including bowel and bladder control.

childhood-onset fluency disorder (stuttering) A communication disorder also known as stuttering that involves a disturbance in the normal fluency and patterning of speech characterized by such verbalizations as sound repetitions or prolongations, broken words, the blocking out of sounds, word substitutions to avoid problematic words, or words expressed with an excess of tension.

circadian rhythms Biological clocks that set patterns of sleepfulness and wakefulness on approximately a 24-hour basis.

classical conditioning The learning of a connection between an originally neutral stimulus and a naturally evoking stimulus that produces an automatic reflexive reaction.

client A person seeking psychological treatment.

client-centered An approach based on the belief held by Rogers that people are innately good and that the potential for self-improvement lies within the individual.

clinical interview A series of questions that clinicians administer in face-to-face interaction with the client.

clinical psychologist A mental health professional with training in the behavioral sciences who provides direct service to clients.

clinical significance The criterion for a psychological disorder in which the behavior being evaluated involves a measurable degree of impairment that the clinician can observe.

clinician The person providing treatment.

cocaine A highly addictive central nervous system stimulant that an individual snorts, injects, or smokes.

cognitive perspective A theoretical perspective in which it is assumed that abnormality is caused by maladaptive thought processes that result in dysfunctional behavior.

cognitive restructuring One of the fundamental techniques of cognitive-behavioral therapy in which clients learn to reframe negative ideas into more positive ones.

cognitive training A method of intervention in which an individual receives specific guidance in remediating a cognitive deficit.

cognitive triad According to the cognitive theory of depression, the view that a depressed person's dysphoria results from a negative view of the self, the world, and the future.

cognitive-behavioral therapy (CBT) Treatment method in which clinicians focus on changing both maladaptive thoughts and maladaptive behaviors.

cognitive-behavioral therapy for psychosis (CBTp) Method of treating symptoms of psychosis in which clinicians do not try to change their delusions or eliminate their hallucinations, but instead try to reduce their distress and preoccupation with these symptoms.

commitment An emergency procedure for involuntary psychiatric hospitalization.

communication disorders Conditions involving impairment in language, speech, and communication.

community mental health center (CMHC) Outpatient clinic that provides psychological services on a sliding fee scale to serve individuals who live within a certain geographic area.

comorbid The situation that occurs when multiple diagnostic conditions occur simultaneously within the same individual.

competency to stand trial A prediction by a mental health expert of the defendant's cognitive and emotional stability during the period of the trial.

compulsion A repetitive and seemingly purposeful behavior performed in response to uncontrollable urges or according to a ritualistic or stereotyped set of rules.

computed axial tomography (CAT or CT) scan A series of X-rays taken from various angles around the body that are integrated by a computer to produce a composite picture.

concordance rate Agreement ratios between people diagnosed as having a particular disorder and their relatives.

conditioned fear reactions Acquired associations between an internal or external cue and feelings of intense anxiety.

conduct disorder An impulse-control disorder that involves repeated violations of the rights of others and society's norms and laws.

contingency management A form of behavioral therapy that involves the principle of rewarding a client for desired behaviors and not providing rewards for undesired behaviors.

conversion disorder (functional neurological symptom disorder) A somatic symptom disorder involving the translation of unacceptable drives or troubling conflicts into physical symptoms.

coping The process through which people reduce stress.

correlational design Study in which researchers test the relationships between variables that they cannot experimentally manipulate.

counterconditioning The process of replacing an undesired response to a stimulus with an acceptable response.

cross-fostering A type of adoption study in which researchers examine the frequency of the disorder in children whose biological

parents had no disorder, but whose adoptive parents do.

cultural formulation Includes the clinician's assessment of the client's degree of identification with the culture of origin, the culture's beliefs about psychological disorders, the ways in which the culture interprets particular events, and the cultural supports available to the client.

culture-bound syndromes Recurrent patterns of abnormal behavior or experience that are limited to specific societies or cultural areas.

cyclothymic disorder A mood disorder with symptoms that are more chronic and less severe than those of bipolar disorder.

D

dark triad Personality traits that include psychopathy, extreme self-centeredness, and a tendency to regard other people as objects to be used.

day treatment program A structured program in a community treatment facility that provides activities similar to those provided in a psychiatric hospital.

deep brain stimulation (DBS) A somatic treatment in which a neurosurgeon implants a microelectrode that delivers a constant low electrical stimulation to a small region of the brain, powered by an implanted battery; also called *neuromodulation*.

defense mechanisms Tactics that keep unacceptable thoughts, instincts, and feelings out of conscious awareness and thus protect the ego against anxiety.

deinstitutionalization movement The release of hundreds of thousands of patients from mental hospitals starting in the 1960s.

delayed ejaculation A sexual dysfunction in which a man experiences problems having an orgasm during sexual activity; also known as inhibited male orgasm.

delirium A neurocognitive disorder that is temporary in nature involving disturbances in attention and awareness.

delusion Deeply entrenched false belief not consistent with the client's intelligence or cultural background.

delusional disorder Disorder in which the only symptoms are delusions that have lasted for at least 1 month.

dependent personality disorder A personality disorder whose main characteristic is that the individual is extremely passive and tends to cling to other people, to the point of being unable to make any decisions or to take independent action.

dependent variable The variable whose value is the outcome of the experimenter's manipulation of the independent variable.

depersonalization Condition in which people feel detached from their own body.

depersonalization/derealization disorder A dissociative disorder in which the individual experiences recurrent and persistent episodes of depersonalization.

depressant A psychoactive substance that causes the depression of central nervous system activity.

depressive disorder Involves periods of symptoms in which an individual experiences an unusually intense sad mood.

derealization Condition in which people feel a sense of unreality or detachment from their surroundings.

developmental cascade hypothesis A proposal for the cause of schizophrenia that integrates genetic vulnerabilities, damage occurring in the prenatal and early childhood periods, adversity, and drug abuse as causes of changes in dopamine expressed in psychosis.

developmental coordination disorder A motor disorder characterized by marked impairment in the development of motor coordination.

deviation intelligence (IQ) An index of intelligence derived from comparing the individual's score on an intelligence test with the mean score for that individual's reference group.

Diagnostic and Statistical Manual of Mental Disorders (DSM) A book published by the American Psychiatric Association that contains standard terms and definitions of psychological disorders.

diagnostic process The process through which the clinician uses all relevant information to arrive at a label that best seems to capture the client's disorder.

dialectical behavior therapy (DBT) Treatment approach for people with borderline personality disorder that integrates supportive and cognitive-behavioral treatments to reduce the frequency of self-destructive acts and to improve the client's ability to handle disturbing emotions, such as anger and dependency.

diathesis-stress model The proposal that people are born with a predisposition (or "diathesis") that places them at risk for developing a psychological disorder if exposed to certain extremely stressful life experiences.

differential diagnosis The process of systematically ruling out alternative diagnoses.

diffusion tensor imaging (DTI) A method to investigate abnormalities in the white matter of the brain.

disinhibited social engagement disorder Diagnosis given to children who engage in culturally inappropriate, overly familiar behavior with people who are relative strangers.

disorganized speech Language that is incomprehensible and incoherent.

disruptive mood dysregulation disorder A depressive disorder in children who exhibit chronic and severe irritability and have frequent temper outbursts.

dissociative amnesia An inability to remember important personal details and experiences; is usually associated with traumatic or very stressful events.

dissociative identity disorder (DID) A dissociative disorder, formerly called multiple personality disorder, in which an individual develops more than one self or personality.

disulfiram Known popularly as Antabuse, a medication used in the treatment of alcoholism that inhibits aldehyde dehydrogenase (ALDH) and causes severe physical reactions when combined with alcohol.

DNA methylation The process that can turn off a gene as a chemical group, methyl, attaches itself to the gene.

double-blind An experimental procedure in which neither the person giving the treatment nor the person receiving the treatment knows whether the participant is in the experimental or control group.

Down syndrome A form of mental retardation caused by abnormal chromosomal formation during conception.

downward drift A progression observed in people with schizophrenia in which their disorder drives them into poverty, which interferes with their ability to work and earn a living.

dual-process theory A theory regarding alcohol use proposing there are automatic processes that generate an impulse to drink alcohol and controlled, effortful processing that regulates these automatic impulses.

Durham Rule An expansion of the insanity defense based on determining that the individual was not criminally responsible if the unlawful act was due to the presence of a psychological disorder.

duty to warn (or otherwise protect) The clinician's responsibility to notify a potential victim of a client's harmful intent toward that individual.

dyscalculia A pattern of difficulties in number sense, ability to learn arithmetic facts, and performing accurate calculations.

dysfunctional attitudes Personal rules or values people hold that interfere with adequate adjustment.

dysphoria An unusually elevated sad mood.

E

eating disorders Diagnosis for people who experience persistent disturbances of eating or eating-related behavior that result in person's altering the consumption or absorption of food.

echolalia Repeating the same sounds over and over.

ecstasy (MDMA) A hallucinogenic drug made from a synthetic substance chemically similar to methamphetamine and mescaline.

ego In psychoanalytic theory, the structure of personality that gives the individual the mental powers of judgment, memory, perception, and decision making, enabling the individual to adapt to the realities of the external world.

ego psychology Theoretical perspective based on psychodynamic theory emphasizing the ego as the main force in personality.

electroconvulsive therapy (ECT) The application of electrical shock to the head for the purpose of inducing therapeutically beneficial seizures.

electroencephalogram (EEG) A measure of changes in the electrical activity of the brain.

elimination disorders Disorders characterized by age-inappropriate incontinence, beginning in childhood.

emotion-focused coping A type of coping in which a person does not change anything about the situation itself, but instead tries to improve feelings about the situation.

emotional competence Within a range of acceptable variations, clinicians should be free of a diagnosable psychological disorder.

emotional dysregulation Lack of awareness, understanding, or acceptance of emotions; inability to control the intensity or duration of emotions; unwillingness to experience emotional distress as an aspect of pursuing goals; and inability to engage in goal-directed behaviors when experiencing distress.

encopresis An elimination disorder in which the child is incontinent of feces and has bowel movements either in clothes or in another inappropriate place.

endophenotypes Biobehavioral abnormalities that are linked to genetic and neurobiological causes of mental illness.

enuresis An elimination disorder in which the child is incontinent of urine and urinates in clothes or in bed after the age when the child is expected to be continent.

epigenesis Process through which the environment causes genes to turn "off" or "on."

epigenetics The science that attempts to identify the ways that the environment influences genes to produce phenotypes.

erectile disorder Sexual dysfunction in which a man cannot attain or maintain an erection during sexual activity that is sufficient to allow him to initiate or maintain sexual activity.

erotomanic type of delusional disorder Delusional disorder in which individuals falsely believe that another person is in love with them.

euphoria A feeling state that is more cheerful and elated than average, possibly even ecstatic.

evidence-based assessment Assessment characterized by the clinician's (1) relying on research findings and scientifically viable theories, (2) using psychometrically strong measures, and (3) empirically evaluating the assessment process.

evidence-based practice in psychology Clinical decision making that integrates the best available research evidence and clinical expertise in the context of the cultural background, preferences, and characteristics of clients.

evidence-based treatment Treatment in which clients receive interventions based on the findings of controlled clinical studies.

excoriation (skin-picking) disorder Recurrent picking at one's own skin.

executive functioning The ability to formulate goals, make plans, carry out those plans, and then complete the plans in an effective way.

exhibitionistic disorder A paraphilic disorder in which a person has intense sexual urges and arousing fantasies involving the exposure of genitals to a stranger.

exorcism A way to cure psychological disturbance by ritually driving away evil spirits.

expressed emotion (EE) Family interactions with the individual that reflect criticism, hostile feelings, and emotional overinvolvement or overconcern.

extrapyramidal symptoms (EPS) Motor disorders involving rigid muscles, tremors, shuffling movement, restlessness, and muscle spasms affecting their posture.

F

factitious disorder imposed on another A condition in which a person induces physical symptoms in another person who is under that person's care.

factitious disorder imposed on self A disorder in which people fake symptoms or disorders not for the purpose of any particular gain, but because of an inner need to maintain a sick role.

family perspective A theoretical perspective in which it is assumed that abnormality is caused by disturbances in the pattern of interactions and relationships within the family.

family therapy Psychological treatment in which the therapist works with several or all members of the family.

fear The emotional response to real or perceived imminent threat.

female orgasmic disorder A sexual dysfunction in which a woman experiences problems having an orgasm during sexual activity.

female sexual interest/arousal disorder A sexual dysfunction characterized by a persistent or recurrent inability to attain or maintain normal physiological and psychological arousal responses during sexual activity.

fetal alcohol spectrum disorder (FASD) A lesser form of fetal alcohol syndrome developed in children who have some exposure to alcohol prenatally.

fetal alcohol syndrome (FAS) A condition associated with intellectual disability in a child whose mother consumed large amounts of alcohol on a regular basis while pregnant.

fetishistic disorder A paraphilic disorder in which the individual is preoccupied with an object and depends on this object rather than sexual intimacy with a partner for achieving sexual gratification.

first-rank symptom (FRS) Symptom that is truly defining, or key, in the diagnosis of schizophrenia.

Five Factor Model (or "Big Five") Trait theory proposing that there are five basic dispositions in personality.

flooding A behavioral technique in which the client is immersed in the sensation of anxiety by being exposed to the feared situation in its entirety.

fragile X syndrome A genetic disorder caused by a change in a gene called FMRI.

free association A method used in psychoanalysis in which the client speaks freely, saying whatever comes to mind.

frontotemporal neurocognitive disorder Neurocognitive disorder that involves the frontotemporal area of the brain.

frotteuristic disorder A paraphilic disorder in which the individual has intense sexual urges and sexually arousing fantasies of rubbing against or fondling an unsuspecting stranger.

fugue An episode of amnesia involving inability to recall some or all of one's past and the loss of identity with either bewildered wandering or travel that seems focused on a particular purpose.

functional magnetic resonance imaging (fMRI) A variant of the traditional MRI, which makes it possible to construct a picture of activity in the brain.

G

gambling disorder A non-substance-related disorder involving the persistent urge to gamble.

gender dysphoria Distress that may accompany the incongruence between a person's experienced or expressed gender and that person's assigned gender.

gender identity A person's inner sense of maleness or femaleness.

gene mapping The attempt by biological researchers to identify the structure of a gene and the characteristics it controls.

generalized anxiety disorder An anxiety disorder characterized by anxiety and worry that is not associated with a particular object, situation, or event but seems to be a constant feature of a person's day-to-day existence.

genes The instructions for forming proteins contained within each of the body's cells.

genito-pelvic pain/penetration disorder A sexual dysfunction affecting both males and females that involves recurrent or persistent genital pain before, during, or after sexual intercourse.

genome-wide association studies (GWAS) Genetic method in which researchers scan the entire genome of individuals who are not related to find the associated genetic variations with a particular disease.

genome-wide linkage study Genetic method in which researchers study the families of people with specific psychological traits or disorders.

genotype The genetic makeup of an organism.

graded *in vivo* A procedure in which clients gradually expose themselves to increasingly challenging anxiety-provoking situations.

grandiose narcissism The form of narcissistic personality disorder in which individuals think of themselves entirely in an inflated and self-aggrandizing way.

grandiose type of delusional disorder An exaggerated view of oneself as possessing special and extremely favorable personal qualities and abilities.

group therapy Psychological treatment in which the therapist facilitates discussion among several clients who talk together about their problems.

guardian *ad litem* A person appointed by the court to represent or make decisions for a person (e.g., a minor or an incapacitated adult) who is legally incapable of doing so in a civil legal proceeding.

H

halfway house A community treatment facility designed for deinstitutionalized clients leaving a hospital who are not yet ready for independent living.

hallucination A false perception not corresponding to the objective stimuli present in the environment.

hallucinogens Psychoactive substances that cause abnormal perceptual experiences in the form of illusions or hallucinations, usually visual in nature.

hassle A relatively minor event that can cause stress.

health anxiety Undue concern about physical symptoms and illness.

Health Insurance Portability and Accountability Act of 1996 (HIPAA) U.S. legislation intended to ensure adequate coverage and protect consumers from loss of insurance coverage when they change or lose their jobs.

heroin A psychoactive substance that is a form of opioid, synthesized from morphine.

histrionic personality disorder A personality disorder characterized by exaggerated emotional reactions, approaching theatricality, in everyday behavior.

hoarding A compulsion in which people have persistent difficulties discarding things, even if they have little value.

humanistic perspective An approach to personality and psychological disorder that regards people as motivated by the need to understand themselves and the world and to derive greater enrichment from their experiences by fulfilling their unique individual potential.

humanitarian explanations Regard psychological disorders as the result of cruelty, stress, or poor living conditions.

hypnotic A substance that induces sedation.

hypomanic episode A period of elated mood not as extreme as a manic episode.

hypopnea Reduction in airflow.

I

id In psychoanalytic theory, the structure of personality that contains the sexual and aggressive instincts.

illness anxiety disorder A somatic symptom disorder characterized by the misinterpretation of normal bodily functions as signs of serious illness.

imaginal flooding A behavioral technique in which the client is immersed through imagination into the feared situation.

impulse-control disorders Psychological disorders in which people repeatedly engage in behaviors that are potentially harmful, feeling unable to stop themselves and experiencing a sense of desperation if their attempts to carry out the behaviors are thwarted.

***in vivo* flooding** A behavioral technique in which the client is immersed to the actual feared situation.

***in vivo* observation** Process involving the recording of behavior in its natural context, such as the classroom or the home.

inappropriate affect The extent to which a person's emotional expressiveness fails to correspond to the content of what is being discussed.

incidence The frequency of new cases within a given time period.

independent variable The variable whose level is adjusted or controlled by the experimenter.

individual psychotherapy Psychological treatment in which the therapist works on a one-to-one basis with the client.

inhalants A diverse group of substances that cause psychoactive effects by producing chemical vapors.

insanity A legal term that refers to the individual's lack of moral responsibility for committing criminal acts.

insanity defense The argument, presented by a lawyer acting on behalf of the client, that, because of the existence of a mental disorder, the client should not be held legally responsible for criminal actions.

intellectual disability (intellectual developmental disorder) Diagnosis used to characterize individuals who have intellectual and adaptive deficits that first became evident when they were children.

intermittent explosive disorder An impulse-control disorder involving an inability to hold back urges to express strong angry feelings and associated violent behaviors.

International Classification of Diseases (ICD) The diagnostic system of the World Health Organization (WHO).

interpersonal therapy (IPT) A time-limited form of psychotherapy for treating people with major depressive disorder, based on the assumption that interpersonal stress induces an episode of depression in a person who is genetically vulnerable to this disorder.

irresistible impulse The legal argument that although clients in a forensic setting know an act was wrong, they were unable to stop themselves from acting on their impulses.

J

jealous type of delusional disorder Delusional disorder in which individuals falsely believe that their romantic partner is unfaithful to them.

K

kleptomania An impulse-control disorder that involves the persistent urge to steal.

Korsakoff's syndrome A permanent form of neurocognitive disorder associated with long-term alcohol use in which the individual develops retrograde and anterograde amnesia, leading to an inability to remember recent events or learn new information.

L

language disorder A communication disorder characterized by having a limited and faulty vocabulary, speaking in short sentences with simplified grammatical structures, omitting critical words or phrases, or putting words together in peculiar order.

least restrictive alternative A treatment setting that provides the fewest constraints on the client's freedom.

libido An instinctual pressure for gratification of sexual and aggressive desires.

loosening of associations Flow of thoughts that is vague, unfocused, and illogical.

lovemap The representations of an individual's sexual fantasies and preferred practices.

lysergic acid diethylamide (LSD) A form of a hallucinogenic drug that users ingest in tablets, capsules, and liquid form.

M

M'Naghten Rule The "right-wrong test" used in cases of the insanity defense to determine whether a defendant should be held responsible for a crime.

magnetic resonance imaging (MRI) The use of radiowaves rather than X-rays to construct a picture of the living brain based on the water content of various tissues.

mainstreaming A governmental policy to integrate fully into society people with cognitive and physical disabilities.

major depressive disorder A disorder in which the individual experiences acute, but time-limited episodes of depressive symptoms.

major depressive episode A period in which the individual experiences intense psychological and physical symptoms accompanying feelings of overwhelming sadness (dysphoria).

major neurocognitive disorder due to another medical condition Cognitive disorders involving the inability to recall previously learned information or to register new memories.

major neurocognitive disorders Disorders involving significant cognitive decline from a previous level of performance.

male hypoactive sexual desire disorder A sexual dysfunction in which the individual has an abnormally low level of interest in sexual activity.

malingering The fabrication of physical or psychological symptoms for some ulterior motive.

manic episode Acute, but time-limited period of intense and unusual elation.

marijuana A psychoactive substance derived from the hemp plant whose primary active ingredient is delta-9-tetrahydrocannabinol (THC).

maturation hypothesis The proposition that people with antisocial personality and the other Cluster B disorders become better able to manage their behaviors as they age.

mental hygiene The focus within psychiatry on helping individuals maintain mental health and prevent the development of psychological disorders.

mental retardation A condition, present from childhood, characterized by significantly below-average general intellectual functioning (i.e., an IQ of 70 or below).

mental status examination A method of objectively assessing a client's behavior and functioning in a number of spheres, with particular attention to the symptoms associated with psychological disturbance.

mentalization therapy A form of therapy in which clients are helped to identify their feelings by gaining control over their dysfunctional thoughts.

methadone A synthetic opioid that produces a safer and more controlled reaction than heroin and that is used in treating heroin addiction.

methamphetamine An addictive stimulant drug that is related to amphetamine but provokes more intense central nervous system effects.

mild neurocognitive disorders Disorders involving modest cognitive decline from a previous level of performance.

milieu therapy A treatment approach, used in an inpatient psychiatric facility, in which all facets of the milieu, or environment, are components of the treatment.

Mini-Mental State Examination (MMSE) A structured tool that clinicians use as a brief screening device to assess neurocognitive disorders.

Minnesota Multiphasic Personality Inventory (MMPI) Self-report personality inventory containing 567 true-false items all in the form of statements that describe the individual's thoughts, behaviors, feelings, and attitudes.

modality Form in which the clinician offers psychotherapy.

molecular genetics The study of how genes translate hereditary information.

moral treatment The notion that people could develop self-control over their behaviors if they had a quiet and restful environment.

motivational interviewing (MI) A directive, client-centered style for eliciting behavior change by helping clients explore and resolve ambivalence.

multi-infarct dementia (MID) A form of neurocognitive disorder caused by transient attacks in which blood flow to the brain is interrupted by a clogged or burst artery.

multiaxial system A multidimensional classification and diagnostic system in previous *DSM*s summarizing relevant information about an individual's physical and psychological functioning.

multicultural approach To therapy: therapy that relies on awareness, knowledge, and skills of the client's sociocultural context.

multicultural assessment Assessment process in which clinicians take into account the person's cultural, ethnic, and racial background.

multiple relationships Unethical relationships occurring when a psychologist is in a professional role with a person and has another role with that person that could impair the psychologist's "objectivity, competence, or effectiveness in performing his or her functions as a psychologist" or otherwise risks exploiting or harming the other person.

N

naltrexone A medication used in the treatment of heroin addiction.

narcissistic personality disorder (NPD) A personality disorder primarily characterized by an unrealistic, inflated sense of self-importance and a lack of sensitivity to the needs of other people.

negative symptoms The symptoms of schizophrenia, including affective flattening, alogia, avolition, and anhedonia, that involve functioning below the level of normal behavior.

neologisms Invented ("new") words.

neurocognitive disorder Disorder whose primary clinical deficit is in cognition that represents a decline from previous functioning.

neurocognitive disorder due to Alzheimer's disease A neurocognitive disorder associated with progressive, gradual declines in memory, learning, and at least one other cognitive domain.

neurocognitive disorder due to Huntington's disease A hereditary condition causing neurocognitive disorder that involves a widespread deterioration of the subcortical brain structures and parts of the frontal cortex that control motor movements.

neurocognitive disorder due to Parkinson's disease A neurocognitive disorder that involves degeneration of neurons in the subcortical structures that control motor movements.

neurocognitive disorder due to prion disease (Creutzfeldt-Jakob disease) A neurological disease transmitted from animals to humans that leads to neurocognitive disorder and death resulting from abnormal protein accumulations in the brain.

neurocognitive disorder due to traumatic brain injury A disorder in which there is evidence of impact to the head along with cognitive and neurological symptoms that persist past the acute post-injury period.

neurocognitive disorder with Lewy bodies A form of neurocognitive disorder with progressive loss of memory, language, calculation, and reasoning, as well as other higher mental functions resulting from the accumulation of abnormalities called Lewy bodies throughout the brain.

neurodevelopmental disorders Conditions that begin in childhood and have a major impact on social and cognitive functioning, involving serious deficits in social interaction and communication skills, as well as odd behavior, interests, and activities.

neurodevelopmental hypothesis Theory proposing that schizophrenia is a disorder of development that arises during the years of adolescence or early adulthood due to alterations in the genetic control of brain maturation.

neurofibrillary tangles A characteristic of Alzheimer's disease in which the material within the cell bodies of neurons becomes filled with densely packed, twisted protein microfibrils, or tiny strands.

neuroimaging Assessment method that provides a picture of the brain's structures or level of activity and therefore is a useful tool for "looking" at the brain.

neuroleptics A term used to refer to antipsychotic medications.

neuromodulation A form of psychiatric neurosurgery in which permanently implanted electrodes trigger responses in specific brain circuits, as needed.

neuroplasticity Adaptive changes in the brain in response to experience.

neuropsychological assessment The process of gathering inferences about the functioning of a client's brain from performance on psychological tests.

neurotransmitter A chemical substance released from a neuron into the synaptic cleft, where it drifts across the synapse and is absorbed by the receiving neuron.

nicotine The psychoactive substance found in cigarettes.

