This International Student Edition is for use outside of the U.S.

Eighth Edition

Abnormal Psychology

Susan Nolen-Hoeksema

Mc Graw Hill Education

Abnormal Psychology

This page intentionally left blank

Abnormal Psychology

Eighth Edition

Susan Nolen-Hoeksema

Mc Graw Hill Education

ABNORMAL PSYCHOLOGY

This book is printed on acid-free paper.

1 2 3 4 5 6 7 8 9 LWI 21 20 19 18

ISBN 978-1-260-54790-0
MHID 1-260-54790-6

Cover Image: ©*DrAfter123/DigitalVision Vectors/Getty Images*

mheducation.com/highered

ABOUT THE AUTHOR

Courtesy of Susan Nolen-Hoeksema

Susan Nolen-Hoeksema (1959–2013) In January 2013 we lost our esteemed author and friend, Susan Nolen-Hoeksema. Susan was a renowned scholar, teacher, mentor, and academic leader. She was recognized internationally for her work on how people regulate their feelings and emotions and how particular patterns of thinking can make people vulnerable to and recover slowly from emotional problems, especially depression. Her research shaped the field's perspective on depression in women and girls, and countless empirical studies and theoretical contributions followed as she developed her groundbreaking theory of rumination and depression.

In her words: "My career has focused on two parallel goals. The first is to use empirical methods to address important social and mental health problems (depression, rumination, women's mental health). The second goal is to disseminate psychological science. I also believe in taking science to the public, through my textbook on Abnormal Psychology and books for the general public on women's mental health."

Susan taught at Stanford University, the University of Michigan, and Yale University. Susan's work focused on depression, mood regulation, and gender, for which she was recognized and received the David Shakow Early Career Award from Division 12, the Distinguished Leadership Award from the Committee on Women of American Psychological Association, the James McKeen Cattell Fellow Award from the Association for Psychological Science, a Research Career Award, and multiple grants from the National Institute of Mental Health. In addition, she was the founding editor of the *Annual Review of Clinical Psychology,* now the most highly cited journal in the field of clinical psychology.

In addition to being an accomplished professor, scholar, teacher, and writer, Susan was a loving and devoted mother, wife, daughter, sister, friend, and mentor. Susan touched and inspired the lives of many people both professionally and personally, and she will be dearly missed.

ABOUT THE CONTRIBUTOR

Courtesy of Brett Marroquín

Brett Marroquín is an assistant professor of psychology at Loyola Marymount University in Los Angeles, California. He received his Ph.D. in clinical psychology from Yale University under the mentorship of Susan Nolen-Hoeksema, and completed a National Institute of Mental Health (NIMH) postdoctoral fellowship in biobehavioral issues in physical and mental health at the University of California, Los Angeles. His research examines interpersonal influences on emotion, emotion regulation, and cognitive processing in healthy functioning and mood disorders. His current work focuses on the roles of social contexts and romantic relationships in emotional adjustment to negative events, including cancer diagnosis and treatment, and how effective or ineffective support from partners affects couples' physical and mental health.

BRIEF CONTENTS

CONTENTS

PREFACE

Abnormal Psychology connects proven scholarship with student performance. Through an integrated, personalized learning program, the eighth edition gives students the insight they need to study smarter and improve performance.

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,* Eighth Edition.

A PERSONALIZED EXPERIENCE THAT LEADS TO IMPROVED LEARNING AND RESULTS

How many students think they know everything about abnormal psychology but struggle on the first exam? Students study more effectively with Connect and SmartBook.

- SmartBook helps students study more efficiently by highlighting what to focus on in the chapter, asking review questions, and directing them to resources until they understand.
- Connect's assignments help students contextualize what they've learned through application, so they can better understand the material and think critically.
- SmartBook creates a personalized study path customized to individual student needs.
- Connect reports deliver information regarding performance, study behavior, and effort so instructors can quickly identify students who are having issues or focus on material that the class hasn't mastered.

Experience the Power of Data

Abnormal Psychology harnesses the power of data to improve the instructor and student experiences.

BETTER DATA, SMARTER REVISION, IMPROVED RESULTS

For this new edition, data were analyzed to identify the concepts students found to be the most difficult, allowing for expansion upon the discussion, practice, and assessment of challenging topics. The revision process for a new edition used to begin with gathering information from instructors about what they would change and what they would keep. Experts in the field were asked to provide comments that pointed out new material to add and dated material to review. Using all these reviews, authors would revise the material. But now, a new tool has revolutionized that model.

McGraw-Hill Education authors have access to student performance data to analyze and to inform their revisions. These data are anonymously collected from the many students who use SmartBook, the adaptive learning system that provides students with individualized assessment of their own progress. Because virtually every text paragraph is tied to several questions that students answer while using SmartBook, the specific concepts with which students are having the most difficulty are easily pinpointed through empirical data in the form of a "heat map" report.

POWERFUL REPORTING

Whether a class is face-to-face, hybrid, or entirely online, McGraw-Hill Connect provides the tools needed to reduce the amount of time and energy instructors spend administering 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 their study time.

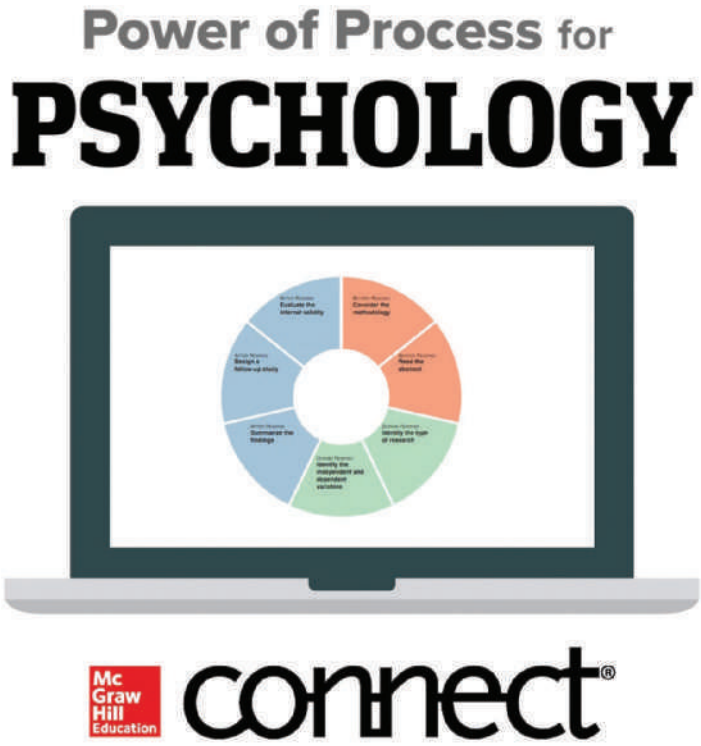
- The **At-Risk Student Report** provides instructors with one-click access to a dashboard that identifies students who are at risk of dropping out of the course due to low engagement levels.
- The **Category Analysis Report** details student performance relative to specific learning objectives and goals, including APA learning goals and outcomes and levels of Bloom's taxonomy.
- **Connect Insight** is a one-of-a-kind visual analytics dashboard—now available for both instructors and students—that provides at-a-glance information regarding student performance.

New to this edition, SmartBook is now optimized for mobile and tablet and is accessible for students with disabilities. Content-wise, it has been enhanced with improved learning objectives that are measurable and observable to improve student outcomes. SmartBook personalizes learning to individual student needs, continually adapting to pinpoint knowledge gaps and focus learning on topics that need the most attention. Study time is more productive and, as a result, students are better prepared for class and coursework. For instructors, SmartBook tracks student progress and provides insights that can help guide teaching strategies.

INFORMING AND ENGAGING

McGraw-Hill Connect offers several ways to actively engage students.

Power of Process guides students through the process of critical reading and analysis. Faculty can select or upload content, such as journal articles, and assign guiding questions to move students toward higher-level thinking and analysis.



Through the connection of psychology to students' own lives, concepts become more relevant and understandable. **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 link between real life and research findings. Topics include brain chemistry and depression, eating disorders in boys, and criticisms of the *DSM*-5.

Thinking Critically About Abnormal Psychology

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.

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.

SUPPORTING INSTRUCTORS WITH TECHNOLOGY

With McGraw-Hill Education, you can develop and tailor the course you want to teach.

McGraw-Hill Campus (www.mhcampus.com) provides faculty with true single-sign-on access to all of McGraw-Hill's course content, digital tools, and other high-quality learning resources from any learning management system. McGraw-Hill Campus includes access to McGraw-Hill's entire content library, including eBooks, assessment tools, presentation slides, and multimedia content, among other resources, providing faculty open, unlimited access to prepare for class, create tests/quizzes, develop lecture material, integrate interactive content, and more.

With **Tegrity,** you can capture lessons and lectures in a searchable format and use them in traditional, hybrid, "flipped classes," and online courses. With Tegrity's personalized learning features, you can make study time efficient. Its ability to affordably scale brings this benefit to every student on campus. Patented search technology and real-time learning management system (LMS) integrations make Tegrity the market-leading solution and service.

With McGraw-Hill Education's **Create**, faculty can easily rearrange chapters, combine material from other content sources, and quickly upload content you have written, such as your course syllabus or teaching notes, using McGraw-Hill Education's Create. Find the content you need by searching through thousands of leading McGraw-Hill Education textbooks. Arrange your book to fit your teaching style. Create even allows you to personalize your book's appearance by selecting the cover and adding your name, school, and course information. Order a Create book, and you will receive a complimentary print review copy in three to five business days or a complimentary electronic review copy via email in about an hour. Experience how McGraw-Hill Education empowers you to teach your students your way. **http://create.mheducation.com**

TRUSTED SERVICE AND SUPPORT

McGraw-Hill Education's Connect offers comprehensive service, support, and training throughout every phase of your implementation. If you're looking for some guidance on how to use Connect, or want to learn tips and tricks from super-users, you can find tutorials as you work. Our Digital Faculty Consultants and Student Ambassadors offer insight into how to achieve the results you want with Connect.

INTEGRATION WITH YOUR LEARNING MANAGEMENT SYSTEM

McGraw-Hill integrates your digital products from McGraw-Hill Education with your school's learning management system (LMS) for quick and easy access to best-in-class content and learning tools. Build an effective digital course, enroll students with ease, and discover how powerful digital teaching can be.

Available with Connect, integration is a pairing between an institution's LMS and Connect at the assignment level. It shares assignment information, grades, and calendar items from Connect into the LMS automatically, creating an easy-to-manage course for instructors and simple navigation for students. Our assignment-level integration is available with **Blackboard Learn, Canvas by Instructure,** and **Brightspace by D2L,** giving you access to registration, attendance, assignments, grades, and course resources in real time, in one location.

Instructor Supplements

Instructor's Manual The instructor's manual provides a wide variety of tools and resources for presenting the course, including learning objectives and ideas for lectures and discussions.

Test Bank By increasing the rigor of the test-bank development process, McGraw-Hill Education has raised the bar for student assessment. A coordinated team of subject-matter experts methodically vetted each question and each set of possible answers for accuracy, clarity, effectiveness, and accessibility; each question has been annotated for level of difficulty, Bloom's taxonomy, APA learning outcomes, and corresponding coverage in the text. Organized by chapter, the questions are designed to test factual, conceptual, and applied understanding. All test questions are available within TestGen™ software and as Word documents.

PowerPoint Presentations The PowerPoint presentations, available in both dynamic lecture-ready and accessible WCAG-compliant versions, highlight the key points of the chapter and include supporting visuals. All of the slides can be modified to meet individual needs.

Image Gallery The Image Gallery features the complete set of downloadable figures and tables from the text. These can be easily embedded by instructors into their own PowerPoint slides.

CHAPTER-BY-CHAPTER CHANGES

Revisions based on the student heat map are reflected primarily in Chapters 2, 5, 7, 9, and 15. Other content changes include the following:

CHAPTER 1

- Updated coverage on the dimensions of abnormality on a continuum
- Revised coverage of the cognitive revolution
- Increased attention to disadvantages of deinstitutionalization
- Revised coverage on the role of correctional facilities
- Updated coverage of the Affordable Care Act and mental health

CHAPTER 2

- New statistics on benzodiazepines and overdoses
- Updated coverage of electroconvulsive therapy effects
- Updated research on brain stimulation
- Revised coverage on the difference between modeling and observational learning
- Revised coverage on the distinction between the pleasure principle and the reality principle
- Revised coverage of Freudian concepts
- Updated coverage of Dialectical Behavioral Therapy (DBT) adaptations and Acceptance and Commitment Therapy (ACT)
- Added coverage of Unified Protocol (UP)
- Added content on cultural competence
- New content on cultural adaptations of treatment

CHAPTER 3

- New coverage on computerized assessment
- Revised coverage of key *DSM* topics
- Revised coverage concept of *DSM* axes
- Updated research on *DSM*-5 reliability

CHAPTER 4

- Revised presentation of correlation
- Strengthened coverage (with new examples) of the difference between correlation and causation
- Revised presentation of demand characteristics
- New example for placebo control group for therapy
- Strengthened coverage on the limitations of laboratory studies
- Revised coverage of the types of genetic studies
- Revised presentation of adoption studies
- Strengthened coverage of meta-analysis
- Added coverage of Research Domain Criteria (RDoC)

CHAPTER 5

- Revised coverage with new example of dissociation in trauma
- Clarified distinction between *nervios* and *ataque de nervios*
- Revised presentation of neuroimaging findings related to trauma

- Strengthened presentation (with examples) of exposure therapy in cognitive-behavioral therapy (CBT)
- Revised coverage of prolonged exposure and cognitive processing therapy
- Strengthened coverage of exposure treatment for phobia
- Revised coverage of social anxiety disorder
- Revised coverage of panic disorder diagnosis
- New coverage of the cognitive aspect of panic
- Integrated coverage of cognitive factors of posttraumatic stress disorder (PTSD)
- Revised coverage of benzodiazepines in treating PTSD
- Improved coverage of general anxiety disorder definition (GAD)
- Added coverage of emotion regulation therapy (ERT) for GAD
- Revised presentation of obsessive compulsive disorder (OCD) diagnosis
- New example of compulsions
- Revised coverage of body dysmorphic disorder

CHAPTER 6

- Revised coverage of the reliability and controversies of *DSM-5*
- Updated treatment coverage
- Revised presentation of research on stress and maltreatment
- Updated coverage of prognosis relating to conversion disorders
- Updated coverage of the science on theories of dissociative identity disorder (DID)
- New coverage of treatment outcome research
- Revised coverage of dissociative fugue