O

object relations One's unconscious representations of important people in one's life.

obsession An unwanted thought, word, phrase, or image that persistently and repeatedly comes into a person's mind and causes distress.

obsessive-compulsive disorder (OCD) An anxiety disorder characterized by recurrent obsessions or compulsions that are inordinately time consuming or that cause significant distress or impairment.

obsessive-compulsive personality disorder (OCPD) A personality disorder involving intense perfectionism and inflexibility manifested in worrying, indecisiveness, and behavioral rigidity.

Oedipus complex The child's feelings, according to Freud, toward the opposite-sex parent that peaks in early childhood.

operant conditioning A learning process in which an individual acquires behaviors through reinforcement.

opioid A psychoactive substance that relieves pain.

oppositional defiant disorder A disorder characterized by angry or irritable mood, argumentative or defiant behavior, and vindictiveness that results in significant family or school problems.

P

panic attack A period of intense fear and physical discomfort accompanied by the feeling that one is being overwhelmed and is about to lose control.

panic disorder An anxiety disorder in which an individual has panic attacks on a recurrent basis or has constant apprehension and worry about the possibility of recurring attacks.

panic-control therapy (PCT) Treatment that consists of cognitive restructuring, exposure to bodily cues associated with panic attacks, and breathing retraining.

paranoia The irrational belief or perception that others wish to cause you harm.

paranoid personality disorder A personality disorder whose outstanding feature is that the individual is unduly suspicious of others and is always on guard against potential danger or harm.

paraphilias Behaviors in which an individual has recurrent, intense sexually arousing fantasies, sexual urges, or behaviors involving (1) nonhuman objects, (2) children or other nonconsenting persons, or (3) the suffering or humiliation of self or partner.

paraphilic disorder Diagnosis in which a paraphilia causes distress and impairment.

parasuicide Attempted suicide, often a call for help.

parens patriae The state's authority to protect those who are unable to protect themselves.

partialism A paraphilic disorder in which the person is interested solely in sexual gratification from a specific body part, such as feet.

participant modeling A form of therapy in which the therapist first shows the client a desired behavior and then guides the client through the behavioral change.

pathways model Approach to gambling disorder which predicts that there are three main paths leading to three subtypes.

patient In the medical model, a person who receives treatment.

pedophilic disorder A paraphilic disorder in which an adult is sexually aroused by children or adolescents.

persecutory type of delusional disorder Delusional disorder in which individuals falsely believe that someone or someone close to them is treating them in a malevolent manner.

persistent depressive disorder (dysthymia) Chronic but less severe mood disturbance in which the individual does not experience a major depressive episode.

person-centered theory The humanistic theory that focuses on the uniqueness of each individual, the importance of allowing each individual to achieve maximum fulfillment of potential, and the need for the individual to confront honestly the reality of his or her experiences in the world.

personality disorder Ingrained patterns of relating to other people, situations, and events with a rigid and maladaptive pattern of inner experience and behavior, dating back to adolescence or early adulthood.

personality trait An enduring pattern of perceiving, relating to, and thinking about the environment and others.

peyote A form of a hallucinogenic drug whose primary ingredient is mescaline.

pharmacogenetics The use of genetic testing to determine who will and will not improve with a particular medication.

phencyclidine (PCP) A form of a hallucinogenic drug originally developed as an intravenous anesthetic.

phenotype The expression of the genetic program in the individual's physical and psychological attributes.

phenylketonuria (PKU) Condition in which children are born missing an enzyme called phenylalanine hydroxase.

phobia An irrational fear associated with a particular object or situation.

pica A condition in which a person eats inedible substances, such as dirt or feces; commonly associated with mental retardation.

Pick's disease A relatively rare degenerative disease that affects the frontal and temporal lobes of the cerebral cortex and that can cause neurocognitive disorders.

placebo condition Condition in an experiment in which participants receive a treatment similar to the experimental treatment, but lacking the key feature of the treatment of interest.

placebo-controlled randomized clinical trial Experimental method in which participants are randomly assigned to a placebo versus treatment group.

pleasure principle In psychoanalytic theory, a motivating force oriented toward the immediate and total gratification of sensual needs and desires.

polygenic A model of inheritance in which more than one gene participates in the process of determining a given characteristic.

polysomnography A sleep study that records brain waves, blood oxygen levels, heart rate, breathing, eye movements, and leg movements.

positive psychology Perspective that emphasizes the potential for growth and change throughout life.

positive symptoms The symptoms of schizophrenia, including delusions, hallucinations, disturbed speech, and disturbed behavior, that are exaggerations or distortions of normal thoughts, emotions, and behavior.

positron emission tomography (PET) scan A measure of brain activity in which a small amount of radioactive sugar is injected into an individual's bloodstream, following which a computer measures the varying levels of radiation in different parts of the brain and yields a multicolored image.

post-traumatic stress disorder (PTSD) An anxiety disorder in which the individual experiences several distressing symptoms for more than a month following a traumatic event, such as a reexperiencing of the traumatic event, an avoidance of reminders of the trauma, a numbing of general responsiveness, and increased arousal.

postconcussion syndrome (PCS) A disorder in which a constellation of physical, emotional, and cognitive symptoms persists from weeks to years.

potentiation The combination of the effects of two or more psychoactive substances such that the total effect is greater than the effect of either substance alone.

premature (early) ejaculation A sexual dysfunction in which a man reaches orgasm well before he wishes to, perhaps even prior to penetration.

premenstrual dysphoric disorder (PMDD) Changes in mood, irritability, dysphoria, and anxiety that occur during the premenstrual phase of the monthly menstrual cycle and subside after the menstrual period begins for most of the cycles of the preceding year.

prevalence The number of people who have ever had a disorder at a given time or over a specified period.

primary gain The relief from anxiety or responsibility due to the development of physical or psychological symptoms.

principal diagnosis The disorder that is considered to be the primary reason the individual seeks professional help.

prion disease An abnormal protein particle that infects brain tissue.

problem-focused coping Coping in which the individual takes action to reduce stress by changing whatever it is about the situation that makes it stressful.

projective test A technique in which the test-taker is presented with an ambiguous item or task and is asked to respond by providing his or her own meaning or perception.

proton magnetic resonance spectroscopy (MRS) A scanning method that measures metabolic activity of neurons, and therefore may indicate areas of brain damage.

pseudodementia Literally, false neurocognitive disorder, or a set of symptoms caused by depression that mimic those apparent in the early stages of Alzheimer's disease.

psilocybin A form of a hallucinogenic drug found in certain mushrooms.

psychiatric neurosurgery A treatment in which a neurosurgeon operates on brain regions.

psychiatrist Person with a degree in medicine (MD) who receives specialized advanced training in diagnosing and treating people with psychological disorders.

psychodynamic perspective The theoretical orientation in psychology that emphasizes unconscious determinants of behavior.

psychoeducation Professionally delivered treatment that integrates psychotherapeutic with educational interventions.

psychological assessment A broad range of measurement techniques, all of which involve having people provide scorable information about their psychological functioning.

psychological factors affecting other medical conditions Disorder in which clients have a medical disease or symptom that appears to be exacerbated by psychological or behavioral factors.

psychologist Health care professional offering psychological services.

psychopathy A cluster of traits that form the core of the antisocial personality.

psychosexual stages According to psychoanalytic theory, the normal sequence of development through which each individual passes between infancy and adulthood.

psychosurgery A form of brain surgery, the purpose of which is to reduce psychological disturbance.

psychotherapeutic medications Somatic treatments that are intended to reduce the individual's symptoms by altering the levels of neurotransmitters that researchers believe are involved in the disorder.

purging Eliminating food through unnatural methods, such as vomiting or the excessive use of laxatives.

pyromania An impulse-control disorder involving the persistent and compelling urge to start fires.

Q

qualitative research A method of analyzing data that provides research with methods of analyzing complex relationships that do not easily lend themselves to conventional statistical methods.

R

randomized controlled trial (RCT) Experimental method in which participants are randomly assigned to intervention groups.

rapid eye movements (REM) Phase during sleep involving frequent movements of eyes behind closed eyelids; EEGs similar to those while awake.

reactive attachment disorder A disorder involving a severe disturbance in the ability to relate to others in which the individual is unresponsive to people, is apathetic, and prefers to be alone rather than to interact with friends or family.

reality principle In psychoanalyic theory, the motivational force that leads the individual to confront the constraints of the external world.

reinforcement The "strengthening" of a behavior, in operant conditioning, through the pairing of the behavior with its consequences.

relapse prevention A treatment method based on the expectancy model, in which individuals are encouraged not to view lapses from abstinence as signs of certain failure.

relaxation training A behavioral technique used in the treatment of anxiety disorders that involves progressive and systematic patterns of muscle tensing and relaxing.

reliability When used with regard to diagnosis, the degree to which clinicians provide diagnoses consistently across individuals who have a particular set of symptoms.

remission Term used to refer to the situation when the individual's symptoms no longer interfere with his or her behavior and are below those required for a DSM diagnosis.

response modulation hypothesis The proposal that individuals high on the trait of psychopathy are unable to pay enough attention to secondary cues in order to learn from situations in which they must switch attention.

restricted affect Narrowing of the range of outward expressions of emotions.

retrograde amnesia Amnesia involving loss of memory for past events.

Rett syndrome A condition in which the child develops normally early in life (up to age 4) and then begins to show neurological and cognitive impairments including deceleration of head growth and some of the symptoms of autism spectrum disorder.

right to treatment Legal right of person entering psychiatric hospital to receive appropriate care.

Rorschach Inkblot Test Projective assessment method in which individuals describe their perceptions to each of a set of symmetrical inkblots.

rumination disorder An eating disorder in which the infant or child regurgitates food after it has been swallowed and then either spits it out or reswallows it.

S

schizoaffective disorder A disorder involving the experience of a major depressive episode, a manic episode, or a mixed episode while also meeting the diagnostic criteria for schizophrenia.

schizoid personality disorder A personality disorder primarily characterized by an indifference to social relationships, as well as a limited range of emotional experience and expression.

schizophrenia A disorder with a range of symptoms involving disturbances in content of thought, form of thought, perception, affect, sense of self, motivation, behavior, and interpersonal functioning.

schizophrenia spectrum Range of disorders, including schizophrenia as well as affective and personality disorders, that reflect a similar underlying disease process.

schizophreniform disorder A disorder characterized by psychotic symptoms that are essentially the same as those found in schizophrenia, except for the duration of the symptoms; specifically, symptoms usually last from 1 to 6 months.

schizotypal personality disorder A personality disorder that primarily involves odd beliefs, behavior, appearance, and interpersonal style. People with this disorder may have bizarre ideas or preoccupations, such as magical thinking and beliefs in psychic phenomena.

scientific explanations Regard psychological disorders as the result of causes that we can objectively measure, such as biological alterations, faulty learning processes, or emotional stressors.

scientific method The process of testing ideas about the nature of psychological phenomena without bias before accepting these ideas as adequate explanations.

secondary gain The sympathy and attention that a sick person receives from other people.

secondary process thinking In psychoanalytic theory, the kind of thinking involved in logical and rational problem solving.

secretases Enzymes that trim part of the APP remaining outside the neuron so that it is flush with the neuron's outer membrane.

sedative A psychoactive substance that has a calming effect on the central nervous system.

selective mutism A disorder originating in childhood in which the individual consciously refuses to talk.

self-actualization In humanistic theory, the maximum realization of the individual's potential for psychological growth.

self-efficacy The individual's perception of competence in various life situations.

self-monitoring A self-report technique in which the client keeps a record of the frequency of specified behaviors.

self-report clinical inventory A psychological test with standardized questions having fixed response categories that the test-taker completes independently, self-reporting the extent to which the responses are accurate characterizations.

sensate focus Method of treating sexual dysfunction in which the interaction is not intended to lead to orgasm, but to experience pleasurable sensations during the phases prior to orgasm.

separation anxiety disorder A childhood disorder characterized by intense and inappropriate anxiety, lasting at least 4 weeks, concerning separation from home or caregivers.

sexual dysfunction An abnormality in an individual's sexual responsiveness and reactions.

sexual masochism disorder A paraphilic disorder marked by an attraction to achieving sexual gratification by having painful stimulation applied to one's own body.

sexual sadism disorder A paraphilic disorder in which sexual gratification is derived from activities that harm, or from urges to harm, another person.

shared psychotic disorder Delusional disorder in which one or more people develop a delusional system as a result of a close relationship with a psychotic person who is delusional.

single case experimental design (SCED) Design in which the same person serves as the subject in both the experimental and control conditions.

single nucleotide polymorphism (SNP—pronounced "snip") A small genetic variation that can occur in a person's DNA sequence.

single photon emission computed tomography (SPECT) scan A variant of the PET scan that permits a longer and more detailed imaging analysis.

sleep terrors Abrupt terror arousals from sleep usually beginning with a panicky scream.

sleepwalking Rising from bed during sleep and walking about while seemingly asleep.

social (pragmatic) communication disorder Disorder involving deficits in the social use of verbal and nonverbal communication.

social anxiety disorder An anxiety disorder characterized by marked, or intense, fear of anxiety of social situations in which the individual may be scrutinized by others.

social discrimination Prejudicial treatment of a class of individuals, seen in the sociocultural perspective as a cause of psychological problems.

social learning theory Perspective that focuses on understanding how people develop psychological disorders through their relationships with others and through observation of other people.

sociocultural perspective The theoretical perspective that emphasizes the ways that individuals are influenced by people, social institutions, and social forces in the world around them.

somatic symptom disorder A disorder involving physical symptoms that may or may not be accountable by a medical condition accompanied by maladaptive thoughts, feelings, and behaviors.

somatic symptoms Symptoms involving physical problems and/or concerns about medical symptoms.

somatic type of delusional disorder Delusional disorder in which individuals falsely believe that they have a medical condition.

specific learning disorder A delay or deficit in an academic skill that is evident when an individual's achievement and skills are substantially below what would be expected for others of comparable age, education, and level of intelligence.

specific learning disorder with impairment in mathematics A learning disorder in which the individual has difficulty with mathematical tasks and concepts.

specific learning disorder with impairment in reading (dyslexia) A learning disorder in which the individual omits, distorts, or substitutes words when reading and reads in a slow, halting fashion.

specific learning disorder with impairment in written expression A learning disorder in which the individual's writing is characterized by poor spelling, grammatical or punctuation errors, and disorganization of paragraphs.

specific phobia An irrational and unabating fear of a particular object, activity, or situation.

speech sound disorder A communication disorder in which the individual substitutes, omits, or misarticulates speech sounds.

spiritual explanations Regard psychological disorders as the product of possession by evil or demonic spirits.

splitting A defense, common in people with borderline personality disorder, in which individuals perceive others, or themselves, as being all good or all bad, usually resulting in disturbed interpersonal relationships.

standardization A psychometric criterion that clearly specifies a test's instructions for administration and scoring.

stereotypic movement disorder A disorder in which the individual voluntarily repeats nonfunctional behaviors, such as rocking or head banging, that can be damaging to his or her physical well-being.

stigma A label that causes certain people to be regarded as different, defective, and set apart from mainstream members of society.

stimulant A psychoactive substance that has an activating effect on the central nervous system.

stress The unpleasant emotional reaction that a person has when an event is perceived as threatening.

stressful life event An event that disrupts the individual's life.

Structured Clinical Interview for *DSM-5* Disorders (SCID-5) A widely used clinical interview for assessing *DSM-5* symptoms.

structured interview A standardized series of assessment questions, with a predetermined wording and order.

substance A chemical that alters a person's mood or behavior when it is smoked, injected, drunk, inhaled, or swallowed in pill form.

substance intoxication The temporary maladaptive experience of behavioral or psychological changes that are due to the accumulation of a substance in the body.

substance use disorder A cluster of cognitive, behavioral, and physiological symptoms indicating that the individual uses a substance despite significant substance-related problems.

substituted judgment Using substituted judgment, health professionals and family members try to make the decision that the patient would have made if he or she were able to make decisions.

superego In psychoanalytic theory, the structure of personality that includes the conscience and the ego ideal; it incorporates societal prohibitions and exerts control over the seeking of instinctual gratification.

survey A research tool used to gather information from a sample of people considered representative of a particular population, in which participants are asked to answer questions about the topic of concern.

systematic desensitization A variant of counterconditioning that involves presenting the client with progressively more anxiety-provoking images while in a relaxed state.

T

tardive dyskinesia Motor disorder that consists of involuntary movements of the mouth, arms, and trunk of the body.

target behavior A behavior of interest or concern in an assessment.

tau A protein that normally helps maintain the internal support structure of the axons.

Tay-Sachs disease An inherited disease that produces defects in intellectual functioning due to a lack of hexosaminidase A, an enzyme that helps break down an otherwise toxic chemical in nervous tissue called ganglioside.

teratogens Environmental hazards during the prenatal period that affect the developing child.

Thematic Apperception Test (TAT) A projective test in which individuals invent a story to explain what is happening in a set of ambiguous pictures.

theoretical perspective An orientation to understanding the causes of human behavior and the treatment of abnormality.

thought stopping A cognitive-behavioral method in which the client learns to stop having anxiety-provoking thoughts.

tic A rapid, recurring, involuntary movement or vocalization.

token economy A form of contingency management in which a client who performs desired activities earns chips or tokens that can later be exchanged for tangible benefits.

tolerance The extent to which the individual requires larger and larger amounts of a substance in order to achieve its desired effects, or the extent to which the individual feels less of its effects after using the same amount of the substance.

Tourette's disorder A disorder involving a combination of chronic movement and vocal tics.

transference The carrying over of feelings that clients have from their parents to their therapists.

transference-focused psychotherapy A treatment for borderline personality disorder that uses the client–clinician relationship as the framework for helping clients achieve greater understanding of their unconscious feelings and motives.

transphobia The negative stereotyping and fear of individuals.

transsexualism A term sometimes used to refer to gender dysphoria, specifically pertaining to individuals choosing to undergo sex reassignment surgery.

transvestic disorder Diagnosis applied to individuals who engage in transvestic behavior and have the symptoms of a paraphilic disorder.

transvestic fetishism A paraphilia in which a man has an uncontrollable craving to dress in women's clothing in order to derive sexual gratification.

trauma A condition that results from circumstances experienced by an individual as harmful or life threatening and that has lasting adverse effects on the individual's functioning and mental health.

trauma informed care An approach to treatment that acknowledges the role that trauma can have on the mental health of individuals.

traumatic brain injury (TBI) Damage to the brain caused by exposure to trauma.

treatment plan The outline for how therapy should take place.

trephining The process of cutting a hole in the skull to allow so-called "evil spirits" to escape.

trichotillomania (hair-pulling disorder) An impulse-control disorder involving the compulsive, persistent urge to pull out one's own hair.

type A behavior pattern Pattern of behaviors that include being hard driving, competitive, impatient, cynical, suspicious of and hostile toward others, and easily irritated.

type D personality People who experience emotions that include anxiety, irritation, and depressed mood.

U

unconditional positive regard A method in client-centered therapy in which the clinician gives total acceptance of what the client says, does, and feels.

unstructured interview A series of open-ended questions aimed at determining the client's reasons for being in treatment, symptoms, health status, family background, and life history.

uplifts Events that boost your feelings of well-being.

V

validity The extent to which a test, diagnosis, or rating accurately and distinctly characterizes a person's psychological status.

vascular neurocognitive disorder A form of neurocognitive disorder resulting from a vascular disease that causes deprivation of the blood supply to the brain.

vicarious reinforcement A form of learning in which a new behavior is acquired through the process of watching someone else receive reinforcement for the same behavior.

virtual reality exposure therapy (VRET) A method of exposure therapy that uses virtual reality, in which clients become immersed in computer-generated environments that resemble the situations they fear.

voyeuristic disorder A paraphilic disorder in which the individual has a compulsion to derive sexual gratification from observing the nudity or sexual activity of others.

vulnerability The idea that individuals have a biologically determined predisposition to developing schizophrenia but that the disorder develops only when certain environmental conditions are in place.

vulnerable narcissism The form of narcissistic personality disorder in which individuals have an internally weak sense of self and so become despondent when they feel that someone who is important to them is humiliating or betraying them.

W

Wechsler Adult Intelligence Scale (WAIS) The first comprehensive individual test that researchers specifically designed to measure adult intelligence

Wernicke's disease A form of aphasia in which the individual is able to produce language but has lost the ability to comprehend, so that these verbal productions have no meaning.

withdrawal Physiological and psychological changes that occur when an individual stops taking a substance.

Z

Z codes Codes in the *ICD* that indicate the presence of psychosocial and environmental problems.

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NAME INDEX

A

Aalto, S., 154
Aarsland, D., 335, 347
Abdalla, S., 169
Abelson, J. F., 211
Aboujaoude, E., 260
Aboyans, V., 169
Abraham, K., 180
Abrutyn, S., 186
Acampora, D., 333
Accurso, E. C., 250
Adami, M., 343
Adams, C. E., 147
Adan, R. A., 249
Adan, R. H., 247
Adenzato, M., 154
Adler, Alfred, 91
Adler, L., 130, 257
Adler, L. A., 130, 131
Adriani, W., 134
Aeby, V. G., 316
Agius, M., 154
Aguera, L., 343
Ahern, J., 305
Ahrberg, M., 250
Aikins, D. E., 202
Ainsworth, Mary Salter, 92
Akehurst, S., 376
Akyuz, G., 230
Alda, M., 178
Alegría, M., 9
Alexander, G. C., 400
Ali, S., 231
Aliane, V., 136
Alonso, J., 193
Alpert, H. R., 319
Alpert, J. E., 178
Altarac, M., 124
Alzheimer, Alois, 334
Alzheimer's Association, 335
Alzheimer's Disease and Related Diseases Association, 336–337
American Association of Intellectual and Developmental Disabilities (AAIDD), 111
American Psychiatric Association, 4, 15, 32–33, 153
American Psychological Association, 40, 70, 287, 386–398
American Psychological Association Presidential Task Force on Evidence-Based Practice, 45
Amfred, S. M., 147
Amsel, R., 281
An, H., 347
Andersen, P. K., 174, 179
Anderson, E., 212
Anderson, I. M., 182
Anderson, T., 380
Andreasen, N. C., 155
Andreassen, O. A., 157
Andreescu, C., 203
Andresen, B., 312
Andrews-Hanna, J. R., 176
Andronikos, R., 25
Anton, R. F., 305
Antonuccio, D. O., 256, 258
Antony, M. M., 199
Araga, M., 174
Aragam, N., 301
Arcelus, J., 289
Archer, T., 341
Ardito, R. B., 154
Arheart, K. L., 72
Arias, A. J., 301, 302, 304, 318, 319
Arlidge, J., 257
Armey, M., 248
Armour, C., 227
Arnold, L. E., 133
Arnold, S. E., 338
Arntz, A., 184
Arvilommi, P., 174
Asarnow, J. R., 186
Ashley-Koch, A. E., 211
Asperger, Hans, 123
Assumpção, A. A., 276
Athey, M., 178
Atkins, D. C., 373
Attard, S., 366
Attems, J., 334
Auster, T. L., 363
Austrom, M. G., 346
Ayers, C. R., 209
Azar, M., 17