CHAPTER 7

- Clarified definition and organization of subtypes of depression
- Revised coverage relating to the different bipolar disorders
- Strengthened coverage of bipolar episodes and diagnoses
- Revised presentation of cyclothymia
- New material on the distinction between episodes and general reactivity in bipolar disorder
- Improved coverage, with examples, of creativity in mood disorders
- Strengthened coverage of hopelessness in depression
- New material on the different bipolar disorders
- Revised coverage of cohort effects
- Revised coverage of gender differences in depression
- New material on puberty and gender differences in depression
- New material on racial and ethnic differences
- Updated material on genetic and brain findings relating to depression
- Added coverage of psychosocial contributors to bipolar disorders
- Added example of reward sensitivity
- Updated findings on selective serotonin reuptake inhibitors (SSRIs) and suicide
- Revised coverage of selective serotonin-norepinephrine reuptake inhibitors (SNRI)
- Revised coverage of the pros and cons of lithium
- Added lamotrigine to medical treatments for bipolar disorders
- Updated coverage of suicide epidemiology and demographics
- Added coverage of African American suicide rates and updated all coverage of ethnicity rates
- Added coverage of anxiety and suicide
- Added content on new media and suicide
- Updated research on impulsivity
- Added content on the interpersonal theory of suicide
- Added definitions of treatment vs. prevention
- Updated coverage of nonsuicidal self-injury

CHAPTER 8

- Added historical factors in discussion of delusions
- Updated research on hallucinations in general population
- Added research on anticipatory emotion
- Updated research on prognoses for psychotic disorders, including for suicide
- Integration of cognitive and biosocial theories of schizophrenia
- Added material on schizophrenia and bipolar family comorbidity
- Updated status of social drift research
- Updated status of stressful events research
- Updated evidence on treatment efficacy

CHAPTER 9

- New material on cognitive treatment for schizotypal personality disorder
- Added example of splitting
- Updated status of pharmacological treatment for borderline personality disorder
- Clarified coverage of therapy for histrionic personality disorder
- Revised coverage of narcissism subtypes
- Clarified difference between avoidant and schizoid personality disorders
- Clarified distinction between obsessive-compulsive personality disorder and obsessive-compulsive disorder
- Clarified and updated coverage of alternative dimensional models for personality disorders

CHAPTER 10

- Updated coverage of attention-deficit/hyperactivity disorder (ADHD)
- Updated status of psychosocial factors
- Update on cognitive-behavioral therapy for adult ADHD
- New material on genetic research
- Added research on name processing
- Updated status of autism spectrum disorder (ASD) medications
- Updated statistics on sports traumatic brain injury
- Added research on early identification
- Updated coverage of delirium research and treatment

CHAPTER 11

- Updated contradictory findings on physiological reactivity in conduct disorders
- Updated findings on Fast Track and conduct disorders
- Updated coverage on drugs are not first-line treatments for conduct disorder and oppositional defiant disorder
- New coverage of genetic and epigenetic findings in antisocial personality disorder
- Updated findings on amygdala and striatum

CHAPTER 12

- Updated with *DSM*-5 prevalence of anorexia nervosa
- Updated with *DSM*-5 prevalence of bulimia nervosa
- New research on leveling-out of prevalence of bulimia nervosa since 2000s
- Updated *DSM*-5 and international prevalence of binge-eating disorder
- Revised coverage of *DSM*-5 categories eating disorders not otherwise specified (EDNOS) and other specified feeding or eating disorder
- Updated coverage of obesity drugs
- Added coverage of male eating disorders and muscularity ideal
- Updated research on thinness ideal
- Revised coverage of the treatment of eating disorders
- New coverage of treatment access, Internet-based intervention, and prevention of eating disorders

CHAPTER 13

- New title: Sexual Disorders and Gender Diversity
- Updated coverage of sexual desire prevalence
- Added material on cognitions to include men
- New material on culture and gender roles
- Updated research on testosterone
- Updated research on biological treatments for women
- Revised heterosexual-specific language for early ejaculation treatment
- Revised heading of LGB section to separate sexual orientation from disorders
- Added unique considerations for LGB sexual dysfunction
- Revised coverage of nonpathological consensus and position on conversion therapy
- Emphasized continuum aspect of sadism/masochism
- Added evidence regarding sadism disorder in offenders
- Revised heading for treatment of paraphilic disorders to emphasize the disorders rather than the interests and behaviors
- Updated coverage of cognitive-behavioral therapy for paraphilias
- Significant revision of the gender dysphoria (GD) section to emphasize distress and impairment criteria
- Updated research on GD prevalence, associated psychopathology, and risk factors for HIV
- Added new coverage of gender diversity and transgender along the continuum
- Updated findings on brain in GD
- New coverage of GD in childhood and persistence into adulthood
- Added coverage of biological treatment of GD in children

CHAPTER 14

- Updated U.S. and world statistics throughout (prevalence of use, abuse, ER visits, and deaths)
- Increased emphasis on recent increases in use/abuse of methamphetamine and opioids
- Updated coverage of e-cigarettes
- Added coverage of opioid epidemic
- Updates on laws regarding medical and recreational uses of marijuana
- Updated coverage of gambling diagnosis and treatment
- Added coverage of Internet gaming disorder and other behavioral addictions

CHAPTER 15

- Updated epidemiology and statistics throughout
- Revised coverage of link between psychological diagnosis and physical health
- Updated cancer intervention research
- Updated status of research on psychosocial treatment and coronary heart disease (CHD)
- Streamlined coverage of depression and CHD
- Added discussion of culturally sensitive interventions
- New coverage of mobile health interventions (along with updates to Internet intervention)
- Clarified sleep brain-wave language
- Added examples for sleep study
- Updated research on narcolepsy as autoimmune problem
- Revised definition of hypoventilation

- Updated prevalence of sleep apnea
- Revised coverage of circadian rhythm disorders
- Revised coverage of arousal
- Increased coverage of confusional arousals
- Added examples for REM sleep disorder
- Added coverage of medications for nightmare disorder

CHAPTER 16

- Updated research on violence
- Added prevalence of incompetence to stand trial
- Revised coverage of states' use of insanity rules
- New introduction to section on justice system
- Updated rates of mental illness in prisons

ACKNOWLEDGMENTS

We are grateful to Brett Marroquín, Loyola Marymount University, for his invaluable contributions to this edition.

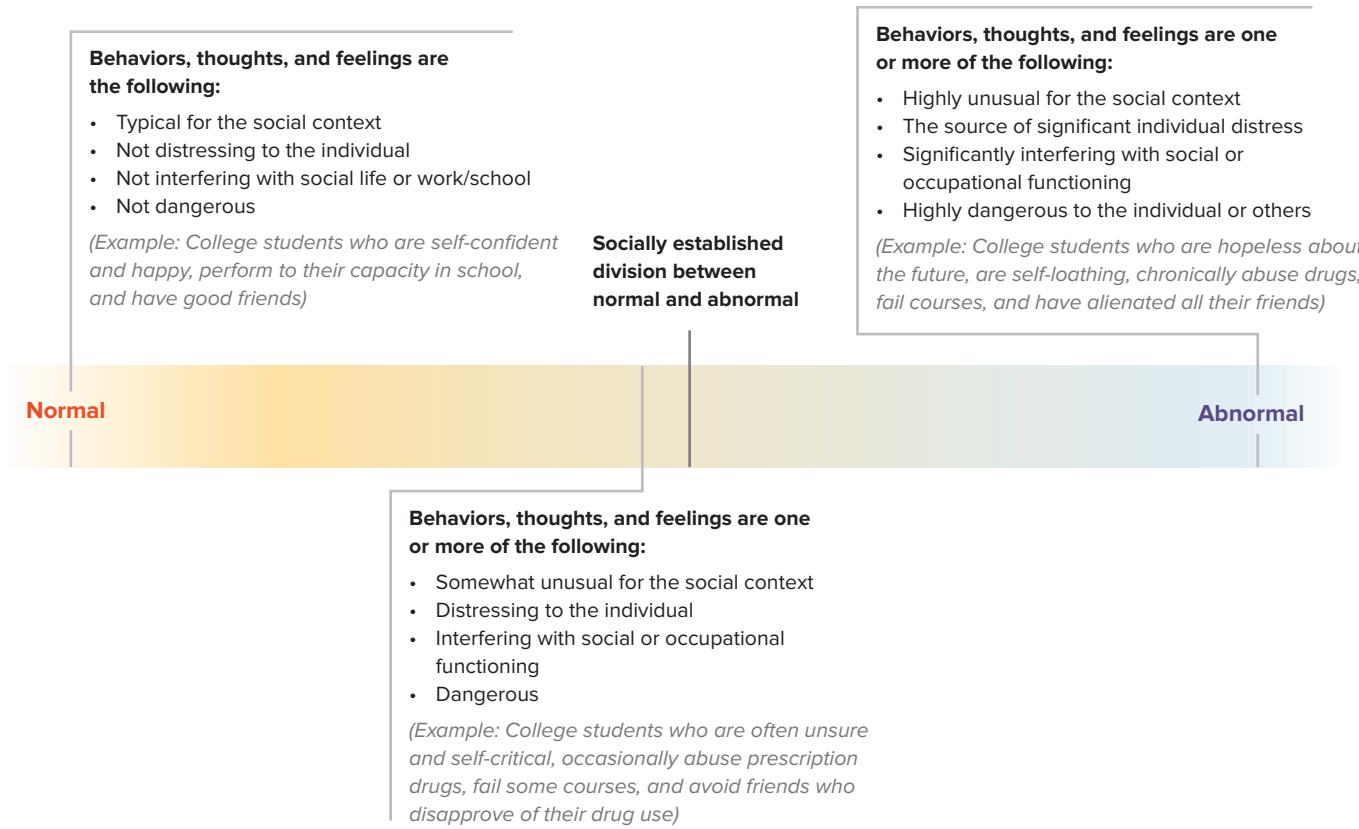
Chapter 1

©travelview/Shutterstock

Looking at Abnormality

CHAPTER OUTLINE

Abnormality Along the Continuum



As humans, we think, we feel, we behave. Most of the time, our thoughts, feelings, and behaviors help us function in everyday life and are in the service of important goals or values we hold. Sometimes, however, we all have thoughts that upset us, experience feelings we'd rather not have, and act in ways that are self-defeating or detrimental to others. We may find ourselves in situations in which we can't think, feel, or behave as others would—as when, for example, we can't let go of a failed relationship. We may become upset over a situation that others don't find distressing, such as getting an average grade on an exam. Our thoughts, feelings, or behaviors may be interfering with our functioning in everyday life—for example, if we become afraid to walk alone after being mugged. Or we may be acting in ways that are dangerous to ourselves or others, such as driving a car when intoxicated.

Problems in thoughts, feelings, and behavior vary from normal to abnormal, as illustrated in the diagram above. We'd like to think there is a clear dividing line between normal variations in thoughts, emotions, and behaviors and what we would label "abnormal." Once an individual's behaviors or feelings crossed that line, we would be justified in saying that there is something wrong with that person or that he or she has a disorder. As we discuss in this chapter and throughout this book, however, there is increasing evidence that no such dividing line exists, perhaps for any of the mental health problems that are currently recognized. As you can see above, it can be hard to determine when behaviors, thoughts, and feelings become unusual, distressing, functionally impairing, or dangerous—key determinants of abnormality. We make decisions about where to draw the line that indicates a sufficient amount of abnormality to warrant a diagnosis or treatment. You will see that this **continuum model of abnormality** applies to all the disorders we discuss in this book. In this chapter, we discuss some of the factors that influence how thoughts, emotions, and behaviors are labeled abnormal.

Extraordinary People

My illness began slowly, gradually, when I was between the ages of 15 and 17. During that time reality became distant and I began to wander around in a sort of haze, foreshadowing the delusional world that was to come later. I also began to have visual hallucinations in which people changed into different characters, the change indicating to me their moral value. For example, the mother of a good friend always changed into a witch, and I believed this to be indicative of her evil nature. Another type of visual hallucination I had at this time is exemplified by an occurrence during a family trip through Utah: The cliffs along the side of the road took on a human appearance, and I perceived them as women, bedraggled and weeping. At the time I didn't know what to make of these changes in my perceptions. On the one hand, I thought they came as a gift from God, but on the other hand, I feared that something was dreadfully wrong. However, I didn't tell anyone what was happening; I was afraid of being called insane. I also feared, perhaps incredibly, that someone would take it lightly and tell me nothing was wrong, that I was just having a rough adolescence, which was what I was telling myself.

Source: Anonymous, 1992.

The study of abnormal psychology is the study of people, like the young woman in the Extraordinary People feature, who suffer mental, emotional, and often physical pain, often referred to as **psychopathology.** Sometimes the experiences of people with psychopathology are as unusual as those this young woman describes. Sometimes, however, people with psychopathology have experiences that are familiar to many of us but more extreme, as when everyday sadness transforms into life-altering depression.

In this book we explore the lives of people with troubling psychological symptoms to understand how they think, what they feel, and how they behave. We investigate what is known about the causes of these symptoms and the appropriate treatments for them. The purpose of this book is not only to provide you with information, facts and figures, theories, and research but also to help you understand the experience of people with psychological symptoms. The good news is that, thanks to an explosion of research in the past few decades, effective biological and psychological treatments are available for many of the mental health problems we discuss.

DEFINING ABNORMALITY

In popular culture, there are a lot of words for people and behaviors that seem abnormal: around the bend, bananas, barmy, batty, berserk, bonkers, cracked, crazy, cuckoo, daft, delirious, demented, deranged, dingy, erratic, flaky, flipped out, freaked out, fruity, insane, kooky, lunatic, mad, mad as a March hare, mad as a hatter, maniacal, mental, moonstruck, nuts, nutty, nutty as a fruitcake, of unsound mind, out of one's mind, out of one's tree, out to lunch, potty, psycho, screw loose, screwball, screwy, silly, touched, unbalanced, unglued, unhinged, unzipped, wacky. People talk as if they have an intuitive sense of what abnormal behavior is. Let's explore some of the ways abnormality has been defined.

Mental Illness

A common belief is that behaviors, thoughts, or feelings can be viewed as pathological or abnormal if they are symptoms of a *mental illness.* This implies that a disease process, much like hypertension or diabetes, is present. For example, when many people say that an individual "has schizophrenia" (which is characterized by unreal perceptions and severely irrational thinking), they imply that he or she has a disease that should show up on some sort of biological test, just as hypertension shows up when a person's blood pressure is taken.