B

Babcock, T., 132
Bach, B., 360
Bachman, J. G., 315, 318
Bader, S. M., 270
Baek, D. Y., 211
Baer, L., 178, 212
Baer, S., 137
Bagby, R. M., 363
Baguley, I. J., 349
Bahar, R. J., 253
Bailey, C., 116
Bailey, D., 115
Bair, M. J., 314
Bakker, G. M., 205
Balaratnasingam, S., 363
Ball, T. M., 203
Ballard, C., 335
Baltuch, G. H., 86
Balu, D., 155
Bamond, M. J., 121
Bandelow, B., 372
Bandura, Albert, 15, 96
Banerjee, P., 113
Bannerman, D., 229
Bara, B. G., 154
Barbaree, H. E., 268
Barberger-Gateau, P., 343
Barber-Heidal, K., 316
Barclay, N. L., 253
Barkley, R., 130, 257
Barkley, R. A., 130, 131, 135
Barlow, D. H., 201
Barner, J. C., 143
Barnes, L. L., 338
Barnum, P. T., 53
Barr, W. B., 70
Barram, R. A., 57
Barrantes-Vidal, N., 150
Barrett, J. E., 170
Bars, D. R., 257
Barsky, A., 330
Barsky, A. E., 393
Bartol, A. M., 405
Bartol, C. R., 405
Baruffi, S. A., 365
Baschnagel, J. S., 216
Basena, M., 270
Basson, R., 278
Bastiaansen, L., 87
Basu, A., 155
Batchelor, J., 349
Bateman, A., 373
Bateman, C., 128
Battista, D. R., 256
Bauermeister, J. J., 258
Baugh, C. M., 350
Bearden, C. E., 150
Bechara, A., 302
Beck, Aaron T., 15, 181, 377, 381
Beckman, S., 127, 132
Bedics, J. D., 373
Beesdo-Baum, K., 195, 200
Beethoven, Ludwig van, 66
Behary, W. T., 376
Beidel, D. C., 199
Bekhuis, E., 228
Belar, C. D., 45
Belleau, E. L., 212
Bemporad, J. R., 180
Benabarre, A., 176
Benavides, K. L., 212
Bender, D. S., 360
Benito, C., 153
Bennett, D., 116
Bennett, D. A., 338
Bennett, S. M., 194
Benneyworth, M., 155
Benning, C. D., 365
Benotsch, E. G., 229
Ben-Porath, Y., 62
Benson, K. E., 285
Benyamini, Y., 249
Berg, J., 365
Berger, W., 215
Bergeron, S., 283, 286
Berglund, P., 169, 170, 173, 198, 202, 205
Bergman, H., 147
Bergmann, M. A., 331
Berlin, F. S., 269
Berlin, G. S., 212
Berman, M. E., 257
Bernal, P., 119
Bernecker, S. L., 92
Berrettini, W., 301
Berry, D. T. R., 230
Bertrand, J., 115, 116
Besser, A., 376
Bezborodoys, N., 6
Biederman, J., 128, 129, 130, 131, 257
Biener, L., 319
Binet, Alfred, 57
Binik, Y. M., 281
Birbaumer, N., 119, 369
Birkenaes, A. B., 157
Birket-Smith, M., 233
Bjork, C., 155
Bjornsson, A. S., 208, 209
Blackwood, N., 366
Blanchard, R., 268, 273
Blanqué, J. M., 150
Blashfield, R. K., 374
Blaskey, L., 119
Bleich, S., 301
Bleuler, Eugen, 146
Blow, F. C., 314
Bobbitt, Lorena, 404
Boccardi, M., 367
Bock, T., 162
Bockbrader, M. A., 363
Boddaert, N., 125, 135
Boddy, C. R., 364
Bodlund, O., 287
Bodzin, D. K., 210
Boe, H. J., 214
Boettger, S., 332
Bogardus, S. T., 333
Bohlhalter, S., 159
Bohnert, A. S., 314
Bohren, Y., 136
Bölte, S., 119
Bomyea, J., 203, 216
Bond, G. R., 163
Bond, K., 182
Bono, Chaz, 287
Borden-Karasack, D., 252
Borkovec, T. D., 202
Borus, J. F., 330
Bosch, H., 10
Boschloo, L., 228
Both, S., 283, 285, 286
Botzer, M., 287
Bouman, W. P., 289
Boustani, M. A., 346
Bowden, C. L., 182, 183
Bowlby, John, 91, 180
Boyer, S., 281
Bradford, J. M., 275, 276
Bradford, J. W., 276
Bramon, E., 176
Brams, M., 132
Brandys, M. K., 249
Brant, L. J., 87
Brauer, L., 379
Braun, C., 119
Breggin, P. R., 135
Breitbart, W., 332
Breivik, Anders Behring, 405
Breivik, K., 213
Brenner, C. A., 363
Brew, B., 351
Britton, J. C., 196
Brody, B., 182
Broft, A. I., 249
Bromet, E., 193
Bronen, R., 124
Brook, J. S., 81
Brookmeyer, R., 334
Brotto, L. A., 279
Brown, C., 278
Brown, E. J., 252, 253
Brown, M. L., 252, 253
Brown, R. C., 199
Brown, R. T., 256, 258
Brown, T. A., 184, 201
Bruce, T. O., 186
Brucker, J. M., 121
Bruno, G., 343
Brustolin, A., 249

Bryan, C. J., 186
Bryant, R. A., 349
Bryant-Waugh, R., 252
Brzuzy, S. I., 287
Buchert, R., 312
Bucholz, K. K., 300
Buemann, I., 233
Buhlmann, U., 209
Buitelaar, J. K., 113
Bullmore, E. T., 154
Bundy, Johnny, 368
Bundy, Ted, 368
Bunney, W. E., 184, 185
Burback, M., 131
Burbrink, A., 281
Bureau of Justice Statistics, 365
Burke, J. D., 256
Burn, D., 347
Burton, L. A., 70
Büttner, G., 125
Byrd-Bredbenner, C., 251
Byrne, G. J., 196

C

Cabrol, D., 125, 135
Caelian, C. F., 186
Cahill, S. P., 215
Cahn, W., 153
Calabrese, J. R., 174
Calabrò, M., 155
Caligor, E., 373, 376
Callahan, C. M., 346
Callahan, S., 251
Camisa, K. M., 363
Campbell, W. G., 260
Campisi, S., 249
Canese, R., 134
Canino, G., 258
Cannon, D. M., 154
Cannon, M., 298
Cannon, T. D., 150, 154, 155
Cantor, J. M., 268, 273
Carbone, L. A., 330
Carcione, A., 382
Carlson, K. F., 349
Carlson, S., 183
Carlsson, A., 154
Carmody, J., 239
Carpenter, E., 116
Carpenter-Aeby, T., 316
Carr, K., 237
Carr, S. N., 378
Carrasco, M. M., 343
Carroll, K. M., 319
Carson, E. A., 366
Carter, C., 160
Carter, J. D., 184
Casadesus, G., 343
Casady, T. K., 270
Casey, D. M., 321
Caspi, A., 258, 298
Cassidy, K. A., 178
Castro, C. A., 214
Catanzaro, S. J., 397
Cautin, R. L., 350
Centers for Disease Control and Prevention, 116, 119, 124, 314, 349
Cerletti, Ugo, 86
Çetin, Î., 163
Chakrabarti, S., 330–331
Chamberlain, S. R., 211, 321, 322
Chambers, A., 369
Champoux, M. C., 73
Chant, D., 161
Charpentier, P. A., 333
Charpentier, Paul, 84
Chatterji, S., 130
Chen, C., 186
Chen, E. Y., 257
Chen, I. G., 9
Chinala, S., 231
Chiu, H., 347
Chiu, W. T., 169, 170, 173, 174, 193, 195
Chivers, M. L., 273
Chmielewski, M., 363
Cho, Seung-Hui, 396
Choi, K. H., 176
Choy, Y., 197
Christianine, A. R., 261
Christmas, D., 182
Christodoulou, G. N., 174
Ciao, A. C., 250
Ciaramidaro, A., 154
Cichon, S., 301
Cifu, D. X., 349
Cinque, P., 351
Ciraulo, D. A., 305
Cisler, R. A., 305
Cistulli, P. A., 253
Clarke, B., 127, 132
Clarkin, J. F., 373
Cleare, A., 182
Cleckley, Hervey M., 364–365, 369
Clement, S., 6
Clouthier, T. L., 378
Coccaro, E. F., 257, 258
Cocchi, L., 205
Cochran, B. N., 372
Cochran, D., 119
Coelho, C. M., 196
Coffman, D. L., 302
Cohen, A. S., 363
Cohen, D. E., 115, 116
Cohen, M., 178
Cohen, P., 81
Cohen-Kettenis, P. T., 287
Cohen-Mansfield, J., 347
Colder, M., 237
Cole, C. S., 253
Collins, A. L., 211
Collins, F. L., Jr., 45
Collins, L., 153
Colvin, C. R., 376
Commenges, D., 343
Committee on Treatment of Posttraumatic Stress Disorder, 216
Connaughton, C., 278
Conners, C. K., 130, 257
Connolly, G. N., 319
Connor, J. P., 302
Conroy, D. E., 302
Cook, R., 116, 186
Coolidge, F. L., 236, 366
Cooney, L. M., Jr., 333
Cooper, V., 258
Corley, R. P., 258
Corneil, T. A., 287
Corona, G., 278, 279, 281
Correll, C. U., 158
Costa, P. T., Jr., 62, 87
Cosyns, P., 275, 276
Cotting, D. I., 214
Cotto, J. H., 314
Couineau, A.-L., 216
Couper, D., 305
Couturier, C., 73
Coverdale, J., 376, 377
Cowen, P. J., 176, 182
Cowlishaw, S., 320
Cox, B. J., 378
Cox, B. S., 130
Cox, D. J., 130
Cox, J. C., 130
Coyle, J. T., 155
Craddock, N., 175
Craig, G., 366
Craig, I. W., 298
Craig, J. M., 25
Cramer, J. A., 215
Crane, N. A., 309
Craske, M. G., 199, 200, 202
Crean, R. D., 309
Cretu, J. B., 216
Crisafulli, C., 155, 179
Crisp, C. C., 280
Crits-Christoph, P., 203
Crone, E. A., 302
Crosby, R. D., 251
Crow, S. J., 249
Crowe, M. T., 184
Crowther, J. H., 248
Cserjési, R., 247
Cubells, J. F., 363
Cummings, J., 335, 343
Cuntz, U., 249
Cuthbert, B. N., 205

D

D'Agostino, R., Jr., 278
Dahl, M. H., 330
Dahmer, Jeffrey, 403–404
Dal Forno, G., 338
Dalton, G. R., 248
Dammen, T., 228, 232
Damush, T. M., 346
Dana, R. H., 68
Daneshvar, D. H., 350
Dang, C., 351
Danner, U. N., 247
Darby, M., 229
Dartigues, J. F., 343
Darville, A. K., 237
Daubney, M., 373
Davenport, C., 147
Davey, A., 289
Davis, A., 261
Davis, D. D., 377, 381
Davis, M. C., 245
Davis, Patty Reagan, 344–345
Davis, R., 382
Davis, T. E., III, 196
Davis, T. L., 285
Day, S., 335
Deacon, B. J., 178
Deakin, J. F., 161
DeBar, L., 249
de Bock, G. H., 333
Deckersbach, T., 182
Deffenbacher, J. L., 258
De Fruyt, F., 87
DeGeneres, Ellen, 247
Degenhardt, L., 159
de Guise, E., 73
de Jong, P. J., 196
Dekker, G. A., 82
de Kort, P. L. M., 331
DeKosky, S. T., 334
de Kovel, C. G., 249
de Laat, K. F., 341
De La Barra, F., 275, 276
De la Cruz, F., 154
DelBen, K., 96
de Leeuw, F. E., 341
de Leon, J., 179
Delespaul, P., 148, 161
de Lima, M. S., 128
Delinsky, S. S., 250
Delmolino, L., 121
DeLongis, A., 236
Delucchi, K., 182
Demazeux, S., 33
Demler, O., 130, 169, 170, 173, 174, 193, 195, 198, 202, 205, 257
Demmitt, B. A., 258
Deniau, J.-M., 136
Dennerstein, M., 93, 180
Denollet, J., 239
Denys, D., 205
Derbyshire, K. L., 212
Derogatis, L. R., 62
De Ronchi, D., 179
de Rossi, Portia, 246–247
Derringer, J., 258
Desai, P. R., 143
Deutsch, A., 15
de Wit, H., 318
de Zwaan, M., 207
Dhawan, N., 376, 377
Diaz, V. A., 238
Dickerson, F. B., 159
Dickstein, J. B., 281
Didie, E. R., 208, 209
Dieckmann, E., 376
Diefenbach, G. J., 212
Diehl, M., 236
Dieset, I., 157
Dikeos, D. G., 174
Dimaggio, G., 382
Dimaite, R., 209
Dines, P., 178
Disney, K. L., 362, 375
Dittoe, N., 371
Dix, Dorothea, 12–13
Dodge, H. H., 334
Dodge, K. A., 258
Dodson, W. W., 132, 133
Dogan, O., 230
Doherty, G. H., 341
Dohnel, K., 369
Dolcos, F., 215
Doley, R., 260
Donaldson, Kenneth, 400–401
Donohue, J. E., 338
Donovan, D. M., 305
Dosen, A., 113
Downey, Robert, Jr., 317
Downey, Robert, Sr., 317
Dowswell, T., 116
Doyle, A. E., 129, 131
Dozier, M. E., 209
Drachman, D., 336, 337
Drago, A., 155, 179
Drapier, D., 205
Drasgow, E., 121
Driessen, E., 182
Drury, S., 213
Dua, T., 112
Duarte, C. S., 194
Dubischar-Krivec, A. M., 119
Dudas, R. B., 154
Dudley, M., 133
Dufier, J. L., 125, 135

Duineveld, J. J., 365
Duke, D. C., 210, 212
DuMontcel, S. T., 205
Dunn, J., 252
DuPaul, G. J., 256, 258
Dvorak, R. D., 302
Dyck, I. R., 200
Dzendoletas, D., 116

E

Eddy, K. T., 245
Edelstein, B., 52
Edens, J. F., 365
Egger, H. L., 213
Ehrenreich, J. T., 194
Ehrlich, Y., 363
Einarson, T. R., 177
Eisen, S. A., 320
Eisendrath, S. J., 182
Eisfeld, J. H., 287
Eley, T. C., 80, 81, 175, 176, 193
Ellenstein, A., 230
Elliott, R., 161
Ellis, Albert, 15, 97
Ellison, W. D., 92
Ellison-Wright, I., 154
Elran-Barak, R., 249
Emery, G., 181
Emmelkamp, P. M., 197
Engel, C. C., 214
Engel, S. G., 251
Engelhard, I. M., 216
Engh, J. A., 157
Enquist, M., 271
Enserink, M., 334
Enzinna, C., 252
Epstein, A., 199
Erb, M., 369
Eriksen, H. R., 228
Eriksen, L., 245
Erikson, Erik, 91
Erk, S., 154
Escovar, L., 382
Estanol, M. V., 280
Evans, D. R., 237
Evans-Lacko, S., 6
Everett, C. J., 238
Everitt, B., 159
Eversole, L. W., 121
Eyden, J., 372
Ezzati, M., 169

F

Faaborg-Andersen, M., 281
Fabbri, C., 179
Fakier, N., 125
Falcone, S., 72
Falissard, B., 125, 135
Falkai, P., 372
Falkenburg, J., 147
Falloon, I. R., 163
Fang, A., 207, 209
Farabaugh, A., 178
Faraone, S. V., 128, 129, 130, 131
Farooqui, A. A., 341
Farooqui, T., 341
Farrell, H. M., 226
Fassino, S., 249
Fava, G. A., 200
Fava, M., 179
Fay, C., 207
Federal Bureau of Investigation, 366
Feeley, R. J., 283
Feeney, G. F. X., 302
Feld, L., 212
Feldman, M. D., 233
Fellner, A. N., 280
Felt, B. T., 253
Feng, X., 256
Ferentinos, P., 175
Fernández-Arand, F., 247
Few, L. R., 365
Fife, A., 330
Fineberg, N. A., 381
First, M. B., 55
Fisher, C. B., 387, 391
Fisher, Carrie, 172–173
Fisher, Eddie, 172
Fisher, L., 178
Fisher, M., 160
Fisher, W. W., 252
Fisk, J. E., 312
Fiske, K. E., 121
Fitzsimmons-Craft, E. E., 249, 250
Flaxman, A. D., 169
Fleming, J. E., 199
Flessner, C. A., 210
Flett, G. L., 186
Flor, H., 369
Floyd, R. L., 115, 116
Foa, E. B., 215, 216
Foegen, A., 127, 132
Fogel, J. F., 330
Folkman, S., 236
Follette, V. M., 372
Folstein, M., 336, 337
Folstein, M. F., 337
Folstein, S. E., 337
Fombonne, E., 258
Fontanella, J., 129
Fontenelle, L. F., 215
Foote, B., 225
Forbes, D., 216
Forcano, L., 247
Forman, E. M., 98
Forman, S., 251
Fornito, A., 205
Forsyth, K., 135
Fortinsky, R. H., 236
Fortune, E. E., 321
Foster, Jodie, 403
Fox, Michael J., 348
Fox, N. A., 213
Fox, S., 376
Fozard, J., 334
Frampton, C. M., 184
Francis, A. J. P., 378
Francis, M., 71
Frank, E., 183
Frank, J., 301
Frankel, F., 116
Frankl, V., 99
Franklin, M. E., 210, 212
Franklin, T. B., 112
Franko, D. L., 245
Frattaroli, J., 237
Frazier, J. A., 119
Freeman, A., 370, 376, 377, 381
Freeman, R. D., 137
Freeman, Walter, 207
Freud, Sigmund, 15, 21, 88–93, 228, 231, 271, 275, 374
Fricchione, G. L., 330
Frick, P. J., 258
Friderici, K., 131
Fried, A. L., 387
Fried, R., 128, 129
Frieling, H., 301
Frieser, D., 228
Frisardi, V., 341
Fristad, M. A., 256, 258
Frost, R. O., 209, 210
Fruzzetti, A. E., 372
Fucito, L., 302
Fuentes-Casiano, E., 178
Fugl-Meyer, K. S., 278, 279, 281
Fung, T., 322
Furness, D. L., 82
Furnham, A., 375
Fyer, A. J., 197

G

Galen, Claudius, 15
Gallop, R., 203
Gamel, N., 260
Gameroff, M. J., 184
Ganguli, M., 334
Ganoczy, D., 314
Ganzola, R., 367
Garcia, F. D., 276
Garcia, H. D., 276
Garcia-Garcia, M., 176
Garyfallidis, E., 211
Gaudig, M., 343
Gauguin, Paul, 22
Gauthier, S., 335, 343
Gavett, B. E., 350
Gayle Beck, J., 216
Geary, D. C., 125
Gebregziabher, M., 238
Geddes, J. R., 179
Geffken, G. R., 210, 212
Gelernter, J., 198
Geller, P. A., 98
Gersten, R., 127, 132
Geuze, E., 216
Ghinassi, F., 183
Ghirlanda, S., 271
Giami, A., 268
Gianaros, P. J., 237
Gibb, R., 82
Gibbon, M., 55
Gibbons, M. C., 203
Gibbs, P. M., 93, 180
Gil, P., 343
Gillett, G., 207
Gillham, R., 257
Gillung, E., 182
Gilman, S., 347
Gilmore, J. H., 25
Giltay, E. J., 174
Ginsberg, D. L., 131
Gioia, C. J., 304
Giordani, B., 347
Girgis, R. R., 363
Gisslen, M., 351
Gjertsen, F., 245
Glass, S. J., 369
Gleason, M. M., 213
Glenn, D., 195
Gloster, A. T., 200
Glynn, S. M., 216
Goate, A. M., 301
Gold, A. L., 196
Gold, S., 72
Goldney, R., 133
Goldsmith, S. K., 184, 185
Gollan, J. K., 258
Gomberg, E. S., 306
Gómez-de-Regil, L., 150
Goncalves, D. C., 196
Gonidakis, F., 245
Gons, R. A., 341
Goodie, A. S., 321
Gooding, P., 185–186
Goodman, M., 364
Goodwin, G. M., 179
Goodwin, R. D., 194
Goralnick, J. J., 131
Gordon, A. J., 301
Gordon, H., 275, 276
Gordon, K. H., 251
Gore, W. L., 379
Gortmaker, V., 195
Gosselin, N., 73
Gotestam, K. G., 245
Gottesman, I. I., 80
Gould, J. W., 393
Gould, T. D., 80
Govind, V., 72
Grabowski, S., 147
Grafman, J. H., 69
Graham, C. A., 281
Graham, T., 6
Granero, R., 247
Grange, D. K., 113
Grange, D. L., 249
Grant, B. F., 378
Grant, I., 239
Grant, J. D., 300
Grant, J. E., 211, 212, 259, 261, 270, 321, 322
Gravener, J. A., 248
Gray, S., 334
Green, B. A., 229
Green, J. G., 130
Greenberg, J. L., 209
Greene, A., 270
Greene, R. L., 67
Green-Paden, L. D., 159
Greer, B. D., 252
Gregory, A. M., 253
Greisinger, Wilhelm, 15
Griffin, J. A., 302
Griffiths, R. R., 316, 318
Grilo, C. M., 251
Grimbos, T., 273
Grimes, R. D., 370
Grodd, W., 369
Gross, C. G., 11
Grosse, S., 115
Grover, S., 331
Gruber, M., 193
Grzella, I., 249
Gu, Y., 341
Guay, A. T., 283
Guay, D. R. P., 274, 275
Gudmundsdottir, B., 216
Gueorguieva, R., 302
Güllmar, D., 154
Gundersheimer, J., 69
Gunderson, J. G., 371, 372, 373
Güner, P., 163
Gunter, T. D., 367
Guo, Z., 159
Gur, R. C., 153, 155
Gur, R. E., 153, 155
Gyulai, L., 174

H

Haberstick, B. C., 258
Hadjiefthyvoulou, F., 312

Hadzi-Pavlovic, D., 133
Haedt, A. A., 248
Hagberg, L., 351
Hagenah, U., 249
Hahn, H. S., 371
Hajak, G., 369
Haji, Ishtiyaque, 367
Håland, Å. T., 205
Hall, B. J., 209
Hall, M. H., 176
Hall, R. C., 274, 275, 276
Halle, J. W., 121
Hallett, M., 230
Hamdi, N. R., 301
Hamed, M. S., 373
Hamilton, J. L., 203
Hammen, C., 184
Hampshire, A., 211
Han, C., 176
Handest, P., 147
Hansen, B., 205
Hansen, S. N., 119
Harding, I. H., 205
Hare, Robert D., 365, 366, 367
Harpur, T. J., 366
Harrington, H., 298
Harrington, R., 258
Harrison, B. J., 205
Harrison, G., 150
Harrow, M., 149, 150
Harvey, P. D., 364
Haselgrove, C., 119
Hatchett, G. T., 370
Havik, O. E., 213
Havik, T., 213
Havnen, A., 205
Hawk, L. W., Jr., 216
Hawley, L. L., 199
Hay, P., 207
Hayatbakhsh, M. R., 159
Haydn, Franz Joseph, 66
Hayes, J. F., 174
Hayes, J. P., 215
Hayes, R. D., 278, 279, 281
Hayward, L. C., 209
Heacock, L. C., 330
Heath, A. C., 301
Heberlein, A., 301
Heggestad, T., 245
Heider, D., 162
Heiervang, E. R., 213
Heiman, J., 278
Heimberg, R. G., 198
Helgeson, V. S., 216
Hellmund, G., 179
Hembree, E. A., 216
Hempenius, L., 333
Hendrie, H. C., 346
Herbert, J. D., 98
Herbert, P. B., 396
Hermann, C., 369
Hermesh, H., 161
Herpertz, S., 249
Herpertz-Dahlmann, B., 249
Hertzberg, B. S., 25
Herzog, D. B., 245
Hettema, J. M., 202
Heussen, N., 249
Hewitt, P. L., 186
Heyrend, F. L., 257
Higgs, B. W., 176
Higuchi, S., 301
Hill, J. L., 69
Hill, L. L., 249
Hillemacher, T., 301
Hiller, W., 228, 232
Hinckley, John, 403
Hinderliter, A. C., 273
Hippocrates, 14
Hipwell, A. E., 256
Hiripi, E., 247
Hirvonen, J., 154
Ho, M. R., 199
Hodge, S. M., 119
Hodgins, D. C., 261, 321, 322
Hodgins, S., 366
Hoek, H. W., 161, 247, 248
Hoekstra, H. J., 333
Hoencamp, E., 174
Hoffman, E. J., 25
Hoffmann, P., 301
Hofmann, S. G., 201, 207
Hogan, M. F., 14
Hoge, C. W., 214
Höjerback, T., 287
Holen, A., 214
Holford, T. R., 333
Holgersen, K. H., 214
Holi, M. M., 259
Hollander, E., 205, 322
Hollingshead, A. B., 103, 161
Hollon, S., 184
Hollon, S. D., 182, 184
Holmes, James E., 395
Holmes, T. H., 234
Holmgren, M. A., 131
Holt, D., 178
Holtkamp, K., 249
Homberg, J. R., 308
Hongo, S., 154
Hoodin, F., 253
Hook, J. N., 236
Hopper, K., 150
Hopwood, C. J., 363
Horney, Karen, 91
Horstman, H. K., 237
Horta, B. L., 128
Hoven, C. W., 194
Howden, S., 135
Howe, E., 149
Howland, M., 251
Howrigan, D. P., 258
Hoyer, J., 196, 276
Hrabosky, J. I., 250
Huang, M. I., 253
Huber, C., 162
Hudson, J. I., 247
Huedo-Medina, T. B., 178
Huf, W., 179
Hughes, J. R., 276
Hughes, Ted, 102–103
Huibers, M., 184
Hultman, C. M., 155
Hummelen, B., 363
Hunger, J. M., 251
Hunsley, J., 53
Huppert, J. D., 215
Hurwitz, T. A., 230
Huttunen, J., 154
Huttunen, M., 154
Hwang, I., 320
Hyman, S. E., 86

I

Ijntema, H., 197
Ilgen, M. A., 314
Ilnytskyy, S., 82
Inder, M. L., 184
Ingster-Moati, I., 125, 135
Inouye, S. K., 333
Ironson, G., 236
Irving, S., 71
Isenhower, R. W., 121
Isometsä, E., 174
Iverson, G. L., 350
Iverson, K. M., 372