To date, however, no biological test is available to diagnose any of the types of abnormality we discuss in this book (Hyman, 2010). This is not just because we do not yet have the right biological tests. In modern conceptualizations, mental disorders are not viewed as singular diseases with a common pathology that can be identified in all people with the disorder. Instead, mental health experts view mental disorders as collections of problems in thinking or cognition, in emotional responding or regulation, and in social behavior (Cuthbert & Insel, 2013; Hyman, 2010). Thus, for example, a person diagnosed with schizophrenia has a collection of problems in rational thinking and in responding emotionally and behaviorally in everyday life, and it is this collection of problems that we label schizophrenia. It is still possible, and in the case of schizophrenia likely, that biological factors are associated with these problems in thinking, feeling, and behaving. But it is unlikely that a singular disease process underlies the symptoms we call schizophrenia.

Cultural Norms

Consider these behaviors:

1. A man driving a nail through his hand
2. A woman refusing to eat for several days
3. A man barking like a dog and crawling on the floor on his hands and knees
4. A woman building a shrine to her dead husband in her living room and leaving food and gifts for him at the altar

Do you think these behaviors are abnormal? You might reply, "It depends." Several of these behaviors are accepted in certain circumstances. In many religious traditions, for example, refusing to eat for a period of time, or fasting, is a common ritual of cleansing and penitence. You might expect that some of the other behaviors listed, such as driving a nail through one's hand or barking like a dog, are abnormal in all circumstances, yet even these behaviors are accepted in certain situations. In Mexico, some Christians have themselves nailed to crosses on Good Friday to commemorate the crucifixion of Jesus. Among the Yoruba of Africa, traditional healers act like dogs during healing rituals (Murphy, 1976). Thus, the context, or circumstances surrounding a behavior, influences whether the behavior is viewed as abnormal.

Cultural norms play a large role in defining abnormality. A good example is the behaviors people are expected to display when someone they love dies (Rosenblatt, 2008). In cultures dominated by Shinto and Buddhist religions, it is customary to build altars to honor dead loved ones, to offer them food and gifts, and to speak with them as if they were in the room. In cultures dominated by Christian and Jewish religions, such practices would potentially be considered quite abnormal.

Cultures have strong norms for what is considered acceptable behavior for men versus women, and these gender-role expectations also influence the labeling of behaviors as normal or abnormal (Addis, 2008). In many cultures, men who display sadness or anxiety or who choose to stay home to raise their children while their wives work are at risk of being labeled abnormal, while women who are aggressive or who don't want to have children are at risk of being labeled abnormal.

Cultural relativism is the view that there are no universal standards or rules for labeling a behavior abnormal; instead, behaviors can be labeled abnormal only relative to cultural norms (Snowden & Yamada, 2005). The advantage of this perspective is that it honors the norms and traditions of different cultures, rather than imposing the standards of one culture on judgments of abnormality. Yet opponents of cultural relativism argue that dangers arise when cultural norms are allowed to dictate what is normal or abnormal. In particular, psychiatrist Thomas Szasz (1961, 2011) noted that throughout history, societies have labeled individuals and groups abnormal in order to justify controlling or silencing them. Hitler branded Jews abnormal and used this label as one justification for the Holocaust. The former Soviet Union sometimes branded political dissidents mentally ill and confined them in mental hospitals. When the slave trade was active in the United States, slaves who tried to escape their masters could be diagnosed with a mental disease that was said to cause them to desire freedom; the prescribed treatment for this disease was whipping and hard labor.

Most mental health professionals these days do not hold an extreme relativist view on abnormality, recognizing the dangers of basing definitions of abnormality solely on cultural norms. Yet even those who reject an extreme cultural-relativist position recognize that culture and gender have a number of influences on the expression of abnormal behaviors and on the way those behaviors are treated. First, culture and gender can influence the ways people express symptoms. People who lose touch with reality often believe that they have divine powers, but whether they believe they are Jesus or Mohammed depends on their religious background.

Second, culture and gender can influence people's willingness to admit to certain types of behaviors or feelings (Snowden & Yamada, 2005). People in Eskimo and Tahitian cultures may be reluctant to admit to feeling anger because of strong cultural norms against the expression of anger. The Kaluli of

In Mexico, some Christians have themselves nailed to a cross to commemorate the crucifixion of Jesus. *©AARON FAVILA/AP Images*

When the slave trade was active, slaves who tried to escape were sometimes labeled as having mental illness and were beaten to "cure" them. ©*Jean Baptiste Debret/Getty Images*

New Guinea and the Yanomamo of Brazil, however, value the expression of anger and have elaborate and complex rituals for expressing it (Jenkins, Kleinman, & Good, 1991).

Third, culture and gender can influence the types of treatments deemed acceptable or helpful for people exhibiting abnormal behaviors. Some cultures may view drug therapies for psychopathology as most appropriate, while others may be more willing to accept psychotherapy (Snowden & Yamada, 2005). Throughout this book, we will explore these influences of culture and gender on behaviors labeled abnormal.

The Four Ds of Abnormality

If we do not want to define abnormality only on the basis of cultural norms, and if we cannot define abnormality as the presence of a mental illness because no singular, identifiable disease process underlies most psychological problems, how do we define abnormality? Modern judgments of abnormality are influenced by the interplay of four dimensions, often called "the four Ds": dysfunction, distress, deviance, and dangerousness. Behaviors, thoughts, and feelings are *dysfunctional* when they interfere with the person's ability to function in daily life, to hold a job, or to form close relationships. The more dysfunctional behaviors and feelings are, the more likely they are to be considered abnormal by mental health professionals. For example, thinking that is out of touch with reality (such as believing you are Satan and should be punished) makes it difficult to function in everyday life and so is considered dysfunctional.

Behaviors and feelings that cause *distress* to the individual or to others around him or her are also likely to be considered abnormal. Many of the problems we discuss in this book cause individuals tremendous emotional and even physical pain; in other cases, the person diagnosed with a disorder is not in distress but causes others distress—for example, through chronic lying, stealing, or violence.

Highly *deviant* behaviors, such as hearing voices when no one else is around, lead to judgments of abnormality. What is deviant is influenced by cultural norms, of course. Finally, some behaviors and feelings, such as suicidal gestures, are of potential harm to the individual, whereas other behaviors and feelings, such as excessive aggression, could potentially

SHADES OF GRAY

Consider the following descriptions of two students.

In the year between her eighteenth and nineteenth birthdays, Jennifer, who is 5'6", dropped from a weight of 125 pounds to 105 pounds. The weight loss began when Jennifer had an extended case of the flu and lost 10 pounds. Friends complimented her on being thinner, and Jennifer decided to lose more weight. She cut her intake of food to about 1,200 calories, avoiding carbs as much as possible, and began running a few miles every day. Sometimes she is so hungry she has trouble concentrating on her schoolwork. Jennifer values her new lean look so much, however, that she is terrified of gaining the weight back. Indeed, she'd like to lose a few more pounds so she could fit into a size 2.

Mark is what you might call a "heavy drinker." Although he is only 18, he has ready access to alcohol, and most nights he typically drinks at least five or six beers. He rarely feels drunk after that much alcohol, though, so he might also throw back a few shots, especially when he is out partying on Saturday nights. He's been caught a few times and received tickets for underage drinking, but he proudly displays them on his dorm wall as badges of honor. Mark's grades are not what they could be, but he finds his classes boring and has a hard time doing the work.

Do you find Jennifer's or Mark's behaviors abnormal? How would you rate their level of dysfunction, distress, deviance, and danger? (Discussion appears at the end of this chapter.)

harm others. Such *dangerous* behaviors and feelings are often seen as abnormal.

The four Ds together make up mental health professionals' definition of behaviors or feelings as abnormal or *maladaptive.* The experiences of the woman described in Extraordinary People presented at the beginning of this chapter would be labeled abnormal based on these criteria because the symptoms interfere with her daily functioning, cause her suffering, are highly unusual, and are potentially dangerous to her.