J

Jabeen, S., 231
Jablensky, A., 147
Jackson, K. M., 300
Jacqmin-Gadda, H., 343
Jaffee, S. R., 258
Jahng, S., 358
Jahnke, S., 276
Jain, G., 330–331
Janca, A., 150, 363
Jannini, E. A., 271
Janzing, J. G. E., 113
Jarry, J. L., 93
Jay, M., 251
Jeffers, A. J., 229
Jellinger, K. A., 334
Jernigan, K., 131
Jimenez-Murcia, S., 247
Jimerson, N., 331
Jin, R., 169, 170, 173, 198, 202, 205
Jobe, T. H., 149, 150
Johansson, A., 287
John Orav, E., 331
Johnson, B. N., 378
Johnson, B. T., 178
Johnson, J., 185–186
Johnson, J. G., 81
Johnson, K. A., 115, 116
Johnson, Virginia, 266–267, 277–278, 280, 282, 285
Johnston, Daniel, 46–47
Johnston, L., 307, 308, 309, 311, 315, 317, 318
Joiner, T. E., Jr., 248
Jonason, P. K., 365
Jones, K. M., 215, 334
Jones, M., 127
Jones, P. B., 161
Jones, R., 335, 343
Jones, R. M., 257
Jones, R. N., 331
Jonsbu, E., 228, 232
Jonson, R., 364
Joo, E. J., 25
Jorstad-Stein, E. C., 198
Joseph, J. A., 343
Joshi, G., 128
Joyce, P. R., 184
Juliano, L. M., 316
Junck, L., 347
Jung, Carl, 90–91

K

Kaczynski, Theodore, 405
Kahn, R. S., 153
Kaiser, N., 249
Kaiser, R. H., 176
Kaliannan, K., 72
Kalk, N. J., 200
Kamali, M., 175
Kanaan, R. A., 231
Kanary, K., 331
Kane, J. M., 158
Kang, C., 25
Kaplan, M., 225
Karagiozis, H., 338
Karithanom, M., 314
Karl, A., 216
Karle, M., 161
Karow, A., 47, 162
Karterud, S., 363
Kas, M. J., 249
Kasen, S., 81
Kaskutas, L. A., 305
Kasper, S., 179
Katzman, R., 336, 337
Kaufman, J., 249
Kaur, S., 381
Kavoussi, R. J., 257
Kawas, C., 334
Kawas, C. H., 338
Kaysen, Susanna, 402
Kearney, C. A., 195
Keel, P. K., 245, 248
Keeley, M. L., 210, 212
Keenan, K., 256
Kehrer, C. A., 372
Kellas, J. K., 237
Kelley, T., 229
Kellner, M., 205
Kelly, J. F., 338
Kelsoe, J. R., 179
Kemel, M.-L., 136
Kendler, K. S., 155, 202
Kennedy, D. N., 119
Kennedy, J. L., 155, 321
Kenny, S., 258
Kernberg, O. F., 373
Kerwin, M. L., 251
Keshaviah, A., 245
Kessing, L. V., 174, 179
Kessler, R. C., 130, 169, 170, 173, 174, 193, 195, 198, 202, 205, 247, 257, 320
Ketokivi, M., 174
Keuthen, N., 212
Keuthen, N. J., 210, 211
Kevorkian, Jack, 186
Khalifé, S., 281
Khodarahimi, S., 205
Kiderman, H., 183
Kiely, D. K., 331
Kihlstrom, J. R., 225
Killam, C., 350
Kim, D., 259
Kim, S. W., 259, 261, 321, 322
Kimura, M., 301
King, C. A., 256, 258
King, M., 174
Kingdon, D., 159
Kingsberg, S. A., 281
Kinrys, G., 182, 215
Kinsey, Alfred, 266–267
Kircanski, K., 199
Kirkham, A. J., 147
Kirkpatrick-Sanchez, S., 252
Kirsch, I., 178
Kiziltan, E., 230
Kjelsas, E., 245
Klaiman, C., 118
Kleabir, K., 257
Kleeman, S. D., 280
Klein, Melanie, 91
Klein, R. G., 256
Kleinman, A. M., 184, 185
Klin, A., 124

Klünemann, H.-H., 343
Knapp, S., 70
Knopman, D. S., 335
Ko, H.-C., 237
Koch, K., 154
Kochanek, K. D., 184
Kocovski, N. L., 199
Kocsis, B., 147
Kodituwakku, E. L., 117
Kodituwakku, P. W., 116, 117
Koegel, L. K., 121
Koegel, R. L., 121
Koenigsberg, H. W., 364
Koeppe, R. A., 347
Koerber, S., 228
Koeter, M. W. J., 302
Koffman, R. L., 214
Kohut, H., 91, 376
Kolb, B., 82
Kolla, N. J., 366
Kollei, I., 207
Kolli, S., 381
Kollins, S. H., 131
Komblith, S., 203
Konig, A., 304
König, H., 162
Konrad, K., 249
Kopell, N. J., 147
Koran, L. M., 260
Koukounari, A., 175
Kovalchuk, O., 82
Krabbendam, L., 148, 161
Kraepelin, Emil, 15, 146
Krafft-Ebing, Richard Freihurr von, 266
Kraemer, H. C., 249
Kranick, S. M., 230
Kranzler, H. R., 301, 302, 304, 318, 319
Krauss, M. W., 118
Kravariti, E., 176
Kravvariti, V., 245
Kreipe, R. E., 252
Kreppner, W., 281
Krishna, M., 245
Kristeller, J., 239
Kristensen, H., 195
Kroll, C. H., 365
Krueger, R. F., 301, 338, 360
Kruschwitz, J. D., 196
Krystal, J. H., 215
Kubicki, M., 153
Kuhl, E. S., 253
Kulhara, P., 330–331
Kulongoski, Ted, 44
Kumar, D., 249
Kumar, V., 331
Kundakci, T., 230
Kunik, M. E., 376, 377
Kuo, F.-Y., 237
Kurlan, R., 136
Kurz, A., 343
Kushnir, B., 252
Kushnir, J., 252
Kuvaas, N. J., 302
Kvale, G., 205
Kwan, K. Y., 211
Kwapil, T. R., 150

L

Laakso, M. P., 367
Laan, E., 283, 285, 286
Laan, W., 161
LaBar, K. S., 215
Labouvie-Vief, G., 236
La Brie, R., 320
La Fond, J. Q., 400
Lahaie, M., 281
Laing, R. D., 99
Lalanne, C., 125, 135
LaLonde, K. B., 121
Lamb, D. H., 397
Lambert, M., 47, 161, 162
Lang, A. J., 203, 216
Långström, N., 268, 270, 271, 272
Lanti, A., 285
Lantos, J., 400
LaRue, R. H., 121
Las, S. G. M., 331
Latner, J., 207
Lau, J. Y. F., 80, 81, 175, 176
Laugeson, E. A., 116
Laumann, E. O., 278, 279, 280, 281
Lavagnino, L., 249
Laviola, G., 134
Lawlor, B. A., 69
Lawson, K. A., 143
Lazarus, A. A., 180
Lazarus, R. S., 236
Leach, Kimberly, 368
Leahey, T., 248
Leamon, M. H., 233
LeBeau, R. T., 195
Lebel, C., 116
Leblanc, J., 73
Le Blanc, M., 366
Leckband, S. G., 179
Leckman, J. F., 203, 205
Ledgerwood, D. M., 322
Lee, A., 160
Lee, H., 212
Lee, R. J., 257
Lee, S., 176
Leffingwell, T. R., 45
Legatt, M. E., 225
Le Grange, D., 250
Lehert, P., 302
Lehmann, S., 213
Leiblum, S., 278
Le Jeune, F., 205
Lemer, J. L., 285
Lemmens, L., 184
Lénárd, L., 247
Lendle, S., 305
Lenze, E. J., 203
Leombruni, P., 249
Leon, T., 343
Leong, S. H., 301
Leo-Summers, L., 333
Lepage, C., 153
LePage, J. P., 96
Leppink, E. W., 212
Leray, E., 205
Lereya, S. T., 372
Leslie, L. K., 256, 258
Leucht, S., 47
Levenson, J. S., 270, 277
Levine, L., 259
Levy, K. N., 92, 373, 376, 378
Levy, S., 119
Lewinsohn, P. M., 180–181
Lewis, A. J., 93, 180
Lewis, C. M., 175
Lewis, R. W., 278, 279, 281
Lewis-Fernandez, R., 199
Li, Q.-Y., 131
Li, S., 270
Li, X., 179
Li, Z., 159
Liao, B., 195
Lichtenstein, P., 155, 193
Lied, A., 228
Lilienfeld, S. O., 225, 365
Lin, R. Y., 330
Lin, W., 25
Linardatos, E., 178
Lind, P. A., 301
Lindberg, N., 259
Linehan, Marsha, 372–373
Lingford-Hughes, A. R., 200
Links, P. S., 373
Linscott, R. J., 148, 161
Lipschitz, D., 225
Lipsitz, J. D., 197
Lisanby, S. H., 179
Little, R., 347
Liu, F., 249
Liu, G.-j., 131
Liu, J., 367
Liu, X., 301
Livesley, W. J., 358
Lobo, D. S., 321
Lochner, C., 212
Loeber, R., 256
Loewy, R., 160
Lomeña, F., 176
Londos, E., 343
Long, J., 351
Lopez, O. L., 335, 343
Lorains, F. K., 320
Lord, C., 118
Lord, M.-J., 283, 286
Lorek, A. E., 302
Lotze, M., 369
Lourd, Bryan, 172
Lovaas, Ivar, 119
Löw, A., 119
Lozano, R., 169
Lucas, C. P., 194
Lucas, J., 281
Luce, K. H., 248
Luchsinger, J. A., 341
Luciana, M., 71
Lueken, U., 196
Luminet, O., 247
Luty, S. E., 184
Lykken, David, 369
Lynam, D. R., 365, 381
Lynch, K. G., 301
Lynn, S. J., 225
Lysaker, P., 363

M

Maayan, N., 147
MacAulay, R. K., 363
Maccioni, R. B., 343
MacCoon, D. G., 369
Machado, M., 177
Maciver, D., 135
Mackenbach, J. P., 161
MacKillop, J., 365
Mackin, R. S., 235
MacNeill, B. R., 121
Macy, V. R., 163
Maercker, A., 216
Maggioni, F., 6
Maher, B. A., 11
Maher, W. B., 11
Mahler, Margaret, 91
Mainous, A. G., III, 238
Makris, N., 196
Makrygianni, M. K., 120
Malinauskas, B. M., 316
Malizia, A. L., 202
Malone, D. A., 86
Malvo, Lee Boyd, 404–405
Mammel, K. A., 251
Manber, R., 253
Mandel, Howie, 206
Mandell, D. J., 194
Mankiewicz, P. D., 361
Mann, T., 251
Mannuzza, S., 256
Mansuy, I. M., 112
Mantere, O., 174
Mao, A. R., 132
Maples, J. L., 365
Marangell, L. B., 174
Marcantonio, E. R., 331
Marco, E. M., 134
Marcoux, J., 73
Marechal, C., 247
Markham, L., 252
Markon, K., 360, 363
Marmar, C. R., 215
Marom, S., 161
Marosszeky, J. E., 349
Marquardt, R., 116
Marques-Portella, C., 215
Marsh, L., 127, 132
Marsh, P. J., 320
Martel, M. M., 131
Martelon, M., 128
Martin, A., 207
Martin, A. M., 229
Martin, C. A., 121
Martin, C. S., 296
Martín, F., 176
Martin, N. G., 301
Martin, R. R., 52
Martínez-Arán, A., 176
Martinsen, E. W., 228, 232
Marwaha, S., 372
Masand, P. S., 176
Mascarenhas, M. N., 112
Mash, E. J., 53
Maslow, Abraham, 99
Mason, B. J., 309
Mason, W. A., 306
Masters, William, 266–267, 277–278, 280, 282, 285
Masterson, J. F., 376
Mataix-Cols, D., 203, 205
Mathalon, D. H., 182
Mathers, C. D., 112
Matsuda, M., 70
Matsuishi, T., 123
Mattheisen, M., 301
Matthews, A. M., 178
Maudsley, A. A., 72
Maulik, P. K., 112
May, A., 249
May, R., 98
Mayes, T. L., 209
Mazurek, M. F., 230, 232
McAdams, T. A., 193
McArthur, J. C., 351
McArthur, M., 369
McCabe, M. P., 278
McCarthy, G., 215
McCarthy, J. F., 314
McCarthy, M. J., 179
McCartney, K., 81
McClay, J., 298
McClintock, A. S., 380
McCloskey, M. S., 257, 258

McClung, C. A., 179
McClure, M. M., 364
McCrae, R. R., 62, 87
Mccullumsmith, R. E., 155
McDermott, B. E., 233
McEwen, B. S., 237
McGhee, M., 96
McGovern, J. E., 363
McGrath, J., 159, 161
McGuffin, P., 153
McGuire, A. B., 163
McGurk, D., 214
McHugh, P. R., 337
McHugh, R. K., 184
McInnis, M. G., 175
McIntyre, R. S., 174
McKee, D. R., 52
McKeith, I., 347
McKhann, G., 336, 337
McKie, S., 161
McLellan, T. A., 314
McMahon, F. J., 176
McNally, R. J., 215
McNerney, E. K., 121
McPherson, K., 270
McQueen, M. B., 258
Meagher, S., 382
Meana, M., 285
Meares, S., 349
Medeiros, G., 261
Mednick, S. A., 367
Meeks, S., 10, 315
Meese, W., 304
Meinhardt, J., 369
Mellow, A. M., 69
Menard, W., 207
Mendlowicz, M. V., 215
Menendez, Erik, 404
Menendez, Lyle, 404
Meng, H., 161
Menzies, L. A., 211
Menzies, R., 127
Merckelbach, H., 196
Merikangas, K. R., 169, 170, 173, 174, 193, 195, 198, 202, 205
Merriam, P., 239
Messer, S. C., 214
Meston, C., 278
Mettenburg, J., 270
Meunier, S. A., 212
Meyer, C., 289
Meyerbröker, K., 197
Meyers, J. E., 73
Michaud, C., 169
Mick, E., 131
Miech, R., 307, 308, 309, 311, 315, 317
Miklowitz, D. J., 174
Miles, J., 174
Miller, J. D., 365, 381
Miller, L., 184
Miller, W. R., 101, 304
Milligan, Billy, 226
Millon, C., 382
Millon, T., 382
Minden, S. L., 330
Minthon, L., 343
Mintz, J., 186
Mintzer, J., 347
Mitchell, D., 370
Mitchell, J. E., 248, 251
Mitchison, D., 207
Mittal, D., 331
Mitteer, D. R., 252
Miyahara, S., 174
M'Naghten, Daniel, 401
Moe, T., 228
Moffitt, T. E., 258, 298
Mogge, N., 96
Moitra, E., 98
Molina, V., 153
Monahan, J., 399
Mond, J., 207
Money, John, 275
Moniz, Egas, 85
Montgomery, C., 312
Montgomery, G. W., 301
Montoro, M., 150
Moody, E., 119
Moor, S., 184
Moore, T. J., 178
Moorman, A. S., 397
Morales, I., 343
Moran, P., 186, 365
Morasco, B. J., 322
Moreira, E. D., Jr., 278, 279, 281
Morel, Benedict, 146
Moreno, T., 269
Morey, L. C., 62, 360
Morgan, T. M., 211
Morin, C. M., 253, 270
Morin, J. W., 270
Morin, M., 283, 286
Morina, N., 197
Morinigo, A., 343
Morizot, J., 366
Morken, G., 228, 232
Morris, R., 176
Moser, C. A., 274
Moulton, J. L., III, 256
Moum, T., 232
Mpavaenda, D., 381
Muehlhan, M., 196
Mueller, A. S., 186
Mueser, K. T., 163
Muhammed, John Allen, 404–405
Mukherjee, N., 25
Muller, D. J., 155
Muller, J. L., 369
Mungadze, Jerry, 225
Munger, J. C., 257
Munitz, H., 161
Müri, R., 159
Muroff, J., 210
Murphy, D. L., 211
Murphy, J., 96
Murphy, K., 134
Murphy, K. M., 331
Murphy, K. R., 130, 131
Murphy, P. N., 312
Murphy, S. L., 184
Murphy, W. D., 270
Murray, C., 130
Murray, R., 298
Murray, R. M., 161
Muschler, M. A., 301
Mychasiuk, R., 82
Myin-Germeys, I., 148, 161

N

Nabatame, H., 70
Naber, D., 47
Nagahama, Y., 70
Nagamitsu, S., 123
Naghavi, M., 169
Nagoshi, J. L., 287
Nagren, K., 154
Najman, J. M., 159
Najmi, S., 209
Narusyte, J., 193
Nasrawi, N., 250
Nass, R., 135
Nasser, J., 215
Natanye, E., 304
Nathan, P. J., 154
Nathani, M., 231
National Institute of Mental Health, 147, 176
National Institute of Neurological and Communicative Disorders and Stroke, 336–337
National Institute on Alcohol Abuse and Alcoholism, 302, 304
National Institute on Drug Abuse, 296, 298, 307, 308, 310, 312, 313, 314, 315, 316, 318
National Survey of Drug Use and Health, 307
Navarrete, L. P., 343
N'Diaye, K., 205
Neale, M. C., 155
Nef, F., 247
Neiderhiser, J. M., 193
Nelson, C. A., III, 213
Nelson, D., 349
Nelson, N. W., 230
Neumann, C. S., 365
Neumann, N., 119
New, A., 364
Newcom, J. H., 131
Newhouse, P. A., 69
Newman, J. P., 369
Newman, M. G., 203
Newman, N., 183
Ng, H. K., 25
Nguyen, H., 203
Nicolò, G., 382
Nielsen, S., 245
Niendam, T., 160
Niendam, T. A., 150
Nierenberg, A. A., 179
Nieuwenhuis-Mark, R. E., 331
Nigg, J. T., 131
Nikolas, M., 131
Noblett, K. L., 258
Nobre, P. J., 285
Nock, M. K., 23–24
Noel, X., 302
Nonkes, L. J. P., 308
Nordgaard, J., 147
Norton, J., 331
Novak, C. E., 211
Novakovic, B., 25
Nugent, S., 349
Nutt, D. J., 200, 202
Nyer, M., 178
Nys, G. M. S., 331

O

Oakley, S. H., 280
O'Brian, S., 127
O'Brien, C. P., 301
O'Brien, M. P., 150
O'Connor, M., 115, 116
O'Connor, M. J., 116
O'Connor, P. G., 302
Odlaug, B. L., 211, 212, 261, 320, 321, 322
O'Donnell, B. F., 363
Oerbeck, B., 195
Ohtsubo, T., 154
Okina, T., 70
Oldenbeuving, A. W., 331
Oldham, J., 376, 377
Oldham, J. M., 360
Oliveira, E. B., 212
Ollendick, T., 195
Ollendick, T. H., 196
Ollikainen, M., 25
Oltmanns, T. F., 362, 375
O'Malley, P. M., 315, 318
O'Malley, S. S., 302, 305
Onslow, M., 127
Orav, E. J., 330
Orazem, R. J., 349
O'Reardon, J. P., 86
Ornstein, R. M., 251
O'Roak, B. J., 211
Orsmond, G., 118
Osborn, D. J., 174
Oslin, D. W., 301
Öst, L., 205
Ostacher, M. J., 174
O'Toole, K., 183
Otto, M. W., 184
Ouellet, M., 253
Ougrin, D., 186
Ousley, O. Y., 363
Ouyang, L., 115
Overton, R. F., 316
Owen, C., 135, 207
Owens, M. E., 199
Oxman, T. E., 170

P

Pachana, N. A., 196
Packman, A., 127
Pae, C., 176
Pagano, M. E., 207
Page, I. J., 270
Pail, G., 179
Palermo, M. T., 338
Paley, B., 116
Pallaskorpi, S., 174
Palmer, A. A., 318
Palomo, T., 153
Pan, P., 186
Pan, Y., 301
Pandav, R. S., 334
Panetti, Scott Louis, 405–406
Pantelis, C., 205
Panza, F., 341
Papademetriou, V., 348
Papadimitriou, G. N., 174
Pariante, C. M., 182
Park, S. W., 376
Parker, G. F., 153
Parnas, J., 147
Parner, E. T., 119
Parsons, T. D., 197
Passik, S., 332
Pastva, A. M., 203
Pate, R. J., 231
Patel, J. K., 174
Patkar, A. A., 176
Patrick, C. J., 205, 365
Patton, S. R., 253
Pauls, D. L., 211
Pauls, R. N., 280
Paulus, M. P., 203
Pavlov, Ivan, 15
Pawitan, Y., 155
Peckham, A. D., 184
Peden, N., 261, 322
Pedersen, G., 363
Pedersen, S. S., 239
Peeters, F., 184

Pellman, R. C., 184, 185
Penberthy, J. K., 304
Penelo, E., 247
Pennebaker, J. W., 237
Penninx, B. H., 174
Pérez, P., 343
Pérez, S., 136
Pérez-Benítez, C. I., 200
Pergadia, M. L., 301
Perkins, A. J., 346
Perlis, R. H., 131, 174
Perls, T., 334
Perrin, N., 249
Pesiridou, A., 86
Peters, M. L., 196
Petersen, K., 312
Petersen, R. C., 341
Peterson, A. L., 186
Peterson, C. B., 249
Petit, A., 341
Petkus, A. J., 203
Petry, N. M., 320, 321, 322
Petta, I., 270
Petty, C., 128, 129
Petukhova, M., 169, 320
Pfafflin, F., 287
Philibert, R. A., 367
Philipp, K., 276
Phillips, K. A., 207, 208, 209
Piacentini, J., 210
Pierò, A., 249
Pietrzak, R. H., 227
Pincus, A. L., 302
Pincus, D. B., 194
Pine, D. S., 199
Pinto-Gouveiaa, J., 285
Pistorello, J., 372
Pittman-Polletta, B. R., 147
Pizzagalli, D. A., 176
Pjrek, E., 179
Plath, Sylvia, 102–103
Player, M. S., 238
Ploenes, Y., 249
Pocinho, M., 196
Poddar, Prosenjit, 395–396
Polanczyk, G., 128, 258
Poling, A., 121
Pollack, M. H., 200
Pollard, S., 96
Ponniah, K., 184
Pope, A. W., 252, 253
Pope, H. G., Jr., 247, 310
Porcelli, S., 179
Potenza, M. N., 259, 321, 322
Poustka, F., 119
Power, R., 175
Praschak-Rieder, N., 179
Prescott, C. A., 202
Prescott, David, 277
Price, D., 336, 337
Price, L. M., 196
Price, R. W., 351
Pridmore, S., 369
Priel, B., 376
Pripp, A. H., 195
Pritchard, R., 379
PubMedHealth, 113, 114, 125
Pujol, J., 205
Purkis, H., 196

Q

Qiu, M.-g., 131
Qu, Y., 159
Quick, V. M., 251
Quinn, K., 211
Quinn, P. O., 130

R

Rabe, S., 216
Rabin, L. A., 70
Rademaker, A. R., 216
Rae, L. L., 363
Raffa, S., 200
Ragland, D., 160
Ragotzy, S. P., 121
Rahe, R. H., 234
Raine, A., 367
Rainer, M., 343
Ram, N., 302
Ramsawh, H., 203
Ramsawh, H. J., 200
Rane, P., 119
Rascati, K. L., 143
Raspa, M., 115
Rausch, J. R., 253
Reagan, Nancy, 344–345
Reagan, Ronald, 344–345, 403
Reagu, S., 257
Reas, D. L., 245
Rebar, A. L., 302
Redlich, F. C., 103, 161
Redmond, S., 285
Reed, G., 239
Reed, P., 120
Rees, C. S., 379
Rees, L., 71
Regents of the University of California, 395–396
Regents of the University of Minnesota, 61
Reghunandanan, S., 381
Reich, J., 378
Reichenberg, A., 158
Reid, H., 253
Reid, W., 347
Reilly-Harrington, N. A., 182
Reimer, J., 162
Reinecke, M. A., 379
Reiss, D., 193
Reissig, C. J., 316, 318
Reme, S. E., 228
Renaud, S., 343
Rende, R., 200
Renner, M. J., 235
Renton, J. C., 361
Repo-Tiihonen, E., 367
Resick, P. A., 216
Resnick, R. J., 129
Rettew, D. C., 378
Reynolds, A., 119
Reynolds, Debbie, 172
Reynolds, K. A., 216
Reynolds, S. M., 374
Rice, C., 119
Rice, J., 253
Richarz, U., 343
Richings, C., 116
Rickels, K., 203
Riddell, A. B., 381
Ridinger, M., 301
Rief, W., 201
Riegel, K., 251
Riehm, K. E., 17
Rietschel, M., 301
Rihs-Middel, M., 320
Rijsdijk, F. V., 193
Riley, D. O., 350
Riley, E. P., 115, 116
Ring, A. J., 363
Ringen, P. A., 157
Ringwald, Molly, 317
Rivera, M., 175
Rizvi, S. L., 23–24
Rizzo, A. A., 197
Roach, A. R., 237
Robbins, C. A., 130
Robbins, P. C., 399
Roberson-Nay, R., 199
Roberts, C. R., 9
Roberts, C. T., 82
Roberts, R., 335
Roberts, R. E., 9
Robins, L. N., 258
Robinson, J. A., 378
Roche, M. J., 302
Rockers, K., 363
Rodgers, B., 207
Rodríguez, V. M., 304
Roefs, A., 184
Roepke, S. K., 239
Rogers, Carl, 99–100
Rohde, L. A., 128, 258
Rohling, M. L., 73
Roid, G. H., 57
Roks, G., 331
Rollins, A. L., 163
Romani, P. W., 252
Rønning, O. M., 330
Ronningstam, E., 377
Rorschach, Hermann, 63–64
Rosario-Campos, M. C., 203
Rose, G. S., 101
Rosebush, P. I., 230, 232
Rosell, D. R., 363
Rosellini, A. J., 184
Roseman, A., 155
Rosen, D. S., 251
Rosen, R., 278
Rosengren, L., 351
Rosenhan, David, 19
Rosenheck, R. A., 215
Rosenthal, R., 178
Rosmalen, J. G., 228
Rosowsky, E., 366
Ross, G., 135
Rosselli, F., 249
Rossi, G., 87
Rossi, R., 367
Rosso, I. M., 196
Rothbaum, B. O., 216
Roussotte, F., 116
Roy, A., 116
Roy, C., 273
Rubin, E., 124
Rudd, M. D., 186
Rukstalis, M., 301
Ruocco, L. A., 134
Ruscio, A. M., 202
Rush, A. J., 179, 181
Rush, Benjamin, 14, 15
Rutter, M., 258
Ryder, A. G., 363
Rylands, A. J., 161

S

Sabattoli, F., 367
Sachs, G. S., 174
Sadeh, A., 252
Sadile, A. G., 134
Sage, M., 184
Saha, S., 161
Sahakian, B. J., 211
Saigal, G., 72
Sajatovic, M., 178
Saks, Elyn, 156–157
Salafia, E. B., 285
Salcedo, S., 182
Salekin, R. T., 365, 370
Salkovskis, P., 233
Salomon, J. A., 169
Salvatore, G., 382
Salyers, M. P., 163
Sampson, N., 193
Sampson, N. A., 169, 320
Sams, J., 178
Samuel, D. B., 379, 381
Samuels, S. C., 347
Sanders, N., 247
Sansone, R. A., 371
Santamaría, J. J., 247
Santucci, A. C., 350
Santucci, L. C., 194
Sanz, J., 153
Sar, V., 230
Saroha, E., 124
Sarramea, F., 153
Sartorius, N., 150
Satre, D. D., 182
Sautter, F. J., 216
Savard, J., 253
Savica, R., 341
Saxena, S., 112, 205
Sayer, N. A., 349
Scala, J. W., 378
Scalora, M. J., 270
Scarmeas, N., 341
Scarpini, E., 343
Scarr, S., 81
Schachtzabel, C., 154
Schaffer, H. J., 320
Schaüble, B., 343
Schauman, O., 6
Schendel, D. E., 119
Scherrer, J. F., 320
Schieber, K., 207
Schimmelmann, B. G., 47, 161
Schindler, R., 335, 343
Schipper, L. J., 237
Schlösser, R. G., 154
Schmahl, C., 372
Schmoldt, A., 312
Schnack, H. G., 153
Schneck, C. D., 174
Schneider, J. A., 338
Schneider, Kurt, 146
Schneider, S., 236
Schneiderman, N., 236
Schnicke, M. K., 216
Schoeneman-Morris, K. A., 270
Schoevers, R. A., 228
Schonfeld, A. M., 116
Schotte, C., 87
Schulenberg, J. E., 315, 318
Schultz, C. C., 154
Schultz, R. T., 118, 124
Schultz, W. W., 283, 285, 286
Schulza, J. B., 343
Schulze, K. K., 176
Schwam, E., 335, 343
Schwerdtner, J., 369
Scoboria, A., 178
Scorolli, C., 271
Scotet, V., 343
Scott, C. L., 233
Scott, J., 159
Scott, K., 193
Scott, L. N., 92, 373

Sedlak, A. J., 270
Segal, D. L., 236, 366
Segerstrom, S. C., 237
Segool, N., 195
Segraves, R. T., 279
Segraves, T., 278, 279, 281
Seichepine, D. R., 350
Seidman, L. J., 129
Selgrade, E., 215
Sellbom, M., 365
Selten, J. P., 161
Seltzer, M. M., 118
Semerari, A., 382
Sengupta, A., 170
Senturk, D., 216
Serby, M., 347
Serretti, A., 155, 176, 179
Seto, M. C., 268, 270, 271, 273
Sgro, M., 116
Shabsigh, R., 278
Shah, D. B., 86
Shah, K. R., 320
Shah, R., 231, 331
Shahid, M., 231
Shamir, A., 125
Shapiro, D. I., 363
Sharma, P., 180
Sharp, L. K., 237
Sharp, S. I., 335
Shastry, B. S., 178
Shattuck, P. T., 118
Shaw, B. F., 181
Shea, M. T., 200
Shedler, J., 93
Shen, C., 334
Shenton, M. E., 153
Shepherd, C., 135
Sher, K. J., 296, 300, 358
Shibuya, K., 169
Shields, J., 80
Shindel, A. W., 274
Shingleton, R., 249
Shores, E. A., 349
Shriver, M. D., 195
Shukitt-Hale, B., 343
Shusterman, A., 212
Siegel, S. D., 236
Siegert, J., 196
Siever, L. J., 363, 364
Silarova, B., 174
Silove, D., 193
Silverman, R., 186
Silverman, Sue William, 284–285
Simms, L. J., 360
Simon, N. M., 200
Simon, Paul, 172
Simon, S. E., 331
Simon, Y., 247
Simone, M. J., 330
Simons, D. A., 269
Simonsen, E., 360
Simpson, C. D., 257
Simpson, H. B., 205
Singh, S. P., 372
Sinha, U. K., 180
Sinke, S., 248
Sisto, A., 382
Skinner, B. F., 15, 180
Sklar, P., 131
Skodol, A. E., 360
Skultety, K. M., 334
Slaets, J. P. J., 333
Slifstein, M., 249, 363
Sloman, K. N., 121
Slutske, W. S., 320
Smailes, E., 81
Smeets, P. M., 247
Smith, D. W., 238
Smith, G. J., 321
Smith, J. K., 25
Smith, K. R., 25
Smith, M. T., 253
Smolin, Y., 225
Smoller, J. W., 131
Smyke, A., 213
Snorrason, I., 212
Snyder, H. N., 270
Soares-Weiser, K., 147
Solem, S., 205
Soltanifar, A., 137
Soltys, S. M., 186
Somers, T. J., 201
Sommer, M., 369
Song, J., 176
Sønnesyn, H., 335
Sorensen, P., 233
South, S. C., 301
Southwick, S. M., 227
Souza, R. P., 321
Sowell, E. R., 116
Soygür, H., 163
Spaeth, D. T., 302
Spetie, L., 133
Spiegel, D. A., 201
Spijker, A. T., 174
Spina, E., 155, 179
Spring, B., 81
St. George-Hyslop, P. H., 341
Stade, B. C., 116
Stadlan, E. M., 336, 337
Stahl, D., 176, 186
Stamm, J. M., 350
Star, J. R., 127, 132
Stark, D. E., 118
Starr, J. A., 304
State, M., 211
State, M. W., 25
Stea, J. N., 322
Steadman, H. J., 399
Steel, C., 159
Steffens, D. C., 236
Stegmayer, K., 159
Stein, D. J., 212
Stein, M. B., 195, 198, 203, 378
Steinberg, M., 226
Steinbrecher, N., 228
Steiner, R. D., 113
Steinley, D. L., 296
Steketee, G., 209, 210
Stennett, B., 374
Stepp, S., 256
Stern, R. A., 350
Stern, Y., 341
Sternbergf, K., 343
Stevenson, Anne, 102–103
Stevenson, B. L., 302
Stewart, J. W., 179
Stewart, S. E., 211
Stillman, A. A., 211
Stilo, S. A., 161
Stockton, C., 186
Stone, A. A., 236
Storch, E. A., 210, 212
Stormer, P., 71
Strain, E. C., 316, 318
Strauss, M., 161
Striegel-Moore, R. H., 249
Strik, W., 159
Strosser, G. L., 365
Stucki, S., 320
Sturmey, P., 181
Subbaraman, M. S., 305
Substance Abuse and Mental Health Services Administration, 20, 216, 296, 299, 307, 308, 309, 311, 314, 316
Sullivan, Kevin M., 368
Sullivan, P. F., 155
Sulzbacher, J., 159
Sundbom, E., 287
Sunderland, T., 69
Sungur, M. B., 163
Suominen, K., 174
Susser, E., 161, 194
Sutherland, K., 253
Suzuki, N., 70
Swann, A. C., 174
Swanson, J. M., 131
Swanson, J. W., 399
Swartz, H. A., 183
Swartz, M. S., 399
Swe, A., 118
Sylvia, L. G., 182
Sysko, R., 248

T

Tafrate, R. C., 370
Takahashi, T., 123
Tammet, Daniel, 122–123
Tan, Z. S., 330
Tanay, Emmanuel, 368
Tang, M. G., 351
Tang, X., 351
Tang, Y., 179
Tangen, T., 228
Tani, P., 259
Tarasoff, Tatiana, 395–396
Tarrier, N., 159, 161, 185–186
Tatsuoka, C., 178
Tavares, H., 261
Tavares, P., 210
Taylor, A., 258
Taylor, A. J., 349
Taylor, C. T., 203
Taylor, Elizabeth, 172
Taylor, P. J., 185–186, 257
Telang, F., 131
Tell, R. A., 178
Temes, C. M., 378
Tenhula, W. N., 159
Tenke, C. E., 184
Tennen, H., 236
Tennigkeit, F., 343
Terhakopian, A., 214
Terracciano, A., 87
Thaler, L., 285
Thase, M. E., 174, 182
Thatcher, J., 376
Thibaut, F., 275, 276
Thioux, M., 118
Thomas, K. M., 363
Thomas, S. A., 320
Thomasius, R., 312
Thombs, B. D., 17
Thomicroft, G., 6
Thommessen, B., 330
Thompson, A., 372
Thompson, J. L., 363
Thornberry, David, 46
Tiihonen, J., 367
Tiwari, A. K., 155
Tkachenko, N., 281
Tolin, D. F., 209, 210, 212
Tombaugh, T. N., 71
Tomich, P. L., 216
Tomko, R. L., 358
Tong, R. P., 321
Torke, A. M., 400
Torres, R., 331
Tracy, D. K., 147
Traish, A. M., 283
Tranah, T., 186
Tran-Viet, K. N., 211
Treutlein, J., 301
Triebwasser, J., 364
Trivedi, M. H., 179
Trojca, D., 250
Trosper, S. E., 194
Trull, T. J., 300, 358
Trzepacz, P. T., 331
Tsai, J., 227
Tsai, W., 302
Tully, L. A., 258
Turnbull, D. L., 378
Turner, E. H., 178

U

Uher, R., 175, 182
UK ECT Review Group, 86
Umstattd, M. R., 302
Unverzagt, F. W., 346
Urakimi, T., 154
Usdan, S. L., 302
Üstün, B., 163

V

Vacanti-Shova, K., 391
Vaccaro, C. M., 280
Vaidyanathan, U., 205
Vainer, E., 150
Vaivre-Douret, L., 125, 135
Valdés, M., 176
Valenstein, M., 314
Valtonen, H., 174
van Assert, D. Z. B., 333
Vanbellingen, T., 159
van Bussel, I. P. G., 308
VandeCreek, L., 70
van den Bree, M., 257
van den Brink, W., 302
van den Heuvel, M. P., 153
van den Hout, M. A., 216
van der Laan, M., 305
Van Dorn, R. A., 399
van Elburg, A. A., 247, 249
van Erp, T. G., 154
van Gogh, Vincent, 22–23
van Haren, N. E. M., 153
van Hoeken, D., 248
VanHorn, L., 96
van Leeuwen, B. L., 333
van Meer, F., 247
van Norden, A. G., 341
van Os, J., 148, 161
van Oudheusden, L. J., 341
Van Reedt Dortland, A., 174
van Rijsbergen, M. W. A., 331
Van Rossum, E. C., 174
van Uden, I. W., 341
van Zuiden, M., 216
Varghese, D., 159
Varsou, E., 245

Vasic, N., 154
Vaughn, M. G., 367
Vaught, A. S., 216
Vecchio, J. L., 195
Veit, R., 369
Veling, W., 161, 248
Venables, P. H., 367
Vergés, A., 296, 300
Verheij, M. M. M., 308
Vérin, M., 205
Vermetten, E., 216
Vermeulen, N., 247
Vertrees, J. E., 215
Vessicchio, J. C., 215
Vieta, E., 176
Vijayan, S., 147
Vik-Mo, H., 228
Vinogradov, S., 160
Virkkunen, M., 259
Vitale, J. E., 369
Vitiello, B., 256, 258
Vitousek, K. M., 251
Vocks, S., 249, 250
Vogel, P. A., 205
Volberg, R., 320
Volkmar, F. R., 124
Volkow, N. D., 131, 314
von Gontard, A., 252
von Polier, G. G., 161
von Wietersheim, J., 249
Vos, T., 169
Vradi, E., 174

W

Wager, T. D., 176
Wagner, G., 154
Wagstaff, K., 249
Waite, L. J., 280
Waldman, I., 131
Walker, E. F., 363
Walker, Herschel, 224–225
Walker, J. C., 113
Wallin, A. K., 343
Walsh, B., 251
Walsh, B. T., 249, 252
Walshe, M., 176
Walter, H., 154
Walters, E. E., 169, 170, 173, 174, 193, 195, 198, 202, 205
Walters, K., 174
Walther, S., 159
Wang, C., 179
Wang, G.-J., 131
Wang, J., 131
Wang, K.-S., 301
Wang, M., 258
Wang, N., 159
Wang, S., 176
Wang, X., 159
Warden, D., 179
Wartberg, L., 312
Wasserman, R. H., 373
Wasserstein, J., 129
Watanabe, Y., 154
Waterman, B., 320
Watson, John B., 15
Wattar, U., 233
Wattmo, C., 343
Webdale, Kendra, 399
Weber, M. K., 115, 116
Webster, M. J., 176
Wechsler, David, 58
Wedekind, D., 372
Wei, B., 351
Weiner, I. B., 67
Weinstein, Y., 362, 375
Weinstock, J., 322
Weishaar, M., 181
Weiss, M., 130
Weiss, S. R., 314
Weissman, M. M., 183, 184
Weizman, A., 161
Welge, J. A., 184
Welham, J., 159, 161
Wells, A., 205
Wendland, J. R., 176, 211
Wernette, K., 347
Wertenberger, E. G., 186
Wessely, S. C., 231
West, A. L., 238
Wetherell, J. L., 203
Wheeler, J. J., 121
Whitbourne, S. B., 334, 335
Whitbourne, S. K., 10, 315, 334, 335
White, D. A., 113
White, K. S., 201, 203
Whitfield, J. B., 301
Whitford, T. J., 153
Whittington, M. A., 147
Whitton, S. W., 184
Wickramaratne, P., 184
Widiger, T. A., 358, 381
Wiederman, M. W., 371
Wigal, T. L., 131
Wiggers, T., 333
Wiggins, L., 119
Wilberg, T., 363
Wilcox, S. L., 285
Wild, L. G., 125
Wilder, C. M., 399
Wilens, T. E., 128, 130, 131
Wilhelm, S., 209
Wilkinson, D., 335, 343
Willer, E. K., 237
Willhite, R. K., 150
Williams, D. E., 252
Williams, J. W., Jr., 170
Williams, K. E., 251
Williams, T. J., 302
Wilson, D. K., 239
Wilson, G. T., 248, 249, 251
Wilson, H. A., 370
Wilson, R. S., 338
Windle, M., 306
Winfrey, Oprah, 317
Winkler, D., 179
Winnicott, D. W., 91
Winsper, C., 372
Winters, K. C., 320
Wisniewski, S., 174
Wisniewski, S. R., 174, 179
Wittchen, H., 169
Wittchen, H. U., 195, 196, 199, 200
Witthoft, M., 232
Witzel, B., 127, 132
Wolf, S., 343
Wolfe, H. M., 25
Wolkowitz, O. M., 182
Wolpe, Joseph, 95
Wonderlich, S. A., 251
Wood, A. M., 185–186
Wood, P. K., 300, 358
Woods, D. W., 210, 212
Working Group for a New View of Women's Sexual Problems, 280
World Federation of Societies of Biological Psychiatry, 276
World Health Organization, 20, 33, 35, 185, 298, 334
World Professional Association for Transgender Health (WPATH), 287
Worley, C., 370
Wostear, G., 258
Wright, S., 273, 274
Wu, P., 194
Wu, R., 302
Wu, Y. C., 351
Wurtele, S. K., 269
Wyatt, Ricky, 399
Wykes, T., 159

X

Xian, H., 320
Xie, B., 131
Xu, J. Q., 184
Xu, X., 363
Xu, Z., 159

Y

Yalom, Irvin, 104
Yam, W. H., 360
Yamashita, Y., 123
Yang, T. T., 182
Yates, Andrea, 404
Yeomans, F. E., 373, 376
Ye, Z., 131
Yeomans, P. D., 98
Yip, B. H., 155
Ýlvarez, E., 247
Young, A. H., 182
Young, R. M., 302
Young, S. E., 258
Young-McCaughan, S., 186
Yurgelun-Todd, D., 310

Z

Zagrabbe, K., 212
Zai, C. C., 155
Zai, D., 196
Zaman, R., 154
Zapletalova, P., 312
Zappalà, G., 343
Zarotti, G., 161
Zaslavsky, A. M., 130, 169, 257
Zattoni, S., 271
Zeanah, C. H., 213
Zeeck, A., 249
Zeng, M., 301
Zhang, H., 174, 302
Zhang, J., 121
Zhang, O., 301
Zhang-Nunes, S. X., 351
Zhao, T., 351
Zhao, Y. B., 351
Zhou, M., 351
Zinberg, J., 150
Zoellner, T., 216
Zonderman, A., 334
Zonderman, A. B., 338
Zubin, J., 81
Zuchner, S., 211
Zucker, R. A., 306
Zweben, A., 305
Zwiers, M. P., 341

SUBJECT INDEX

Bold locators indicate definitions of terms.

A

AAIDD. *See* American Association of Intellectual and Developmental Disabilities
ABAB design, 23–24
A-B-C chain, in cognition, 97
abnormal behavior
  biological contributions to, 8, 9
  biopsychosocial perspective on, **8,** 9–10
  causes of, 8–10
  clinical perspectives on, 26
  definitions of, 4, 6–8
  developmental perspective on, 10
  humanitarian explanations of, **11,** 12–14
  psychological contributions to, 8–9, 9
  scientific explanations of, **11,** 14–16
  sociocultural perspective on, **9**
  spiritual explanations of, **11**–12
ABPP. *See* American Board of Professional Psychology
abuse
  confidentiality exception in, 393–395
  cycle of, 275
  sexual, 269–270. *See also* pedophilic disorder
  substance. *See* substance use disorder(s)
acamprosate, 301–302, 305
Acceptance and Commitment Therapy (ACT), **98,** 212, 216
acetylcholine, 79
ACT. *See* Acceptance and Commitment Therapy; Assertive Community Treatment
active phase of schizophrenia, **144**
acute stress disorder, 198, **213**–214
adaptive functioning, intellectual disability and, 111–112
adaptive testing, **71**
Adderall/Adderall XR, 132, 307
addiction
  sex, 284–285
  substance use disorder *versus,* 295
Addyi (flibanserin), 283
ADHD. *See* attention-deficit/hyperactivity disorder
adjustment disorder, 3, 26
Adler, Alfred, 91
adolescents
  ADHD in, 128–129
  prescribing psychiatric medications for, 133
  specific learning disorder in, 125
  substance use disorders in, 298
adoption studies, 25
adult ADHD, 128–130, 131, 132
advance directive, 186
adverse drug reactions, 84–85
advocacy, 14, 134
affect
  ADHD and, 131
  inappropriate, **144**
  negative, 361
  restricted, 144, **145**
  schizophrenia and, 144, 146
age
  and alcohol use, 299–300
  and coping with stress, 236
  and depressive disorders, 169
  and personality disorders, 365–366
aggression
  in intermittent explosive disorder, 256–258
  in oppositional defiant disorder, 255–256
agoraphobia, **200**
  case report on, 200
  DSM-5 on, 198, 199
  theories and treatment of, 200–201
agranulocytosis, 157
AIDS dementia complex, 351
Ainsworth, Mary Salter, 92
akinesia, **348**
Alcoholics Anonymous, 42, 301, 304
alcohol myopia theory, **302**
alcohol use disorder, 298–306
  age and, 299–300
  AUDIT test for, 302, 303
  bipolar disorder and, 174, 293–295, 323
  case reports on, 293–295, 299, 323
  Combined Behavioral Intervention for, 304–305
  dual-process theory of, **302**
  fetal effects of, 115–117
  medications for, 301–302
  physiology of, 300
  psychological perspective on, 302–305
  relapse prevention, **304**
  sociocultural perspective on, 301, 305–306
  theories and treatment of, 300–306, 318–319
ALI. *See* American Law Institute's (ALI) guidelines
allele, **79**
alternative medicine, 239
Alzheimer, Alois, 334
Alzheimer's disease
  autopsy studies of, 334, 336
  behavioral risk factors for, 341–342
  behavioral strategies in, 343–346
  brain changes in, 334
  caregivers in, 343–346
  case report on, 346
  diagnosis of, 335–339, 340
  diagnostic criteria for, 333
  DSM-5 on, 334, 337
  genetics of, 341
  Mini-Mental State Examination in, 337–338, 343
  neurocognitive disorder due to, **333**–346
  NINCDS/ADRADA Guidelines on, 336–337
  prevalence of, 334–335
  pseudodementia *versus,* 338–339
  Reagan and, 344–345
  stages of, 334, 335
  theories of, 339–342
  treatment of, 342–346
Alzheimer's Disease and Related Diseases Association (ADRDA), 336–337
Ambien (zolpidem), 315
ambivalence, schizophrenia and, 146
American Association of Intellectual and Developmental Disabilities (AAIDD), 111
American Board of Professional Psychology (ABPP), 389–390
American Law Institute's (ALI) guidelines, **403**
American Psychiatric Association (APA)
  diagnostic manual of, 4. *See also Diagnostic and Statistical Manual of Mental Disorders*
  origins of, 15
American Psychological Association (APA)
  Ethics Code of, 70, 386–398
  guidelines for child protection matters, 389, 391
  guidelines for gay, lesbian, and bisexual clients, 389, 390
  guidelines for girls and women, 389, 393
  guidelines for older adults, 389, 392
  guidelines for people with disabilities, 389, 394
  Practice Directorate, 44
  Standards of Care for the Treatment of Gender Identity Disorders, 287, 288
amitriptyline (Elavil, Endep), 177
amnesia, **351**
  anterograde, **300**
  dissociative, **222,** 225, 227
  retrograde, **300**
amok, 36
amphetamine, **306**–307
amyloid plaques, **340**
amyloid precursor protein (APP), 340–341
analog observations, **67**
anorexia nervosa, **245**–247
  binge-eating/purging type, 243–246
  case report on, 243–244, 262
  de Rossi and, 246–247
  DSM-5 on, 245
  mortality risk in, 245–246
  restricting type, 245
  theories and treatment of, 249–251
anoxia, 115, 350
antagonism, in personality disorders, 361
anterograde amnesia, **300**
antianxiety medications, 315
  for generalized anxiety disorder, 203
  for panic disorder and agoraphobia, 200
  for social anxiety disorder, 198
  for specific phobias, 196
anticholinesterase agents, 342–343
anticonvulsant medications
  for alcohol use disorder, 302
  for bipolar disorder, 179
antidepressants, 176–178
  for ADHD, 133
  for children and adolescents, 133
  "file drawer problem" with, 178
  for obsessive-compulsive disorder, 205
  for pedophilic disorder, 275
  for post-traumatic stress disorder, 215
  for trichotillomania, 212
antilibidinal psychopharmacological intervention, 275
antioxidants, for Alzheimer's disease, 343
antipsychotic medications, 84–85
  for delirium, 332
  for schizophrenia, 157–158
  side effects of, 157–158
  for Tourette's disorder, 136
  for trichotillomania, 212
antisocial personality disorder, 258, 357, 359, **364**–370
  antisocial behavior *versus,* 365
  biological perspective on, 366–369
  Bundy and, 368

case report on, 364
Cleckley on, 364–365
criminal behavior in, 365–366
diagnostic criteria for, 365
legal issues in, 367
maturation hypothesis of, **366**
psychological perspective on, 369
response modulation hypothesis of, **369**
theories of, 366–369
treatment of, 369–370
anxiety, **192**
anxiety disorders, **192**–203
agoraphobia, 198, 199, **200**–201
biopsychosocial perspective on, 216
DSM-5 on, 198
excoriation (skin-picking) disorder, **212**
generalized (GAD), 29–30, 47–48, **201**–203
panic disorder, **199**–201
prevalence of, 193
selective mutism, **194**–195
separation anxiety disorder, 114, **193**–194
social anxiety disorder, **198**–199, 378
somatic symptoms with, 228
specific phobias, **195**–197
treatment of, 84
anxiety sensitivity theory, **200**
anxiolytic, **315**
for generalized anxiety disorder, 203
for panic disorder and agoraphobia, 200
for social anxiety disorder, 198
for specific phobias, 196
APA. *See* American Psychiatric Association; American Psychological Association
apnea, 253–255, **255**
apoE gene, 341
APP. *See* amyloid precursor protein
archetypes, **90**–91
Aricept (donepezil), 342–343
arousal, ADHD and, 131
arousal (sexual) disorders, 278, 279–280
arousal stage, in sexual response, 278
asenapine (Saphris), 178
Ashkenazi Jews, Tay–Sachs disease in, 113–114
asociality, 144, **145**
Asperger, Hans, 123
Asperger's disorder, 114, **123**–124
Assertive Community Treatment (ACT), **161**–163
assessment, 38, 50–75. *See also specific assessment tools*
adaptive, 71
Barnum effect in, **53**
behavioral, **67**
DSM-5 section on, 32, 69
evidence-based, **53**
forensic, 52
intelligence, 57–60
mental status, 56–57
multicultural, **67**–68
neuropsychological, **68**–71
personality, 60–66
psychological, **52**–53
standardization in, **52**
assisted outpatient treatment (AOT), 399
association(s)
loosening of, **144**
schizophrenia and, 144, 146
Association of Medical Superintendents of American Institutions for the Insane, 15
asthma, psychological factors in, 234
asylums, 12
ataque de nervios, 36
athletes, traumatic brain injury in, 350
atomoxetine (Strattera), 133
attachment figure, **193**
attachment style, **92,** 180
attention
in delirium, 330
in neurocognitive disorders, 329
attention-deficit/hyperactivity disorder (ADHD), **128**–135
adult, 128–130, 131, 132
behavioral approach to, 134–135
case reports on, 109–110, 129, 137
characteristics of, 128–130
combined type, 128
diagnostic criteria for, 128
DSM-5 on, 114
in girls *versus* boys, 129–130
Mandel and, 206
oppositional defiant disorder with, 256
predominantly hyperactive-impulsive, 128
predominantly inattentive, 128
prevalence of, 128, 129
stimulants for, 132–134, 306, 307
theories of, 131–135
treatment of, 84, 131–135
atypical antipsychotic agents, 84
for schizophrenia, 157–158
for Tourette's disorder, 136
AUDIT (Alcohol Use Disorders Identification Test), 302, 303
auditory processing, assessment of, 71
auditory training, computerized, 160
Aurora theater shootings, 395
autism. *See also* autism spectrum disorder
in schizophrenia, 146
autism spectrum disorder, **117**–124
case report on, 117
diagnosis of, 117, 119
DSM-5 on, 114, 117
high-functioning, 123–124
Lovaas intervention for, 119–120
neurological abnormalities in, 119
peer-mediated interventions for, 121
severity levels of, 117
theories and treatment of, 119–121
autistic savant syndrome, 118–119, 122–123
automatic thoughts, **97**
Aventyl (nortriptyline), 177
aversive conditioning, **94**
avoidant personality disorder, 357–358, 359, **377**–378
avoidant/restrictive food intake disorder, **251**
avolition, 144, **145**
axis, **32**