We are still left making subjective judgments, however. How much emotional pain or harm must a person be suffering? How much should the behaviors be interfering with daily functioning? We return to the continuum model to acknowledge that each of the four Ds lies along its own continuum. A person's behaviors and feelings can be more or less dysfunctional, distressing, deviant, or dangerous. Thus, there is no sharp line between what is normal and what is abnormal.

HISTORICAL PERSPECTIVES ON ABNORMALITY

Across history, three types of theories have been used to explain abnormal behavior. The **biological theories** have viewed abnormal behavior as similar to physical diseases, caused by the breakdown of systems in the body. The appropriate cure is the restoration of bodily health. The **supernatural theories** have viewed abnormal behavior as a result of divine intervention, curses, demonic possession, and personal sin. To rid the person of the perceived affliction, religious rituals, exorcisms, confessions, and atonement have been prescribed. The **psychological theories** have viewed abnormal behavior as a result of traumas, such as bereavement, or of chronic stress. According to these theories, rest, relaxation, a change of environment, and certain herbal medicines are sometimes helpful. These three types of theories have influenced how people acting abnormally have been regarded in the society. A person thought to be abnormal because he or she was a sinner, for example, would be regarded differently from a person thought to be abnormal because of a disease.

Ancient Theories

Our understanding of prehistoric people's conceptions of abnormality is based on inferences from archaeological artifacts—fragments of bones, tools, artwork, and so on—as well as from ancient writings about abnormal behavior. It seems that humans have always viewed abnormality as something needing special explanation.

Driving Away Evil Spirits

Historians speculate that even prehistoric people had a concept of insanity, probably one rooted in supernatural beliefs (Selling, 1940). A person who acted oddly was suspected of being possessed by evil spirits. The typical treatment for abnormality, according to supernatural theories, was exorcism—driving the evil spirits from the body of the suffering person. Shamans, or healers, would recite prayers or incantations, try to talk the spirits out of the body, or make the body an uncomfortable place for the spirits to reside—often through extreme measures such as starving or beating the person. At other times, the person thought to be possessed by evil spirits would simply be killed.

One treatment for abnormality during the Stone Age and well into the Middle Ages may have been to drill holes in the skull of a person displaying abnormal behavior to allow the spirits to depart (Tatagiba, Ugarte, & Acioly, 2015). Archaeologists have found skulls dating back to a half-million years ago in which sections of the skull have been drilled or cut away. The tool used for this drilling is called a trephine, and the operation is called **trephination.** Some historians believe that people who were seeing or hearing things that were not real and people who were chronically sad were subjected to this form of brain surgery (Feldman & Goodrich, 2001). Presumably, if the person survived this surgery, the evil spirits would have been released and the person's abnormal behavior would decline. However, we cannot know with certainty that trephination was used to drive away evil spirits. Other historians suggest that it was used primarily for the removal of blood clots caused by stone weapons during warfare and for other medical purposes (Maher & Maher, 1985).

Some scholars believe that holes found in ancient skulls are from trephination, a crude form of surgery possibly performed on people acting abnormally. *©PHAS/ Getty Images*

Ancient China: Balancing Yin and Yang

Some of the earliest written sources on abnormality are ancient Chinese medical texts (Tseng, 1973). The *Nei Ching* (Classic of Internal Medicine) was probably written around 2674 BCE by Huang Ti, the legendary third emperor of China.

Ancient Chinese medicine was based on the concept of yin and yang. The human body was said to contain a positive force (yang) and a negative force (yin), which confronted and complemented each other. If the two forces were in balance, the individual was healthy. If not, illness, including insanity, could result. For example, excited insanity was considered the result of an excessive positive force:

> The person suffering from excited insanity initially feels sad, eating and sleeping less; he then becomes grandiose, feeling that he is very smart and noble, talking and scolding day and night, singing, behaving strangely, seeing strange things,

> hearing strange voices, believing that he can see the devil or gods, etc. As treatment for such an excited condition, withholding food was suggested, because food was considered to be the source of positive force and the patient was thought to be in need of a decrease in such force. (Tseng, 1973, p. 570)

Chinese medical philosophy also held that human emotions were controlled by internal organs. When the "vital air" was flowing on one of these organs, an individual experienced a particular emotion. For example, when air flowed on the heart, a person felt joy; when on the lungs, sorrow; when on the liver, anger; when on the spleen, worry; and when on the kidney, fear. This theory encouraged people to live in an orderly and harmonious way so as to maintain the proper movement of vital air.

Although the perspective on psychological symptoms represented by ancient texts was largely a biological one, the rise of Taoism and Buddhism during the Chin and T'ang dynasties (420–618 CE) led to some religious interpretations of abnormal behavior. Evil winds and ghosts were blamed for bewitching people and for inciting people's erratic emotional displays and uncontrolled behavior. Religious theories of abnormality declined in China after this period (Tseng, 1973).

Some of the earliest writings on mental disorders are from ancient Chinese texts. This illustration shows a healer at work. ©*Mary Evans Picture Library/The Image Works*

Ancient Egypt, Greece, and Rome: Biological Theories Dominate

Other ancient writings on abnormal behavior are found in the papyri of Egypt and Mesopotamia (Veith, 1965). The oldest of these, a document known as the Kahun Papyrus after the ancient Egyptian city in which it was found, dates from about 1900 BCE. This document lists a number of disorders, each followed by a physician's judgment of the cause of the disorder and the appropriate treatment.

Several of the disorders apparently left people with unexplainable aches and pains, sadness or distress, and apathy about life, such as "a woman who loves bed; she does not rise and she does not shake it" (Veith, 1965, p. 3). These disorders were said to occur only in women and were attributed to a "wandering uterus." The Egyptians believed that the uterus could become dislodged and wander throughout a woman's body, interfering with her other organs. Later, the Greeks, holding to the same theory of anatomy, named this disorder *hysteria* (from the Greek word *hystera,* which means "uterus"). These days, the term "hysteria" is used to refer to physiological symptoms that probably are the result of psychological processes. In the Egyptian papyri, the prescribed treatment for this disorder involved the use of strong-smelling substances to drive the uterus back to its proper place.

Beginning with Homer, the Greeks wrote frequently of people acting abnormally (Wallace & Gach, 2008). The physician Hippocrates (460–377 BCE) described a case of a common phobia: A man could not walk alongside a cliff, pass over a bridge, or jump over even a shallow ditch without feeling unable to control his limbs or his vision becoming impaired.

Most average Greeks and Romans saw abnormal behavior as an affliction from the gods. Those afflicted retreated to temples honoring the god Aesculapius, where priests held healing ceremonies. Plato (423–347 BCE) and Socrates (469–399 BCE) argued that some forms of abnormal behavior were divine and could be the source of great literary and prophetic gifts.

For the most part, however, Greek physicians rejected supernatural explanations of abnormal behavior (Wallace & Gach, 2008). Hippocrates, often regarded as the father of medicine, argued that abnormal behavior was like other diseases of the body. According to Hippocrates, the body was composed of four basic humors: blood, phlegm, yellow bile, and black bile. All diseases, including abnormal behavior, were caused by imbalances in the body's essential humors. Based on careful observation of his many patients, which included listening to their dreams, Hippocrates classified abnormal behavior into four categories: epilepsy, mania, melancholia, and brain fever.