B

Bandura, Albert, 15
barbiturates, 315
Barnum, P. T., 53
Barnum effect, **53**
BDD-YBOCS. *See* Body Dysmorphic Disorder version of the Yale–Brown Obsessive-Compulsive Disorder Scale
BDNF. *See* brain-derived neurotrophic factor
BDSM. *See* bondage, domination, and sadomasochism
Beck, Aaron, 15
bedwetting, 252–253
Beethoven, Ludwig van, 66
behavioral activation, **181**
behavioral assessment, **67**
behavioral contracting, 182
behavioral genetics, 20, **24**–25
behavioral interviewing, **67**
behavioral medicine, **239**
behavioral perspective, 15, **93**–96
on ADHD, 134–135
on Alzheimer's disease, 343–346
on autism spectrum disorder, 119–121
on depressive and bipolar disorders, 95, 180–182
on eating disorders, 250
on gambling disorder, 321
on oppositional defiant disorder, 256
on selective mutism, 195
on separation anxiety disorder, 194
on specific phobias, 196–197
theories in, 93–95
treatment in, 95–96
on trichotillomania, 212
behavioral self-report, **67**
behaviorist movement, 15
The Bell Jar (Plath), 103
benzodiazepines, 196, 200, 315
bereavement exclusion, 178
beta-amyloid-42, 340
"Big Five," **87,** 381
bilis, 36
Binet, Alfred, 57
binge drinking, 299, 302
binge eating, **248**
binge-eating disorder, **249,** 251
binge-eating/purging type, of anorexia nervosa, 243–246
bioflavonoid, 343
biological perspective, 8, 9, **78**–87
on ADHD, 131, 132
on antisocial personality behavior, 366–369
on autism spectrum disorder, 119
on body dysmorphic disorder, 208
on depressive and bipolar disorders, 81, 84, 175–180
on eating disorders, 249
on gambling disorder, 321
on obsessive-compulsive disorder, 205
on paraphilic disorders, 274–275
on post-traumatic stress disorder, 214–215
on schizophrenia, 153–158
on sexual dysfunction, 282–283
on social anxiety disorder, 199
on specific phobias, 196
on substance use disorder, 318–319
theories in, 78–84
treatment in, 81, 84–86
on trichotillomania, 211
biological sex, **286**
biopsychosocial perspective, **8,** 9–10, 105
on anxiety disorders, 216
on depressive and bipolar disorders, 183, 187
on dissociative and somatic symptom disorders, 240
on eating disorders, 261–262
on elimination disorders, 261–262
on gambling disorder, 322
on gender dysphoria, 289
on hoarding, 210
on impulse-control disorders, 261–262
on neurocognitive disorders, 351–352
on neurodevelopmental disorders, 137
on obsessive-compulsive disorder, 216
on personality disorders, 382
on schizophrenia, 163
on sexual disorders and dysfunction, 289
on sleep-wake disorders, 261–262

biopsychosocial—*Cont.*
on substance use disorders, 323
on suicide, 185
on trauma- and stressor-related disorders, 216
bipolar disorder, **171**–174
Beethoven and, 66
behavioral and cognitive-behavioral approaches to, 180–182
biological perspective on, 175–180
biopsychosocial perspective on, 183, 187
bipolar I, 173, 174
bipolar II, 173
case reports on, 167–168, 174, 187
circadian rhythms in, 180
DSM-5 on, 178
Fisher and, 172–173
genetics of, 176
interpersonal approaches to, 182–184
Johnston and, 46–47
medications for, 178–179, 180
mixed features in, 173
prevalence of, 173–174
psychodynamic approaches to, 180
psychological perspective on, 180–183
range of moods in, 174
rapid cycling, **174,** 179
schizoaffective disorder with, 151
sociocultural perspective on, 184
substance disorders in, 174, 293–295, 323
theories of, 175–184
treatment of, 84
Bitter Fame: A Life of Sylvia Plath (Stevenson), 102–103
"black box" warnings, 133
blacking out, 36
Bleuler, Eugen, 146
Bleuler's Four A's, 146
bloodletting, 15
BNT. *See* Boston Naming Test
body dysmorphic disorder (BDD), **205**–209
cross-cultural, 207
DSM-5 on, 205–207
gender and, 207
symptom checklist, 207, 208
Body Dysmorphic Disorder version of the Yale–Brown Obsessive-Compulsive Disorder Scale (BDD-YBOCS), 207, 208
body image, 205–209, 247, 250, 285
bondage, domination, and sadomasochism (BDSM), 272, 274
borderline personality disorder (BPD), 357, 359, **370**–374
case reports on, 355–356, 370, 382
dialectical behavioral therapy for, 356, 372–373, 382
emotional dysregulation in, 372
epidemiology of, 371
mentalization therapy for, 373
parasuicides in, 371
splitting in, 371
theories and treatment of, 372–374
therapeutic principles in, 373–374
transference-focused psychotherapy for, 373
Born on a Blue Day (Tammet), 122–123
Bosch, Hieronymous, 10
Boston Naming Test (BNT), 71
bouffée délirante, 36
Bowlby, John, 91, 180
BPD. *See* borderline personality disorder
bradykinesia, **348**
brain-derived neurotrophic factor (BDNF), 176
brain fag, 36
brain imaging, 72–73, 328
in ADHD, 141
in Alzheimer's disease, 337, 341
in anorexia nervosa, 247
in antisocial personality disorder, 367–369
in autism spectrum disorder, 119–120
in neurocognitive disorder with Lewy bodies, 347
in schizophrenia, 153–155
in trichotillomania, 211
brain injury. *See* traumatic brain injury
Breaking Free: My Life with Dissociative Identity Disorder (Walker), 224–225
breathing sleep-related disorders, 254
Breivik, Anders Behring, 405
brief psychotic disorder, **150**
buffering hypothesis of suicidality, 185–186
bulimia nervosa, **248**–249
case report on, 248
de Rossi and, 246–247
DSM-5 on, 248, 251
theories and treatment of, 249–251
Bundy, Ted, 368
The Bundy Murders (Sullivan), 368
buprenorphine, **319**
bupropion (Wellbutrin, Wellbutrin XR), 133, 319
burnout, 237–238

C

caffeine, **315**–316
Cambridge Neuropsychological Testing Automated Battery (CANTAB), 71
cancer, psychological factors in, 234
cannabis, 159, 296–298, 308–310
CANTAB. *See* Cambridge Neuropsychological Testing Automated Battery
capsulotomy, 85
carbamazepine (Tegretol), 179
carbon monoxide poisoning, 350
cardiovascular disease, psychological factors in, 234
caregivers, in Alzheimer's disease, 343–346
case formulation, **38**–39
case reports/mini cases
acute stress disorder, 214
ADHD, 109–110, 129, 137
adjustment disorder, 3, 26
alcohol use disorder, 293–295, 299, 323
autism spectrum disorder, 117
bipolar disorder, 167–168, 174, 187
body dysmorphic disorder, 209
caffeine intoxication, 316
cannabis use disorder, 308
cyclothymic disorder, 174
delirium, 333
dissociative disorders, 223, 225, 227
eating disorders, 243–244, 245, 248, 262
gender dysphoria, 286
generalized anxiety disorder, 29–30, 47–48, 202
hallucinogen use disorder, 310
intellectual disability, 112
intermittent explosive disorder, 256
kleptomania, 261
major depressive disorder, 77, 81, 87, 90, 95, 101, 104, 105, 170
major depressive episode, 167–168, 187
neurocognitive disorders, 51, 73, 327–328, 333, 346, 350, 352
obsessive-compulsive disorder, 203
obstructive sleep apnea, 255
opioid use disorder, 313
panic disorder and agoraphobia, 200
paraphilic disorders, 265–266, 269, 270, 272, 273, 274, 289
persistent depressive disorder, 171
psychological factors affecting other medical conditions, 233
PTSD, 191–192, 215, 217
sexual dysfunction, 278, 280, 281, 282
social anxiety disorder, 198
somatic symptom disorders, 221–222, 229, 230, 231, 240
specific phobias, 196
stimulant use disorder, 307
traumatic brain injury, 51, 73, 350
trichotillomania, 211
case study, 20, **21**–23
castration, as treatment, 274–275
catastrophizing, 181
catatonia, **145**–146
in brief psychotic disorder, 150
unspecified, 144
catechol-O-methyltransferase (COMT), in schizophrenia, 155
CAT scan, **72,** 73, 153
CBT. *See* cognitive-behavioral therapy
CBTp. *See* cognitive-behavioral therapy for psychosis
CCRT. *See* Core Conflictual Relationship Theme
Celexa (citalopram), 176
The Center Cannot Hold: My Journey through Madness (Saks), 156–157
Center to Address Discrimination and Stigma, 14
central sleep apnea, 254
Chantix (varenicline tartrate), 319
Charpentier, Paul, 84
chemical castration, 275
child abuse
confidentiality exception in, 393–395
cycle of, 275
sexual, 269–270. *See also* pedophilic disorder
childhood disintegrative disorder, **123**
childhood-onset fluency disorder (stuttering), **127**
child protection cases, 389, 391
children. *See also specific disorders*
feeding and eating disorders in, 251–252
prescribing psychiatric medications for, 133
chlorpromazine (Thorazine), 84, 154, 157
Cho, Seung-Hui, 396
chronic traumatic encephalopathy (CTE), 350
Cialis, 282–283
cingulotomy, 85
circadian rhythms, **180**
circadian rhythm sleep-wake disorders, 254
citalopram (Celexa), 176
classical conditioning, 15, **93**–94
Cleckley, Hervey, 364–365
client, **30**–31
consumer as, 161–162
patient *versus,* 30, 100
role in treatment, 45
client-centered approach, **99**
clinical interview, **53**–56
clinical psychologist, **31**
clinical significance, **7,** 18
clinical trial, 17–18
clinical utility, 18
clinician, 30–**31**. *See also* psychologist
education/degree of, 31
role in treatment, 45
Clock Drawing Test, 69, 71
clomipramine, 205
clozapine (Clozaril), 157–158
cluster A personality disorders, 357, 361–364
cluster B personality disorders, 357, 364–377
cluster C personality disorders, 357–358, 377–382
CMHC. *See* community mental health center

coaching, 134
cocaine, **307**–308
codeine, 312–314
Cognex (tacrine), 342–343
cognitive-behavioral therapy (CBT), **97**–98
  for ADHD, 134
  for avoidant personality disorder, 378–379
  for body dysmorphic disorder, 209
  for dependent personality disorder, 379–380
  for depressive and bipolar disorders, 180–182
  for dissociative disorders, 226–227
  for eating disorders, 250
  for generalized anxiety disorder, 202–203
  for hoarding, 210
  for intermittent explosive disorder, 257–258
  for kleptomania, 261
  for narcissistic personality disorder, 376–377
  for obsessive-compulsive disorder, 205
  for obsessive-compulsive personality disorder, 381–382
  for pedophilic disorder, 276
  for post-traumatic stress disorder, 216
  for selective mutism, 195
  for separation anxiety disorder, 194
  for sexual dysfunction, 286
  for sleep-wake disorders, 253
  for social anxiety disorder, 199
  for somatic symptom disorders, 231–233
  for specific phobias, 197–198
  for substance use disorders, 319
  for suicidality, 186
  for Tourette's disorder, 136
cognitive-behavioral therapy for psychosis (CBTp), 159–160
cognitive distortions, 181, 202, 321
cognitive perspective, 15, **96**–97
  on alcohol use disorder, 302
  on gambling disorder, 321
  on oppositional defiant disorder, 256
  on schizophrenia, 158–159
  on sexual dysfunction, 285
  on stress, 235
  theories in, 96–97
  treatment in, 97–98
cognitive restructuring, **97**
cognitive triad, **181**
colera, 36
College Undergraduate Stress Scale (CUSS), 235
combat fatigue, 214
combat stress, 214
Combined Behavioral Intervention (CBI), 304–305
COMBINE project, 304–305
commitment, **398**–399
  involuntary, Kaysen and, 402
  Kendra's Law and, 398–399
  parens patriae and, 398
communication
  autism spectrum disorder and, 117–118
  defocused, 195
  schizophrenia and, 160–161
communication disorders, **127**
community mental health center (CMHC), **42**
comorbid, **38**
compassion fatigue, 237–238
competence, 387, 388–390
competency to stand trial, **405**
compulsion, **203**
computed axial tomography (CAT or CT) scan, **72,** 73, 153
computerized auditory training, 160
Concerta (methylphenidate), 132
concordance rate, **24**
conditioned fear reactions, **200**–201
conditioning
  aversive, **94**
  classical, 15, **93**–94
  operant, **94,** 96, 120–121
"conditions of worth," 99
conduct disorder, 114, 251, **258**
confidentiality, 387, 391–396
  duty to warn *versus,* 395–396
  exceptions to, 393–396
  HIPAA and, 398
congruence, 99
consent, informed, 70, 390–391
consumer, client as, 161–162
contingency management, **96,** 159
  for selective mutism, 195
  for separation anxiety disorder, 194
continuous positive airway pressure (CPAP), 253
contracting, behavioral, 182
control, delusion of, 143
conversion disorder, **229**–230
  case report on, 230
  DSM-5 on, 230, 233
  hypnotherapy for, 232
coping, **234**–237
  age and, 236
  behavioral medicine and, 239
  emotion-focused, **236**
  problem-focused, **236**
Core Conflictual Relationship Theme (CCRT), 93
correlational design, **18**–20
counseling psychologists, 31
counterconditioning, **95**–96
couples therapy, for post-traumatic stress disorder, 216
CPAP. *See* continuous positive airway pressure
crack, 307
Creutzfeldt–Jakob disease, **349**
crisis center, 41
"cross-dressing" (transvestic disorder), 268, 273, 274
cross-fostering, **25**
CTE. *See* chronic traumatic encephalopathy
CT scan, **72,** 73, 153
culture
  and assessment, 67–68
  and body dysmorphic disorder, 207
  and diagnosis, 35–37
  and intellectual disability, 111–112
  and multicultural approach, 105
  and separation anxiety disorder, 193–194
  and sociocultural perspective, 9, 101–105
culture-bound syndromes, **35**–37
CUSS. *See* College Undergraduate Stress Scale
cyclothymic disorder, **171,** 175
Cylert (pemoline), 133
Cymbalta (duloxetine), 176–177

D

Dahmer, Jeffrey, 403–404
dark triad, **365**
Davis, Patti Reagan, 344–345
day treatment programs, **42**
DBS. *See* deep brain stimulation
DBT. *See* dialectical behavioral therapy
Dear Theo: The Autobiography of Vincent van Gogh, 22–23
deep brain stimulation (DBS), **85**–86
  for depressive disorders, 180
  for obsessive-compulsive disorder, 205
  for Tourette's disorder, 136
defense mechanisms, **89**
deficit needs, 99
defocused communication, 195
degrees, of clinicians, 31
deinstitutionalization movement, **13**–14
delayed ejaculation, **280**–281, 282
delirium, **330**–333
  case report on, 333
  causes of, 330
  specialized tests for, 331–332
  treatment of, 332
Delirium Rating Scale-Revised-98 (DRS-R-98), 331–332
delusion(s), **143**
  in brief psychotic disorder, 150
  in delusional disorders, 152–153
  in schizoaffective disorder, 151
  in schizophrenia, 143, 148
delusional disorders, **152**–153
démence precocé, 146
dementia. *See* neurocognitive disorder(s)
dementia praecox, 146
denial, 89
Depakote (valproate), 179
dependent personality disorder, 357–358, **379**–380
dependent variable, **16**–17
depersonalization, **223,** 227
depersonalization/derealization disorder, **223,** 227
depressant, **300**
depression, Alzheimer's disease and, 338
depressive disorders, **168**–171. *See also* major depressive disorder
  age and, 169
  behavioral and cognitive-behavioral approaches to, 180–182
  bereavement exclusion and, 178
  biological perspective on, 81, 84, 175–180
  biopsychosocial perspective on, 187
  DSM-5 on, 178
  gender and, 169, 184
  interpersonal approaches to, 182–184
  medications for, 176–178
  placebo effect in, 178
  psychodynamic approaches to, 90, 180
  psychological perspective on, 180–183
  in schizoaffective disorder, 151
  in schizophrenia, 148
  sociocultural perspective on, 104, 184
  somatic symptoms with, 228
  suicide in, 184–186
  theories and treatment of, 175–184
derealization, **223,** 227
de Rossi, Portia, 246–247
desensitization, systemic, **96,** 196
desipramine (Norpramin), 177
desvenlafaxine (Pristiq), 176–177
detachment, in personality disorders, 361
detoxification, 318–319
development
  attachment style in, 92
  Erikson's stages of, 91
  psychosexual stages of, **89**–90
developmental cascade hypothesis, **161,** 162
developmental coordination disorder, **135**–136
developmental perspective, 10
deviation intelligence (IQ), **57**
The Devil and Daniel Johnston (documentary), 46–47
dhat, 36

diabetes mellitus, psychological factors in, 234
Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5), 4, **32**–33. *See also specific disorders*
criteria for disorders in, 18
disorders in, 34
ethical implications of, 388
multiaxial system of, 32–33
online and mobile applications, 32
organization of, 32–33
Section 3 of, 32, 69, 147, 148, 322, 357, 358–361
structured interview for disorders in (SCID-5), 55–56
theoretical approaches in, 86
Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV), 32, 33
Diagnostic and Statistical Manual of Mental Disorders, Fourth Text Revision (DSM-IV-TR), 33
diagnostic manual, 31–32. *See also Diagnostic and Statistical Manual of Mental Disorders*
diagnostic procedures, 37–38
diagnostic process, 31–40
additional diagnostic information in, 33–35
case formulation in, **38**–39
culture and, 35–37
DSM-5 in, 32–33
ICD in, 33–35
steps in, 37–40
dialectical behavioral therapy (DBT), 212, 356, **372**–373, 382
diathesis-stress model, **81**
dichotomous thinking, 181
DID. *See* dissociative identity disorder
diet pills, 248
differential diagnosis, **38**
diffusion tensor imaging (DTI), 72, **73,** 154, 341
Digit Span, 68
diphenoxylate (Lomotil), 312
diplomate status, 389–390
disabilities, practice guidelines for people with, 389, 394
disability, as criteria for disorder, 7
discrimination, sociocultural perspective on, 9, 103–104
disinhibited social engagement disorder, **213**
disinhibition
in disruptive, impulse control, and conduct disorders, 255
in personality disorders, 361
disorganized speech, **144**
in brief psychotic disorder, 150
in schizophrenia, 144, 148
displacement, 89
disruptive, impulse control, and conduct disorders, 255–261
disinhibition in, 255
DSM-5 on, 114, 251
disruptive mood dysregulation disorder, **170**–171
dissociative amnesia, **222,** 225, 227
dissociative disorders, 222–227
biopsychological perspective on, 240
case reports on, 223, 225, 227
comorbid disorder with, 227
DSM-5 on, 226
potential fabrication of, 225
structured clinical interview of, 226, 227
theories and treatment of, 223–227
dissociative identity disorder (DID), **222**
assessment tool for, 226, 227
case report on, 223
legal issues in, 226
Walker and, 224–225
distress, as criteria for disorder, 7
disulfiram, **301**
diuretic abuse, 248
Dix, Dorothea, 12–13
dizygotic twins, 24, 82
DNA methylation, **82,** 367
doctorate degrees, 31
dominant-recessive gene inheritance, 79, 80
donepezil (Aricept), 342–343
do-not-resuscitate (DNR) orders, for suicidal patients, 186
dopamine, 79
in ADHD, 131
in antisocial personality behavior, 366
in eating disorders, 249
in gambling disorder, 321
in pedophilic disorder, 275
in schizophrenia, 154, 155, 157
in substance use disorders, 296–297, 308
in Tourette's disorder, 136
double-blind method, **18**
Downey, Robert, Jr., 317
Down syndrome, **112**–113
downward drift, **161**
DRS-R-98. *See* Delirium Rating Scale-Revised-98
drugs, psychotherapeutic, 84–85
DSM-5. See Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition
DTI. *See* diffusion tensor imaging
dual-process theory, **302**
dual relationships, 70
duloxetine (Cymbalta), 176–177
Durham Rule, **401**–403
duty to warn (or otherwise protect), **395**–396
dyscalculia, **124**–125
dysfunction, as criterion for disorder, 7, 18
dysfunctional attitudes, **97**
dyslexia, **125**
dyspareunia, 281, 282
dysphoria, **168**
dysthymia, 168–**169,** 170, 171

E

EAPs. *See* employee assistance programs
eating disorders, **244**–252
associated with childhood, 251–252
biopsychosocial perspective on, 261–262
case reports on, 243–244, 245, 248, 262
de Rossi and, 246–247
DSM-5 on, 245, 248, 249, 251
Maudsley model for, 250–251
not otherwise specified, 251
theories and treatment of, 249–251
echolalia, **118**
ecstasy (MDMA), **311**–312
ECT. *See* electroconvulsive therapy
education, of clinicians, 31
educational interventions
for ADHD, 134–135
for autism spectrum disorder, 120–121
for bipolar disorder, 182
for intellectual disability, 116
mainstreaming in, **116,** 120
for specific learning disorder, 125–127
for Tourette's disorder, 136
EE. *See* expressed emotion
EEG (electroencephalogram), 72
Effexor (venlafaxine), 176–177
ego, **88**–89
ego identity, 91
ego psychology, **91**
ejaculation
delayed, **280**–281, 282
premature (early), **280**–281, 282, 285
Elavil (amitriptyline), 177
electroconvulsive therapy (ECT), **86,** 180
electroencephalogram (EEG), 72
Eliminate the Barriers Initiative, 14
elimination disorders, **252**–253
biopsychosocial perspective on, 261–262
urine alarm for, 252–253
Ellis, Albert, 15
Embracing the Wide Sky (Tammet), 123
EMDR. *See* Eye Movement Desensitization Reprocessing
emotion, expressed, **160**–161
emotional competence, **388**
emotional dysregulation, **372**
emotional expression, 237–238
emotion-focused coping, **236**
empathy, 100–101
employee assistance programs (EAPs), 43
encopresis, **252**–253
Endep (amitriptyline), 177
endophenotypes, **80**
energy drinks, 315–316
enhanced interrogation methods, 396
enuresis, **252**–253
environment–gene interactions, 80–83
epidemiological studies, 21
epigenesis, **82**
epigenetics, **80,** 112
EPS. *See* extrapyramidal symptoms
erectile disorder, **279**–280
biological perspective on, 282–283
case report on, 282
medications to treat, 279, 282–283
psychological perspective on, 283–285
Erikson, Erik, 91
erotomanic type of delusional disorder, **153**
escitalopram (Lexapro), 176
estrogen, 283
eszopiclone (Lunesta), 315
ethical issues, 70, 386–398
in commitment, 398–399
in *DSM-5,* 388
in least restrictive alternative, 400–401
in pedophilic disorder, 276, 277
in providing services, 398–406
in refusal of treatment, 400
in right to treatment, 399–400
in safety of client, 385–386, 406–407
in schizophrenia, 149
"ethical sliding scale," 149
ethical standards, 386–398
competence, 387
confidentiality, 387, 391–396
informed consent, 390–391
record keeping, 387, 397–398
relationships, 387, 396–397
ethical violations, sanctions for, 387
Ethics Code, 70, 386–398
euphoria, **171**
evidence-based assessment, **53**
evidence-based practice in psychology, **44**–45, 94
evidence-based treatment, **17**
excessive responsibility, 181
excitement stage, in sexual response, 278
excoriation disorder, **212**
executive functioning, **68**–69
ADHD and, 130, 131, 132
cannabis and, 309–310
intellectual disability and, 116–117
neurocognitive disorders and, 329