The treatments prescribed by the Greek physicians were intended to restore the balance of the four humors.

Sometimes these treatments were physiological and intrusive, such as bleeding a patient to treat disorders that were thought to result from an excess of blood. Other treatments consisted of rest, relaxation, a change of climate or scenery, a change of diet, or living a temperate life. Some nonmedical treatments prescribed by these physicians sound remarkably like those prescribed by modern psychotherapists. Hippocrates, for example, believed that removing a patient from a difficult family could help restore mental health. Plato argued that insanity arose when the rational mind was overcome by impulse, passion, or appetite. Sanity could be regained through a discussion with the individual that was designed to restore rational control over emotions (Maher & Maher, 1985).

Among the Greeks of Hippocrates' and Plato's time, the relatives of people considered insane were encouraged to confine their afflicted family members to the home. The state claimed no responsibility for insane people; it provided no asylums or institutions, other than the religious temples, to house and care for them. The state could, however, take rights away from people declared insane. Relatives could bring suit against those they considered insane, and the state could award the property of insane people to their relatives. People declared insane could not marry or acquire or dispose of their own property. Poor people who were considered insane were simply left to roam the streets if they were not violent. If they were violent, they were locked away. The general public greatly feared insanity of any form, and many people thought to be insane were shunned or even stoned (Maher & Maher, 1985).

Medieval Views

The Middle Ages (around 400–1400 CE) are often described as a time of backward thinking dominated by an obsession with supernatural forces, yet even within Europe supernatural theories of abnormal behavior did not dominate until the late Middle Ages, between the eleventh and fifteenth centuries (Neugebauer, 1979). Prior to the eleventh century, witches and witchcraft were accepted as real but were considered mere nuisances, overrated by superstitious people. Severe emotional shock and physical illness or injury most often were seen as the causes of bizarre behaviors. For example, English court records attributed mental health problems to factors such as a "blow received on the head," explained that symptoms were "induced by fear of his father," and noted that "he has lost his reason owing to a long and incurable infirmity" (Neugebauer, 1979, p. 481). While laypeople probably did believe in demons and curses as causes of abnormal behavior, there is strong evidence that physicians and government officials in the early Middle Ages attributed abnormal behavior to physical causes or traumas.

Witchcraft

Beginning in the eleventh century, the power of the Catholic Church in Europe was threatened by the breakdown of feudalism and by rebellions. The Church interpreted these threats in terms of heresy and Satanism. The Inquisition was established originally to rid the Earth of religious heretics, but eventually those practicing witchcraft or Satanism also became the focus of hunts. The witch hunts continued long after the Reformation, perhaps reaching their height during the fifteenth to seventeenth centuries—the period known as the Renaissance (Mora, 2008).

Some psychiatric historians have argued that persons accused of witchcraft must have been mentally ill (Veith, 1965; Zilboorg & Henry, 1941). Accused witches sometimes confessed to speaking with the devil, flying on the backs of animals, or engaging in other unusual behaviors. Such people may have been experiencing delusions (false beliefs) or hallucinations (unreal perceptual experiences), which are signs of some psychological disorders. However, confessions of such experiences may have been extracted through torture or in exchange for a stay of execution (Spanos, 1978).

In 1563, Johann Weyer published *The Deception of Dreams,* in which he argued that those accused of being witches were suffering from melancholy (depression) and senility. The Church banned Weyer's writings. Twenty years later, Reginald Scot, in his *Discovery of Witchcraft* (1584), supported Weyer's beliefs: "These women are but diseased wretches suffering from melancholy, and their words, actions, reasoning, and gestures show that sickness has affected their brains and impaired their powers of judgment" (Castiglioni, 1946, p. 253). Again, the Church—joined

Some people burned at the stake as witches may have had mental disorders that caused them to act abnormally. ©Bettmann/Getty Images

this time by the state—refuted the arguments and banned Scot's writings.

As is often the case, change came from within. In the sixteenth century, Teresa of Avila, a Spanish nun who was later canonized, explained that the mass hysteria that had broken out among a group of nuns was not the work of the devil but was the result of infirmities or sickness. She argued that these nuns were *comas enfermas,* or "as if sick." She sought out natural causes for the nuns' strange behaviors and concluded that they were due to melancholy, a weak imagination, or drowsiness and sleepiness (Sarbin & Juhasz, 1967).

The culture so completely accepted the existence of witches and witchcraft that some perfectly sane people may have self-identified as witches. In addition, most writings of medieval and Renaissance times, as well as writings from the witch hunt period in Salem, Massachusetts, clearly distinguish between people who were mad and people who were witches. The distinction between madness and witchcraft continues to this day in cultures that believe in witchcraft.

Psychic Epidemics

Psychic epidemics are defined as a phenomenon in which large numbers of people engage in unusual behaviors that appear to have a psychological origin. During the Middle Ages, reports of dance frenzies or manias were frequent. A monk, Peter of Herental, described a rash of dance frenzies that broke out over a 4-month period in 1374 in Germany:

> Both men and women were abused by the devil to such a degree that they danced in their homes, in the churches and in the streets, holding each other's hands and leaping in the air. While they danced they called out the names of demons, such as Friskes and others, but they were unaware of this nor did they pay attention to modesty even though people watched them. At the end of the dance, they felt such pains in the chest, that if their friends did not tie linen clothes tightly around their waists, they cried out like madmen that they were dying. (Cited in Rosen, 1968, pp. 196–197)

Bedlam—the Hospital of Saint Mary of Bethlehem in London—was famous for the chaotic and deplorable conditions in which people with mental disorders were kept. ©*SCIENCE SOURCE/Science Source*

Other instances of dance frenzy were reported in 1428 during the feast of Saint Vitus, at Schaffhausen, at which a monk danced himself to death. In 1518 a large epidemic of uncontrolled dance frenzy occurred at the chapel of Saint Vitus at Hohlenstein, near Zabern. According to one account, more than 400 people danced during the 4 weeks the frenzy lasted. Some writers of the time began to call the frenzied dancing Saint Vitus' dance.

A similar phenomenon, *tarantism,* was noted in Italy as early as the fourteenth century and became prominent in the seventeenth century. People suddenly developed an acute pain, which they attributed to the bite of a tarantula. They jumped around and danced wildly in the streets, tearing at their clothes and beating each other with whips. Some people dug holes in the earth and rolled on the ground; others howled and made obscene gestures. At the time, many people interpreted dance frenzies and tarantism as the results of possession by the devil. The behaviors may have been the remnants of ancient rituals performed by people worshipping the Greek god Dionysus.

We see episodes of psychic epidemics in modern times. On February 8, 1991, a number of students and teachers in a high school in Rhode Island thought they smelled noxious fumes coming from the ventilation system. The first person to detect these fumes, a 14-year-old girl, fell to the floor, crying and saying that her stomach hurt and her eyes stung. Other students and the teacher in that room then began to experience symptoms. They were moved into the hallway with a great deal of commotion. Soon students and teachers from adjacent rooms, who could see clearly into the hallway, began to experience symptoms. Eventually, 21 people (17 students and 4 teachers) were admitted to the local hospital emergency room. All were hyperventilating, and most complained of dizziness, headache, and nausea. Although some initially showed symptoms of mild carbon monoxide intoxication in blood tests, no evidence of toxic gas in the school could be found. The physicians treating the children and teachers concluded that the outbreak was a case of mass hysteria prompted by the fear of chemical warfare during the Persian Gulf War (Rockney & Lemke, 1992).