Exelon (rivastigmine), 342–343
exhibitionistic disorder, 268, **270**
existential psychology, 98–99
exorcism, **11**
experimental design, 16–17
  single-case, 20, **23**–24
  variables in, 16–17
expert testimony, 70, 389
exposure therapy
  for post-traumatic stress disorder, 216
  for specific phobias, 196–197
expressed emotion (EE), **160**–161
expressive language disorders, 127
extrapyramidal symptoms (EPS), **157**
Eye Movement Desensitization Reprocessing (EMDR), 216

F

factitious disorder(s), 230–231
  DSM-5 on, 233
  primary gain in, 230
  secondary gain in, 231
  treatment of, 233
factitious disorder imposed on others, **230**
factitious disorder imposed on self, **230**
falling out, 36
family perspective, **101**
family therapy, **43,** 104
FAS. *See* fetal alcohol syndrome
fear, **192**
  excessive, in phobia, 195–197
fear hierarchy, **96**
fear reactions, conditioned, **200**–201
feeding and eating disorders, 244–252
  associated with childhood, 251–252
  biopsychosocial perspective on, 261–262
  case reports on, 243–244, 245, 248, 262
  de Rossi and, 246–247
  DSM-5 on, 114, 245, 248, 249, 251
  theories and treatment of, 249–251
female orgasmic disorder, **280**–281
Female Sexual Function Index, 278
female sexual interest/arousal disorder, 278, **279,** 282, 283
"female" Viagra, 283
fetal alcohol spectrum disorder (FASD), 115
fetal alcohol syndrome (FAS), **115**–117
fetishistic disorder, 268, **271**–272
"file drawer problem," 178
firesetting (pyromania), 258, 259
first-rank symptom (FRS), **146**–147
Fisher, Carrie, 172–173
Five Factor Model, **87,** 381
flibanserin (Addyi), 283
flooding, **197**
fluoxetine (Prozac), 176, 205
fMRI. *See* functional magnetic resonance imaging
folate deficiency, 351
folieà deux (folly of two), 153–154
Food and Drug Administration, 85, 133
food-related cues, 247
foot fetish, 271
forensic assessment, 52
forensic issues, 401–406
fragile X syndrome, 112, **114**
fraternal twins, 24, 82
free association, **92**–93
Freeman, Walter, 207
free radicals, in Alzheimer's disease, 343
Freud, Sigmund, 15, 21, 88–90, 92–93
friendship training, 116
frontotemporal neurocognitive disorder, **346**
frotteuristic disorder, 268, **272**
FRS. *See* first-rank symptom
FSIQ. *See* Full Scale IQ
fugue, **222,** 225
Full Scale IQ (FSIQ), 58–59
functional magnetic resonance imaging (fMRI), 72–**73**
  in anorexia nervosa, 247
  in schizophrenia, 153–155
functional neurological symptom disorder. *See* conversion disorder

G

GABA (gamma-aminobutyric acid), 79
  in alcohol use disorder, 302
  in generalized anxiety disorder, 202
  in panic disorder and agoraphobia, 200
  in pedophilic disorder, 275
  in schizophrenia, 154
GAD. *See* generalized anxiety disorder
galantamine (Razadyne), 342–343
Galen, Claudius, 15
Gamblers Anonymous, 322
gambling disorder, **319**–323
  behavioral perspective on, 321
  biological perspective on, 321
  biopsychosocial perspective on, 322
  cognitive perspective on, 321
  DSM-5 on, 319, 322–323
  pathways model of, **322**
gamma-aminobutyric acid. *See* GABA
gamma knife surgery, 85
gay, lesbian, and bisexual clients, practice guidelines for, 389, 390
GCS. *See* Glasgow Coma Scale
gender
  and ADHD, 129–130
  APA standards of care for, 287, 288
  and body dysmorphic disorder, 207
  and borderline personality disorder, 371
  and depressive disorders, 169, 184
  and eating disorders, 248–249
  and oppositional defiant disorder, 255–256
  and separation anxiety disorder, 193
  and substance use disorders, 296
gender dysphoria, **286**–289
  biopsychological perspective on, 289
  case report on, 286
  DSM-5 on, 282, 287, 289
  theories and treatment of, 287–289
gender identity, **286**
gender identity disorder. *See* gender dysphoria
gene(s), **78**
gene–environment interactions, 80–83
gene mapping, **25**
generalized anxiety disorder (GAD), **201**–203
  case reports on, 29–30, 47–48, 202
  prevalence of, 202
  theories and treatment of, 202–203
genetics, 78–83. *See also specific disorders*
  behavioral, 20, **24**–25
  epigenetics, **80,** 112
  molecular, **25**
  pharmacogenetics, **179**
  research methods, 82–84
genetic testing, 82–84
genito-pelvic pain/penetration disorder, **281,** 282, 283
genome-wide association studies (GWAS), **83**–84
  of alcohol use disorder, 301
  of conduct disorder, 258
  of eating disorders, 246
genome-wide linkage study, **83**
genomics, imaging, 84
genotype, **79**
German measles, 115
ghost sickness, 36
Girl, Interrupted (Kaysen), 402
girls. *See also* gender
  practice guidelines for, 389, 393
Glasgow Coma Scale (GCS), 71
glutamate
  in alcohol use disorder, 301–302
  in pedophilic disorder, 275
  in schizophrenia, 155
  in substance use disorders, 297
graded *in vivo* flooding, **197**
grandeur, delusion of, 143
grandiose narcissism, **376**
grandiose type of delusional disorder, **153**
Greek philosophers, 10, 14
Greisinger, Wilhelm, 15
grief, bereavement exclusion in, 178
group therapy, **43,** 104
  for pedophilic disorder, 275–276
  for PTSD, 192, 217
guardian *ad litem,* **389**
GWAS. *See* genome-wide association studies

H

habit reversal training (HRT), 212
hair-pulling disorder, **210**–212
  automatic type, 210
  focused type, 210
  genetics of, 211
  regulation model of, 211
Haldol (haloperidol), 136, 157, 332
halfway houses, **13, 42**
hallucination(s), **144**
  in brief psychotic disorder, 150
  in schizoaffective disorder, 151
  in schizophrenia, 144, 148
hallucinogens, **310**–312
haloperidol (Haldol), 136, 157, 332
"hangover," 300
hashish, 308
hassles, **235**
headache, chronic tension, 234
health anxiety, **233**
Health Insurance Portability and Accountability Act of 1996 (HIPAA), **397**–398
health maintenance organization (HMO), 42
Healthy People 2020, 14
Here's the Deal: Don't Touch Me (Mandel), 206
heroin, **314**–315
hierarchy of needs, 99
high-functioning autism spectrum disorder, 123–124
Hinckley, John, 403
HIPAA. *See* Health Insurance Portability and Accountability Act of 1996
Hippocrates, 14
histrionic personality disorder, 357
HIV/AIDS, neurocognitive disorder in, 350–351
HMO. *See* health maintenance organization
hoarding, **209**–210
Holmes, James E., 395
hormonal therapy
  for gender dysphoria, 287, 288
  for pedophilic disorder, 275, 276
  for sexual dysfunction, 283
Horney, Karen, 91
hospitalization, 12–13, 41
HRT. *See* habit reversal training
Hughes, Ted, 102–103

humanistic perspective, **98**–101
  theories in, 98–99
  treatment in, 99–100
humanitarian explanations, **11,** 12–14
Huntington's disease, neurocognitive disorder due to, **348**
hwa-byung, 36
hydrocodone, 312–314
hyperactivity, 128. *See also* attention-deficit/hyperactivity disorder
hypersomnolence disorder, 254
hypertension, psychological factors in, 234
hypnosis, 15
hypnotherapy
  for dissociative disorders, 226
  for somatic symptom disorders, 232
hypnotic, **315**
hypochondriasis. *See* factitious disorder(s)
hypomanic episode, **173**
hypopnea, **255**
hypoventilation, sleep-related, 254
hysteria, 231, 374

I

ICD. See International Classification of Diseases
id, **88**
identical twins, 24–25, 82
identity crisis, 91
illness anxiety disorder, **229,** 231, 233
Illness Management and Recovery (IMR), 162–163
imaginal flooding, **197**
imaging genomics, 84
imipramine (Tofranil), 133, 177
impulse-control disorders, **258**–262
  biopsychosocial perspective on, 261–262
  DSM-5 on, 114, 251
  kleptomania, **258**–261
  legal implications of, 260
  pyromania, **258,** 259
impulsivity, 128. *See also* attention-deficit/hyperactivity disorder
IMR. *See* Illness Management and Recovery
inappropriate affect, **144**
inattention, 128. *See also* attention-deficit/hyperactivity disorder
incidence, **21**
independent variable, **16**
individual psychotherapy, **43**
infection
  and delirium, 330
  and neurocognitive disorder, 350
inferiority complex, 91
infidelity, delusion of, 143
informed consent, 70, 390–391
inhalants, **318**
inkblot test, 63–64
inpatient treatment centers, 41
insanity, **401**
insanity defense, **401**–406
  American Law Institute's (ALI) guidelines for, **403**
  dissociative identity disorder and, 226
  Durham Rule in, **401**–403
  irresistible impulse in, **401**
  M'Naghten Rule in, **401**
Insanity Defense Reform Act of 1984, 403
insects, specific phobias to, 195
insomnia disorder, 253, 254
institutionalization, 12–14
intellectual development disorder, 111. *See also* intellectual disability
intellectual disability, **111**–117
  case report on, 112
  culture and, 111–112
  diagnostic criteria for, 111
  DSM-5 on, 111
  economic costs of, 112
  educational interventions in, 116
  environmental causes of, 115
  genetic causes of, 112–115
  prevalence of, 112
  severity levels of, 111–112
  treatment of, 116–117
intellectualization, 89
intelligence testing, 57–60
  SB5, 57
  uses of, 57
  Wechsler scales, 58–60
intermittent explosive disorder, **256**–258
internalization of self-directed speech, 131
internalizing disorders, 193, 205
International Classification of Diseases (ICD), **33**–35
Internet pornography, 266, 267, 269
interpersonal and social rhythm therapy (IPSRT), 183–184
interpersonal therapy (IPT), **182**–184, 216
interpersonal therapy, metacognitive, 382
interview
  behavioral, **67**
  clinical, **53**–56
  motivational, **101,** 322, 370
  structured, **55**–56
  unstructured, **53**–55
intoxication, substance, **296**
in vivo flooding, **197**
in vivo observation, 67
ipecac syrup, 248
IPSRT. *See* interpersonal and social rhythm therapy
IPT. *See* interpersonal therapy
IQ (deviation intelligence), **57**
irresistible impulse, **401**

J

jealous type of delusional disorder, **153**
Jenkins Activity Survey, 238
Johnson, Virginia, 266–267, 277–278
Johnston, Daniel, 46–47
Jung, Carl, 90–91

K

Kaczynski, Theodore, 405
Kaysen, Susanna, 402
Kendra's Law, 398–399
Kevorkian, Jack, 186
Kinsey, Alfred, 266–267
Klein, Melanie, 91
kleptomania, **258**–261
Kohut, Heinz, 91
koro, 36, 207
Korsakoff's syndrome, **300**
Kraepelin, Emil, 15, 146, 153
Krafft-Ebing, Richard Freiherr von, 266
Kulongoski, Ted, 44

L

laboratory studies, 20, 21
language
  neurocognitive disorders and, 329
  schizophrenia and, 144
language disorder, **127**
latah, 36
laxative abuse, 248
learning, neurocognitive disorders and, 329
learning disorder. *See* specific learning disorder
least restrictive alternative, **400**–401
legal issues
  in antisocial personality disorder, 367
  in commitment, 398–399
  in competency to stand trial, 405
  in dissociative identity disorder, 226
  in duty to warn (or otherwise protect), 395–396
  in forensics, 401–406
  in impulse-control disorders, 260
  in insanity defense, 226, 401–406
  in least restrictive alternative, 400–401
  in paraphilic disorders, 268–269
  in providing services, 398–406
  in punishment, 405–406
  in refusal of treatment, 400
  in right to treatment, 399–400
  in substance use disorders, 295–296
legal system, psychologists in, 70, 389
Levitra, 282–283
Lewy bodies, neurocognitive disorder with, **346**–347
Lexapro (escitalopram), 176
libido, **88,** 89–90
licensing, psychologist, 386
life change units (LCUs), 234–235
lithium
  for bipolar disorder, 178–179, 180
  for trichotillomania, 212
living will, 186
lobotomies, 207
Lomotil (diphenoxylate), 312
The Long Goodbye (Davis), 344–345
loosening of associations, **144**
Lovaas, Ivar, 119
Lovaas intervention, 119–120
lovemaps, **275**
Love Sick: One Woman's Journey Through Sexual Addiction (Silverman), 284–285
LSD, **310**
Lunesta (eszopiclone), 315
lysergic acid diethylamide (LSD), **310**

M

"macho myth," 283–285
magic, 11–12
magnetic resonance imaging (MRI), **72**
  in ADHD, 131
  in Alzheimer's disease, 337
  functional. *See* functional magnetic resonance imaging
magnetic resonance spectroscopy (MRS), 72, **73**
Mahler, Margaret, 91
mainstreaming, **116,** 120
major depressive disorder (MDD), **168**–169
  behavioral approaches to, 95, 180–182
  bereavement exclusion and, 178
  biological perspective on, 81, 84, 175–180
  case reports on, 77, 81, 87, 90, 95, 97, 101, 104, 105, 170
  cognitive approach to, 97
  genetics of, 175–176
  humanistic approach to, 101
  interpersonal approaches to, 182–184
  medications for, 176–178
  Plath and, 102–103
  prevalence of, 169
  psychodynamic approach to, 90, 180
  psychological perspective on, 180–183
  sociocultural perspective on, 104, 184
  suicide in, 184–186
  trait theory approaches to, 87

major depressive episode, **168**–169
case report on, 167–168, 187
criteria for, 169
recurrent, 170
major neurocognitive disorder, **329**
major neurocognitive disorder due to another general medical condition, **351**
mal de ojo, 36
male hypoactive sexual desire disorder, **279,** 282
malingering, **230,** 233
Malvo, Lee Boyd, 404–405
Mandel, Howie, 206
mania, in schizophrenia, 148
manic depression. *See* bipolar disorder
manic episode, **171**–173. *See also* bipolar disorder
MAOIs. *See* monoamine oxidase inhibitors
marijuana, 159, 296–298, **308**–310
The Mask of Sanity (Cleckley), 364–365
Maslow, Abraham, 99
masochism, sexual, 268, **272**–274
Masters, William, 266–267, 277–278
master's degrees, 31
mathematics, specific learning disorder with impairment in, **124**–127
maturation hypothesis, **366**
Maudsley model, 250–251
MDD. *See* major depressive disorder
MDMA, **311**–312
medical conditions
emotional expression and, 237–238
general, neurocognitive disorder due to, 351
personality style and, 238–239
psychological factors affecting, 233–239
somatic symptom disorders and, 228–233
stress and, 233–237
medications. *See also specific drugs and disorders*
ADHD, 132–134
antianxiety, 196, 198, 200, 203, 315
bipolar disorder, 178–179
depressive disorder, 176–178
off-label use of, 133
prescribing for children, 133
psychotherapeutic, **84**–85
schizophrenia, 157–158
memantine, 322, 342–343
memory
in ADHD, 131
assessment of, 58–59, 71
neurocognitive disorders and, 329
Menendez brothers, 404
menopause, 283
Mental Health Association, 14
mental hygiene, **13**
mentalization therapy, **373**
mental retardation, **111,** 114. *See also* intellectual disability
Mental Retardation Facilities and Community Health Center Construction Act, 13
mental status examination, **56**–57, 337–338
metacognitions, in OCD, 205
metacognitive interpersonal therapy, 382
methadone, **319**
methamphetamine, **306**–307
methylphenidate (Concerta, Ritalin), 132–134, 307
MID. *See* multi-infarct dementia
migrants, schizophrenia in, 161
milieu therapy, **43, 104**
military veterans
PTSD in, 214, 215
traumatic brain injury in, 349
Milligan, Billy, 226
mini cases. *See* case reports/mini cases
Mini-Mental State Examination (MMSE), **56**–57, 337–338, 343
Minnesota Multiphasic Personality Inventory (MMPI), **61**–65
minor neurocognitive disorder, **329**–330
mirror confrontation, 250
MMPI. *See* Minnesota Multiphasic Personality Inventory
MMSE. *See* Mini-Mental State Examination
M'Naghten Rule, **401**
modality of treatment, **43**
molecular genetics, **25**
Moniz, Egas, 85
monoamine oxidase A, 366
monoamine oxidase inhibitors (MAOIs), 176, 177, 198
monozygotic twins, 24–25, 82
mood disorders, 166–189. *See also* bipolar disorder; depressive disorders
moral treatment, **12**–13
Morel, Benedict, 146
morphine, 312–314
motivation, ADHD and, 131
motivational interviewing (MI), **101,** 322, 370
motor behavior
autism spectrum disorder and, 117–118
schizophrenia and, 148
motor disorders, 135–137
motor tics, 136
MRI, magnetic resonance imaging
MRS (magnetic resonance spectroscopy), 72, **73**
Muhammed, John Allen, 404–405
multiaxial system, **32**–33
multicultural approach, **105**
multicultural assessment, **67**–68
multi-infarct dementia (MID), **347**
multiple relationships, **396**–397
Munchausen's syndrome by proxy, 230
mutism, selective, **194**–195

N

nalmefene, 322
naltrexone, 212, 261, 301, 305, **319,** 322
NAMI. *See* National Alliance for the Mentally Ill
narcissistic personality disorder (NPD), 357, 359, **375**–377
narcolepsy, 254
Nardil (phenelzine), 177
National Alliance for the Mentally Ill (NAMI), 14
National Comorbidity Study (NCS), 38
National Institute of Health, 176
National Institute of Neurological and Communicative Disorders and Stroke (NINCDS), 336–337
National Institute on Drug Abuse (NIDA), 296
natural environment, specific phobias to, 195, 196
NCS. *See* National Comorbidity Study
needs, Maslow's hierarchy of, 99
negative affectivity, in personality disorders, 361
negative symptoms, **144,** 147, 148
neologisms, **144**
NEO Personality Inventory (Revised) (NEO-PI-R), 62
nervous system, 78
neurocognitive disorder(s), 326–353, **328**
biopsychosocial perspective on, 351–352
case reports on, 51, 73, 327–328, 333, 346, 350, 352
characteristics of, 328–329
domains in, 328–329
DSM-5 on, 328–329, 334
due to Alzheimer's disease, **333**–346
due to HIV infection, 350–351
due to Huntington's disease, **348**
due to neurological disorders other than Alzheimer's disease, 346–349
due to Parkinson's disease, **348**
due to prion disease, **349**
due to substances/medications, 350–351
due to traumatic brain injury, 51, 73, **349**–350
frontotemporal, **346**
with Lewy bodies, **346**–347
major, **329**
major, due to another general medical condition, **351**
minor, **329**–330
pseudodementia *versus,* 338–339
vascular, 327–328, **347**–348, 352
neurodevelopmental disorders, **110**–111. *See also specific disorders*
biopsychosocial perspective on, 137
changes over time, 111
childhood diagnoses of, impact of, 110–111
deficits associated with, 110
DSM-5 on, 114
neurodevelopmental hypothesis, **155**
neurofibrillary tangles, **339**–340
neuroimaging, **72**–73, 328
in ADHD, 141
in Alzheimer's disease, 337, 341
in anorexia nervosa, 247
in antisocial personality disorder, 367–369
in autism spectrum disorder, 119
in neurocognitive disorder with Lewy bodies, 347
in schizophrenia, 153–155
in trichotillomania, 211
neuroleptics, **84**–85
for delirium, 332
for schizophrenia, 157–158
side effects of, 157–158
for Tourette's disorder, 136
for trichotillomania, 212
neuromodulation, 85–86
neuroplasticity, **155**
neuropsychological assessment, **68**–71, 328
neurotransmitter, **78,** 79
New England Centenarian Study, 334
"niche picking," 81
nicotine, **316**–317
nicotine replacement therapies (NRTs), 319
NIDA. *See* National Institute on Drug Abuse
nightmare disorder, 254
NINCDS. *See* National Institute of Neurological and Communicative Disorders and Stroke
N-methyl-D-aspartate (NMDA) receptors, in schizophrenia, 154–155
non-rapid eye movement sleep arousal disorder, 254
norepinephrine, 79
in antisocial personality behavior, 366
in gambling disorder, 321
in generalized anxiety disorder, 202
in panic disorder, 200
in substance use disorders, 312
Norpramin (desipramine), 177
North Sea disaster, PTSD in survivors of, 214
nortriptyline (Aventyl, Pamelor), 177
NPD. *See* narcissistic personality disorder
NRTs. *See* nicotine replacement therapies
nucleus accumbens, 297, 308
nutritional deficiencies
and alcohol use disorder, 300
and neurocognitive disorders, 351

O

obesity, and Alzheimer's disease, 341
objectivity, in research, 16, 17
object relations, **91**–92
observation
  analog, **67**
  in vivo, 67
obsession, **203**
obsessive-compulsive disorder (OCD), **203**–205
  biopsychosocial perspective on, 216
  case report on, 203
  DSM-5 on, 198
  Mandel and, 206
  prevalence of, 203
  psychosurgery for, 205, 207
  symptom checklist, 203, 204
  theories and treatment of, 205
obsessive-compulsive personality disorder, 357–358, 360, **380**–382
obstructive sleep apnea, 254, 255
OCD. *See* obsessive-compulsive disorder
O'Connor v. Donaldson, 400
Oedipus complex, **89**–90, 271
off-label medications, 133
olanzapine (Zyprexa), 157
older adults, practice guidelines for, 389, 392
One Flew over the Cuckoo's Nest (movie), 86
operant conditioning, **94,** 96, 120–121
opioid(s), **312**–315
  case report on, 313
  overdose deaths from, 314
  prescriptions for, 312–314
  theories and treatment for, 318–319
opioid peptides, 79
oppositional defiant disorder, 114, 251, **255**–256
orgasmic disorders, 280–281
outcomes, treatment, 47
outpatient treatment, 42
overgeneralizing, 181
oxycodone, 312–314

P

Paced Auditory Serial Addition Test (PASAT), 71
PAI (Personality Assessment Inventory), 62
pain
  sexual dysfunction with, 281, 282, 283
  somatic symptom disorders with, 228, 229
Pamelor (nortriptyline), 177
Panetti, Scott Louis, 405–406
panic attacks, **199**–200
panic-control therapy (PCT), **201**
panic disorder, **199**–201
paranoia, **144**
paranoid personality disorder, 357, **361**–362
paraphilias, **268**
paraphilic disorders, **268**–277
  biological perspective on, 274–275
  biopsychological perspective on, 289
  case reports on, 265–266, 269, 270, 272, 273, 274, 289
  DSM-5 on, 273–274, 282
  legal issues in, 268–269
  life course of, 268
  nonnormative behavior *versus,* 268
  psychological perspective on, 275–276
  theories and treatment of, 273–276
  types of, 268
parasomnias, 254
parasuicide, **371**
parens patriae, **398**
Parkinson's disease, neurocognitive disorder due to, **348**
Parnate (tranylcypromine), 177
paroxetine (Paxil), 176
partialism, 268, **271**
participant modeling, **96**
PASAT. *See* Paced Auditory Serial Addition Test
The Pathology and Therapy of Mental Disorders (Greisinger), 15
pathways model, **322**
patient, **30.** *See also* client
Pavlov, Ivan, 15
Paxil (paroxetine), 176
PCL–R. *See* Psychopathy Checklist–Revised
PCP, **311**
PCT. *See* panic-control therapy
pedophilic disorder, 268, **269**–270
  biological perspective on, 274–275
  case reports on, 265–266, 269, 289
  ethical issues for clinicians in, 276, 277
  psychological perspective on, 275–276
peer-mediated interventions, for autism spectrum disorder, 121
pemoline (Cylert), 133
perception, neurocognitive disorders and, 329
Perceptual Reasoning Index (PRI), 58
persecution, delusion of, 143
persecutory type of delusional disorder, **153**
persistent depressive disorder, 168–**169,** 170, 171
Personality Assessment Inventory (PAI), 62
personality disorders, 354–383, **357**
  antisocial, 258, 355–356, 357, 359, **364**–370
  avoidant, 357–358, 359, **377**–378
  biopsychosocial perspective on, 382
  borderline, 355–356, 357, 359, **370**–374, 382
  case reports on, 355–356, 361, 362, 363, 364, 370, 374, 375, 378, 379, 381, 382
  cluster A, 357, 361–364
  cluster B, 357, 364–377
  cluster C, 357–358, 377–378
  dependent, 357–358, **379**–380
  diagnostic criteria for, 357, 358
  DSM-5 on, 87, 357–364
  histrionic, 357, **374**–375
  narcissistic, 357, 359, **375**–377
  not otherwise specified, 358
  obsessive-compulsive, 357–358, 360, **380**–382
  paranoid, 357, **361**–362
  prevalence of, 358
  schizoid, 357, **362**–363
  schizotypal, 357, 360, **363**–364
  Section 3 dimensional ratings of, 357, 358–361
personality style, health impact of, 238–239
personality testing, 60–66
  MMPI, **61**–65
  projective, **63**–65
  self-report, 60–63
personality traits, **86**–87
person-centered theory, **99**
PET scan, **72**
  in neurocognitive disorder with Lewy bodies, 347
  in schizophrenia, 153
peyote, **310**–311
pharmacogenetics, **179**
phencyclidine (PCP), **311**
phenelzine (Nardil), 177
phenotype, **80**
phenylketonuria (PKU), 112, **113**
phobia, **195**. *See also* specific phobias
phosphodiesterase (PDE) inhibitors, 282–283
physical activity, and Alzheimer's disease, 341
physician-assisted suicide, 186
pibloktog, 36
pica, 114, 251, **252**
piccolo (PCLO) gene, 176
Pick's disease, **348**
pimozide, for Tourette's disorder, 136
PKU. *See* phenylketonuria
placebo condition, **17**
placebo-controlled randomized clinical trial, **17**–18
placebo effect, 178
plasticity, brain, 155
Plath, Sylvia, 102–103
pleasure principle, **88**
PMDD. *See* premenstrual dysphoric disorder
Poddar, Prosenjit, 395–396
polygenic model, **79**
polypharmacy, 330
polysomnography, **253**
positive psychology, **15**–16
  on suicide, 185–186
positive regard, unconditional, **100**
positive symptoms, **144,** 147
positron emission tomography (PET) scan, **72,** 153
possession, spiritual, 10, 11–12
postconcussion syndrome, **349**
post-traumatic stress disorder (PTSD), **214**–216
  case reports on, 191–192, 215, 217
  dissociative disorder with, 227
  DSM-5 on, 198
  prevalence of, 214
  substance use disorders and, 216, 298
  in survivors of North Sea disaster, 214
  theories and treatment of, 214–216
potentiation, **300**
poverty, and schizophrenia, 161
practice guidelines
  for child protection matters, 389, 391
  for gay, lesbian, and bisexual clients, 389, 390
  for girls and women, 389, 393
  for older adults, 389, 392
  for people with disabilities, 389, 394
pragmatic (social) communication disorder, **127**
premature (early) ejaculation, **280**–281, 282, 285
premenstrual dysphoric disorder (PMDD), **171,** 178
prescribers, psychologists as, 44
prescriptions
  opioid, 312–314
  psychiatric medications for children, 133
presenilin genes, 341
President's New Freedom Commission, 14
prevalence, **21**
PRI. *See* Perceptual Reasoning Index
primary gain, **230**
primary process thinking, 88–89
principal diagnosis, **38**
prion disease, **349**
  neurocognitive disorder due to, **349**
Pristiq (desvenlafaxine), 176–177
problem-focused coping, **236**
Processing Speed Index (PSI), 59
progesterone, 283
projection, 89
projective testing, **63**–65
protected health information, 398
proton magnetic resonance spectroscopy (MRS), 72, **73**
Prozac (fluoxetine), 176, 205
pseudodementia, **338**–339
pseudopatients, Rosenthal's study of, 19
pseudoseizures, 229
PSI. *See* Processing Speed Index
psilocybin, **311**
psychiatric hospitals, 41
psychiatrist, **31**
psychoanalysis, 92–93
  narcissistic personality disorder and, 376
  paraphilic disorders and, 275
  somatic symptom disorders and, 228, 229, 231

psychodynamic perspective, **88**–93
on avoidant personality disorder, 378
on depressive and bipolar disorders, 90, 180
Freud's theory in, 88–90
on narcissistic personality disorder, 376
object relations in, **91**–92
on obsessive-compulsive personality disorder, 381
post-Freudian views in, 90–92
treatment in, 92–93
psychoeducation, **134,** 182, 239. *See also* educational interventions
psychological assessment, **52**–53. *See also* assessment; *specific assessment tools*
psychological disorders. *See also specific disorders*
abnormal behavior definitions and, 4, 6–8
clinical significance of, **7**
criteria for, 7–8, 18
social impact of, 5–6
stigma of, **6,** 9, 14
psychological factors affecting other medical conditions, **233**–239
case reports on, 233
relevant concepts in, 234–239
stress and coping, 234–238
psychological perspective
on alcohol use disorder, 302–305
on antisocial personality disorder, 369
on depressive and bipolar disorders, 180–183
on eating disorders, 250
on generalized anxiety disorder, 202
on paraphilic disorders, 275–276
on post-traumatic stress disorder, 215–216
on schizophrenia, 158–160
on sexual dysfunction, 283–286
on somatic symptom disorders, 228, 229, 231
on substance use disorders, 319
psychologist, **31**
clinical, **31**
competence of, 387, 388–390
diplomate status, 389–390
education/degrees of, 31
ethical standards for, 386–398
as expert witness, 70, 389
licensing of, 386
prescription privileges of, 44
relationships of, 387, 396–397
school, 42–43
Psychopathia Sexualis (von Krafft-Ebing), 266
psychopathy, **364.** *See also* antisocial personality disorder
Psychopathy Checklist–Revised (PCL-R), 365
psychosexual stages, **89**–90
psychosis, van Gogh and, 22–23
psychosurgery, **85**–86, 205, 207. *See also* deep brain stimulation
psychotherapeutic medications, **84**–85
psychotherapy. *See also specific approaches and disorders*
individual, **43**
modality of, 43
psychotic disorder(s), 140–165. *See also* schizophrenia
brief, **150**
shared, 153–**154**
psychoticism, in personality disorders, 361
PTSD. *See* post-traumatic stress disorder
punishment, legal issues in, 405–406
purging, 15, **248**
pyromania, **259,** 260

Q

qi-gong psychotic reaction, 37
qualitative research, **23**
quasi-experimental studies, 17
Questionnaire of Cognitive Schema Activation in Sexual Context: Male Version, 285
quetiapine (Seroquel), 157

R

random assignment, 17
randomized controlled trial (RCT), 17–18
rape, as stressful event, 235
rapid cycling, in bipolar disorder, 174, 179
rapid eye movements (REMs), 254, **255**
rapid eye movement sleep behavior disorder, 254
rational-emotive therapy, 15
Razadyne (galantamine), 342–343
RCT. *See* randomized controlled trial
reaction formation, 89
reactive attachment disorder, **213**
reading, specific learning disorder with impairment in, **125**
Reagan, Nancy, 344–345
Reagan, Ronald, 344–345, 403
reality principle, **88**–89
reconstitution, 131
record keeping, ethical standards in, 387, 397–398
reference, delusion of, 143
regression, 89
reinforcement, **94**–96
in autism spectrum disorder, 120–121
contingency management, 96
in depressive and bipolar disorders, 180–182
vicarious, **94**–95, 96
relapse prevention, **304**
relationships, ethical standards in, 387, 396–397
relaxation training, **201,** 216
for oppositional defiant disorder, 256
reliability, **32,** 52
religion, and depressive disorders, 184
remission, **47**
REMs. *See* rapid eye movements
repetitive behavior
in autism spectrum disorder, 118
in body dysmorphic disorder, 207
in impulse-control disorders, 258–259
in obsessive-compulsive disorder, 203, 207
repression, 89
research
correlational design in, **18**–20
experimental design in, 16–17
genetic methods of, 82–84
methods of, 16–20
qualitative, **23**
types of studies, 20–26
resilience, *versus* suicide, 185–186
response modulation hypothesis, **369**
Response to Intervention (RTI), 125
restless legs syndrome (RLS), 254
restricted affect, 144, **145**
restricting type, of anorexia nervosa, 245
retrograde amnesia, **300**
Rett syndrome, **121**–123
right to treatment, **399**–400
risperidone (Risperdal), 157, 332
Ritalin (methylphenidate), 132–134, 307
rivastigmine (Exelon), 342–343
RLS. *See* restless legs syndrome
Rogers, Carl, 99–100
rootwork, 37
Rorschach, Hermann, 63
Rorschach Inkblot Test, **63**–64
Rosenhan, David, 19
RTI. *See* Response to Intervention
rubella, 115
rumination disorder, 114, 251, **252**
Rush, Benjamin, 14, 15

S

sadism, sexual, 268, **272**–274
safety of client, ethical issues in, 385–386, 406–407
Saks, Elyn, 156–157
SAMHSA. *See* Substance Abuse and Mental Health Services Administration
Saphris (asenapine), 178
savant syndrome, 118–119, 122–123
SCED. *See* single-case experimental design
schemas, sexual, 285
schizoaffective disorder, **151**
schizoid personality disorder, 357, **362**–363
schizophrenia, **143**–163
active phase of, **144**
Assertive Community Treatment (ACT) for, **161**–163
biological perspective on, 153–158
biopsychosocial perspective on, 163
Bleuler's Four A's of, 146
cannabis (marijuana) and, 159
case report, 141–142, 163
cognitive-behavioral therapy for, 159–160
computerized auditory training for, 160
continuous, 146
course of, 148–150
degree of impairment in, 144–145
developmental cascade hypothesis of, **161,** 162
diagnostic criteria for, 144–145
downward drift in, **161**
DSM-5 on, 144–145, 147, 148
economic costs of, 143
endophenotypes in, 80
ethical issues for clinician in, 149
first-rank symptoms of, **146**–147
genetics of, 155
historical perspective on, 146–147
Illness Management and Recovery for, 162–163
lifespan perspective on, 163
multiple episodes, in full remission, 147
negative symptoms of, **144,** 147, 148
neurodevelopmental hypothesis of, **155**
neuropsychological performance in, 158
positive symptoms of, **144,** 147
prevalence of, 147–148
psychological perspectives on, 158–160
Saks and, 156–157
schizotypal personality disorder and, 363–364
sociocultural perspective on, 160–163
symptom severity ratings in, 147, 148
theories and treatment of, 153–163
vulnerability to, **153**
schizophrenia spectrum, **147**
schizophreniform disorder, **151**
schizotypal personality disorder, 357, 360, **363**–364
Schneider, Kurt, 146
school(s). *See* educational interventions
school psychologists, 42–43
SCID-5. *See* Structured Clinical Interview for *DSM-5* Disorders
SCID-D-R. *See* Structured Clinical Interview for *DSM-IV* Dissociative Disorders-Revised
scientific explanations, **11,** 14–16
scientific method, **16**
SCL-90-R, 62
secondary gain, **231**
secondary process thinking, 88–**89**
secretases, **340**

Section 3, of *DSM-5,* 32, 69
gambling disorder in, 322
personality disorders in, 357, 358–361
schizophrenia (psychosis) in, 147, 148
sedative, **315**
selective abstraction, 181
selective mutism, **194**–195
selective serotonin reuptake inhibitors (SSRIs), 176
for alcohol use disorder, 302
for children and adolescents, 133
for eating disorders, 249
for generalized anxiety disorder, 203
for hoarding, 210
for intermittent explosive disorder, 257
for pedophilic disorder, 275, 276
for post-traumatic stress disorder, 215
for social anxiety disorder, 198
for Tourette's disorder, 136
self-actualization, **99**
self-blame, 143
self-control procedures, for autism spectrum disorder, 121
self-efficacy, **94**–95
self-monitoring, **67**
self-references, excessive, 181
self-regulation, in ADHD, 131
self-report
assessment via, 60–63
behavioral, **67**
self-report clinical inventory, **60**
"semantic dementia," 365
sensate focus, **285**
sensory sensitivity, in autism spectrum disorder, 118
separation anxiety disorder, 114, **193**–194
Seroquel (quetiapine), 157
serotonin, 78, 79
in antisocial personality behavior, 366
in gambling disorder, 321
in generalized anxiety disorder, 202
in intermittent explosive disorder, 257
in major depressive disorder, 175–176
in paraphilic disorders, 274–275
in schizophrenia, 155, 157
in substance use disorders, 312
serotonin and norepinephrine reuptake inhibitors (SNRIs), 176–177
for generalized anxiety disorder, 203
for social anxiety disorder, 198
serotonin–dopamine antagonists, 157
sertraline (Zoloft), 176
sex addition, 284–285
sex offenders. *See* pedophilic disorder
sex reassignment surgery, 287, 288
sex therapy, 285–286
sexual abuse, 269–270. *See also* pedophilic disorder
sexual disorders
biopsychological perspective on, 289
case reports on, 265–266, 269, 270, 272, 273, 274, 289
DSM-5 on, 273–274, 282
"normality" *versus,* 266, 282
patterns of behavior in, 266–267
theories and treatment of, 273–276
sexual dysfunction, **277**–286
arousal disorders, 278, 279–280
biological perspective on, 282–283
biopsychological perspective on, 289
case reports on, 278, 280, 281, 282
DSM-5 on, 278, 279, 281, 282
generalized *versus* situational, 277
lifelong *versus* acquired, 277
orgasmic disorders, 280–281
pain disorders, 281
psychological perspective on, 283–286
Silverman and, 284–285
theories and treatment of, 281–286
sexual masochism, 268, **272**–274
sexual response, 277–278
sexual sadism, 268, **272**–274
sexual self-schemas, 285
shaping, for autism spectrum disorder, 120–121
shared psychotic disorder, 153–**154**
shell shock, 214
Shelter (movie), 225
shen-k'uei (shenkui), 37
shubo-kyufo, 207
Silverman, Sue William, 284–285
single-case experimental design (SCED), 20, **23**–24
single nucleotide polymorphism (SNP), **83**–84
single photon emission computed tomography (SPECT) scan, **72**
Skinner, B. F., 15
skin-picking disorder, **212**
sleep apnea, 253, 254, 255
sleep medications, 315
sleep-related hypoventilation, 254
sleep terrors, 254, **255**
sleep-wake disorders, 253–255
biopsychosocial perspective on, 261–262
DSM-5 on, 251, 253
polysomnography in, 253
treatment of, 253
types of, 254
sleepwalking, 254, **255**
smoking, 316–317
and Alzheimer's disease, 341
nicotine replacement therapy for, 319
SNRIs. *See* serotonin and norepinephrine reuptake inhibitors
social anxiety disorder, **198**–199, 378
case report on, 198
DSM-5 on, 198
prevalence of, 198
theories and treatment of, 198–199
social cognition, neurocognitive disorders and, 329
social (pragmatic) communication disorder, **127**
social discrimination, **103**–104
social learning theory, 15, **94**
and oppositional defiant disorder, 256
Social Readjustment Rating Scale (SRRS), 234–235
social skills
autism spectrum disorder and, 117–118, 121
schizophrenia and, 144
sociocultural perspective, **9, 101**–105
on ADHD, 131
on alcohol use disorder, 301, 305–306
on depressive and bipolar disorders, 104, 184
on eating disorders, 250–251
on schizophrenia, 160–163
on separation anxiety disorder, 193–194
on stress, 237
theories in, 101–103
treatment in, 103–104
somatic delusions, 143
somatic symptom disorders, **228**–233
biopsychological perspective on, 240
case reports on, 221–222, 229, 230, 231, 240
conditions related to, 230–231
DSM-5 on, 233
pain in, 228, 229
theories and treatment of, 231–233
somatic symptoms, **228**
somatic type of delusional disorder, **153**
Sonata (zaleplon), 315
specialized inpatient treatment centers, 41
specific learning disorder, **124**–127
DSM-5 on, 114
educational interventions for, 125–127
prevalence of, 124
severity levels of, 124
specific learning disorder with impairment in mathematics, **124**–127
specific learning disorder with impairment in reading, **125**
specific learning disorder with impairment in written expression, **125**
specific phobias, **195**–197
behavioral perspective on, 196–197
biological perspective on, 196
case report on, 196
prevalence of, 195
theories and treatment of, 195–197
SPECT scan, **72**
speech
disorganized, **144**
in brief psychotic disorder, 150
in schizophrenia, 144, 148
refusal to talk (selective mutism), 194–195
speech sound disorder, **127**
spell, 37
spiritual explanations, **11**–12
splitting, **371**
SRRS. *See* Social Readjustment Rating Scale
SSRIs. *See* selective serotonin reuptake inhibitors
standardization, **52**
Stanford–Binet intelligence test, 57
state hospitals, 12–13
stereotypic movement disorder, **136**–137
stigma, **6,** 9, 14
stimulants, **306**
for ADHD, 132–134, 306, 307
use disorder, 306–308
Strattera (atomoxetine), 133
stress, **234**–237. *See also* acute stress disorder; post-traumatic stress disorder
behavioral medicine and, 239
cognitive models of, 235
life change units and, 234–235
and schizophrenia, 160–161
uplifts *versus,* 235–236
stressful life event, **234**–235
stressor-related disorders. *See* trauma- and stressor-related disorders
Structured Clinical Interview for *DSM-5* Disorders (SCID-5), **55**–56
Structured Clinical Interview for *DSM-IV* Dissociative Disorders-Revised (SCID-D-R), 226, 227
structured interview, **55**–56
stuttering (childhood-onset fluency disorder), **127**
sublimation, 89
substance, **295**
Substance Abuse and Mental Health Services Administration (SAMHSA), 20, 216
substance-induced disorders, 296
substance-induced persisting amnesia, 351
substance intoxication, **296**
substance/medication-induced neurocognitive disorder, 350
substance use disorder(s), **295,** 295–319
ADHD and, 128, 130
associated with specific substances, 296–318
biological perspective on, 318–319
biopsychosocial perspective on, 323
bipolar disorder and, 174, 293–295
case reports on, 293–295, 299, 307, 308, 310, 313, 316, 323
comorbidity with, 298

diagnostic symptoms in, 295
dopamine pathways in, 296–297
Downey, Jr., and, 317
DSM-5 on, 295, 296
epidemiology of, 296–298
gambling disorder and, 320
key features of, 295–296
legal issues in, 295–296
post-traumatic stress disorder and, 216, 298
psychological perspective on, 319
theories and treatment of, 318–319
use *versus* abuse, 295
substituted judgment, **400**
suicidal ideation, 184
suicide, 184–186
anorexia nervosa and, 245–247
attempted, borderline personality disorder and, 371
biopsychosocial perspective on, 185
body dysmorphic disorder and, 207
DNR orders for patients attempting, 186
kleptomania and, 261
physician-assisted, 186
positive psychology on, 185–186
rates of, 184–185
SSRIs and risk of, 133
suicide attempt, 184
suoyang, 207
superego, 88, **89**
survey, **20**–21
susto, 37
Sybil (movie), 225
synapses, 78
synesthesia, 122–123, 310
systemic desensitization, **96,** 196

T

tacrine (Cognex), 342–343
taijin kyofusho, 37, 207
Tammet, Daniel, 122–123
Tarasoff, Tatiana, 395–396
Tarasoff v. Regents of the University of California, 395–396
tardive dyskinesia, **157**
target behavior, **67**
TAT. *See* Thematic Apperception Test
tau, **339**
Tay–Sachs disease, **113**–114
TBI. *See* traumatic brain injury
TCAs. *See* tricyclic antidepressants
Tegretol (carbamazepine), 179
"temper tantrums," 171
temporal causality, assuming, 181
tension headache, chronic, 234
teratogens, **115**
testosterone, 274–275, 283
THC (delta-9-tetrahydocannabinol), 308–309
Thematic Apperception Test (TAT), **64**–65
theoretical perspectives, **78**
biological, **78**–87
in *DSM-5,* 86
third force, 98
Thorazine (chlorpromazine), 84, 154, 157
thought broadcasting, 143
thought insertion, 143
thought stopping, **197**–198
tic, **136, 203**
tic disorders, 136
tobacco, 316–317
Tofranil (imipramine), 133, 177
token economy, **96,** 121, 159
tolerance, **295**
Tourette's disorder, **136**
Trail Making Test, 68–69, 71
trait theory, 86–87
"tranquilizer" chair, 15
transference, **93**
transference-focused psychotherapy, **373**
transphobia, **289**
transsexualism, **286**–289
transvestic disorder, 268, **273,** 274
tranylcypromine (Parnate), 177
trauma, **213**
and dissociative disorders, 225–226
and separation anxiety disorder, 193–194
trauma- and stressor-related disorders, 213–216
acute stress disorder, 198, **213**–214
biopsychosocial perspective on, 216
disinhibited social engagement disorder, **213**
DSM-5 on, 198, 213
post-traumatic stress disorder, 191–192, 198, **214**–216
reactive attachment disorder, **213**
trauma informed care, **216**
traumatic brain injury (TBI), 51, 73, **349**
case report on, 51, 73, 350
epidemiology of, 349
neurocognitive disorder due to, 51, 73, **349**–350
postconcussion syndrome in, **349**
sports and, 350
traumatic neurosis, 214
treatment. *See also specific approaches and disorders*
behavioral, 95–96
biological, 81, 84–86
client's role in, 45
clinician's role in, 45
cognitive, 97–98
course of, 45
determining best approach to, 44–45
goals of, 40–41
humanistic, 99–100
inpatient, 41
least restrictive alternative for, **400**–401
modality of, **43**
outcome of, 47
outpatient, 42
planning of, 40–45
psychodynamic, 92–93
refusal of, 400
right to, **399**–400
sites for, 41–43
sociocultural, 103–104
treatment plan, **40**
trephining, **11**
trichotillomania, **210**–212
automatic type, 210
focused type, 210
genetics of, 211
regulation model of, 211
Trichotillomania Symptoms Questionnaire, 211–212
tricyclic antidepressants (TCAs), 176, 177, 205
twin studies, 24–25, 82
type A behavior pattern, **238,** 239
type D personality, **238**–239

U

Unabomber, 405
Unbearable Lightness: A Story of Loss and Gain (de Rossi), 246–247
unconditional positive regard, **100**
unstructured interview, **53**–55
uplifts, **235**–236
urine alarm, 252–253

V

vaginismus, 281, 282
validity, **32,** 52
valproate (Depakote), 179
van Gogh, Vincent, 22–23
varenicline tartrate (Chantix), 319
variable(s)
dependent, **16**–17
independent, **16**
vascular neurocognitive disorder, 327–328, **347**–348, 352
VCI. *See* Verbal Comprehension Index
venlafaxine (Effexor), 176–177
ventral tegmental area (VTA), 297, 308
Verbal Comprehension Index (VCI), 58
veterans
PTSD in, 214, 215
traumatic brain injury in, 349
Viagra, 282–283
vicarious reinforcement, **94**–95, 96
Virginia Tech shootings, 396
virtual reality exposure therapy (VRET), **197,** 199
visuospatial ability, 69
vocal tics, 136
voyeuristic disorder, 268, 270–**271**
VRET. *See* virtual reality exposure therapy
VTA. *See* ventral tegmental area
vulnerability, **153**
vulnerable narcissism, **376**

W

WAIS. *See* Wechsler Adult Intelligence Scale
Walker, Herschel, 224–225
Watson, John B., 15
WCST. *See* Wisconsin Card Sorting Test
Wechsler Adult Intelligence Scale (WAIS), **58**–60, 68
Wechsler Intelligence Scale for Children–Fourth Edition (WISC–IV), 58
Wechsler Memory Scale, 71
Wechsler Preschool and Primary Scale of Intelligence–Third Edition (WPPSI–III), 58
Wellbutrin/Wellbutrin SR (bupropion), 133, 319
Wernicke's disease, **300**
WHO. *See* World Health Organization
WHO Disability Assessment Schedule (WHODAS), 35, 69
Winnicott, D. W., 91
WISC–IV. *See* Wechsler Intelligence Scale for Children–Fourth Edition
Wisconsin Card Sorting Test (WCST), 69–70
Wishful Drinking (Fisher), 172–173
witchcraft, 11–12
withdrawal, **295,** 296
women. *See also* gender
practice guidelines for, 389, 393
wool-hwa-byung, 36
"The Working Group for a New View of Women's Sexual Problems," 281
working memory, in ADHD, 131
Working Memory Index (WMI), 58–59
World Federation of Societies of Biological Psychiatry, 276

World Health Organization (WHO)
Disability Assessment Schedule, 35, 69
International Classification of Diseases (ICD), **33**–35
surveys, 20
World Professional Association for Transgender Health (WPATH), 287
WPPSI–III. *See* Wechsler Preschool and Primary Scale of Intelligence–Third Edition
written expression, specific learning disorder with impairment in, **125**
Wyatt v. Stickney, 399

Y

Yale–Brown Obsessive-Compulsive Symptom Checklist, 203, 204
Yale–Brown Obsessive-Compulsive Symptom Checklist, Body Dysmorphic Disorder version of, 207, 208
Yalom, Irvin, 104
Yates, Andrea, 404
YBOCS. *See* Yale–Brown Obsessive-Compulsive Symptom Checklist

Z

zaleplon (Sonata), 315
zar, 37
Z codes, **35**
Zoloft (sertraline), 176
zolpidem (Ambien), 315
Zyprexa (olanzapine), 157