Psychic epidemics are no longer viewed as the result of spirit possession or the bite of a tarantula. Rather, psychologists attempt to understand them through research from social psychology on the

influence of others on individuals' self-perceptions. The social context can affect even our perceptions of our own bodies, as we will see when we discuss people's differing reactions to psychoactive substances such as marijuana (see the chapter "Substance Use and Gambling Disorders") and people's interpretations of their physical sensations (see the chapter "Somatic Symptom and Dissociative Disorders").

The Spread of Asylums

As early as the twelfth century, many towns in Europe took some responsibility for housing and caring for people considered mentally ill (Kroll, 1973). Remarkable among these towns was Gheel, Belgium, where townspeople regularly took into their homes the mentally ill who were visiting the shrine of Saint Dymphna for cures.

In about the eleventh or twelfth century, general hospitals began to include special rooms or facilities for people exhibiting abnormal behavior. The mentally ill were little more than inmates in these early hospitals, housed against their will, often in extremely harsh conditions. One of the most famous of these hospitals was the Hospital of Saint Mary of Bethlehem, in London, which officially became a mental hospital in 1547. This hospital, nicknamed Bedlam, was famous for its deplorable conditions. At Bedlam and other mental hospitals established in Europe in the sixteenth, seventeenth, and eighteenth centuries, patients were exhibited to the public for a fee. They lived in filth and confinement, often chained to the wall or locked inside small boxes. The following description of the treatment of patients in La Bicêtre Hospital, an asylum for male patients in Paris, provides an example of typical care:

> The patients were ordinarily shackled to the walls of their dark, unlighted cells by iron collars which held them flat against the wall and permitted little movement. Often there were also iron hoops around the waists of the patients and both their hands and feet were chained. Although these chains usually permitted enough movement that the patients could feed themselves out of bowls, they often kept them from being able to lie down at night. Since little was known about dietetics, and the patients were presumed to be animals anyway, little attention was paid to whether they were adequately fed or whether the food was good or bad. The cells were furnished only with straw and were never swept or cleaned; the patient remained in the midst of all the accumulated ordure. No one visited the cells except at feeding time, no provision was made for warmth, and even the most elementary gestures of humanity were lacking. (Adapted from Selling, 1940, pp. 54–55)

The laws regarding the confinement of the mentally ill in Europe and the United States were concerned with the protection of the public and the ill person's relatives (Busfield, 1986; Scull, 1993). For example, Dalton's 1618 edition of *Common Law* states that "it is lawful for the parents, kinsmen or other friends of a man that is mad, or frantic … to take him and put him into a house, to bind or chain him, and to beat him with rods, and to do any other forcible act to reclaim him, or to keep him so he shall do no hurt" (Allderidge, 1979).

The first Act for Regulating Madhouses in England was passed in 1774, with the intention of cleaning up the deplorable conditions in hospitals and madhouses and protecting people from being unjustly jailed for insanity. This act provided for the licensing and inspection of madhouses and required that a physician, a surgeon, or an apothecary sign a certificate before a patient could be admitted. The act's provisions applied only to paying patients in private madhouses, however, and not to the poor people confined to workhouses.

These asylums typically were established and run by people who thought that abnormal behaviors were medical illnesses. For example, Benjamin Rush (1745–1813), one of the founders of American psychiatry, believed that abnormal behavior was caused by

In the medieval and early modern periods, doctors used bleeding to treat people with mental disorders and many other ailments. ©*Jean-Loup Charmet/Science Source*

excessive blood in the brain and prescribed bleeding the patient, or drawing huge amounts of blood from the body. Thus, although the supernatural theories of the Middle Ages have often been decried as leading to brutal treatment of people with mental illnesses, the medical theories of those times and of the next couple of centuries did not always lead to better treatment.

Moral Treatment in the Eighteenth and Nineteenth Centuries

The eighteenth and nineteenth centuries saw the growth of a more humane treatment of people with mental health problems, a period known as the **mental hygiene movement.** This new treatment was based on the psychological view that people developed problems because they had become separated from nature and had succumbed to the stresses imposed by the rapid social changes of the period (Rosen, 1968). The prescribed treatment, including prayers and incantations, was rest and relaxation in a serene and physically appealing place.

A leader of the movement for **moral treatment** of people with abnormality was Philippe Pinel (1745–1826), a French physician who took charge of La Bicêtre in Paris in 1793. Pinel argued, "To detain maniacs in constant seclusion and to load them with chains; to leave them defenceless, to the brutality of underlings … in a word, to rule them with a rod of iron … is a system of superintendence, more distinguished for its convenience than for its humanity or success" (Grob, 1994, p. 27). Pinel believed that many forms of abnormality could be cured by restoring patients' dignity and tranquility.

Pinel ordered that patients be allowed to walk freely around the asylum. They were provided with clean and sunny rooms, comfortable sleeping quarters, and good food. Nurses and professional therapists were trained to work with the patients to help them regain their sense of tranquility and engage in planned social activities. Although many physicians thought Pinel himself was mad for releasing the patients from confinement, his approach was remarkably successful. Many people who had been locked away in darkness for decades became able to control their behavior and reengage in life. Some improved so much that they could be released from the asylum. Pinel later successfully reformed La Salpêtrière Hospital, a mental hospital for female patients in Paris (Grob, 1994).

In 1796 the Quaker William Tuke (1732–1822) opened an asylum in England, called The Retreat, in direct response to the brutal treatment he saw being delivered at other facilities to people with abnormal behavior. Tuke's treatment was designed to restore patients' self-restraint by treating them with respect and dignity and encouraging them to exercise self-control (Grob, 1994).

One of the most militant crusaders for moral treatment of the insane was Dorothea Dix (1802–1887). A retired schoolteacher living in Boston, Dix visited a jail on a cold Sunday morning in 1841 to teach a Sunday school class to women inmates. There she discovered the negligence and brutality that characterized the treatment of poor people exhibiting abnormal behavior, many of whom were simply warehoused in jails.

That encounter began Dix's tireless quest to improve the treatment of people with mental health problems. Dix's lobbying efforts led to the passage of laws and appropriations to fund the cleanup of mental hospitals and the training of mental health professionals dedicated to the moral treatment of patients.

Philippe Pinel, a leader in the moral movement in France, helped free mental patients from the horrible conditions of the hospitals. *©RAPHO AGENCE/Science Source*

Between 1841 and 1881, Dix personally helped establish more than 30 mental institutions in the United States, Canada, Newfoundland, and Scotland. Hundreds more public hospitals for the insane established during this period by others were run according to humanitarian perspectives.

Unfortunately, the moral treatment movement grew too fast. As more asylums were built and more people went into them, the capacity of the asylums to recruit mental health professionals and to maintain a humane, individual approach to each patient declined (Grob, 1994; Scull, 1993). The physicians, nurses, and other caretakers simply did not have enough time to give each patient the calm and dedicated attention needed. The fantastic successes of the early moral treatment movement gave way to more modest successes, and to many outright failures, as patients remained impaired or their condition worsened. Even some patients who received the best moral treatment could not benefit from it because their problems were not due to a loss of dignity or tranquility. With so many patients receiving moral treatment, the number of patients who failed to benefit from it increased, and questions about its effectiveness grew louder (Grob, 1994).

At the same time, the rapid pace of immigration into the United States in the late nineteenth century meant that an increasing percentage of its asylum patients were from different cultures and often from the lower socioeconomic classes. Prejudice against these "foreigners," combined with increasing attention to the failures of moral treatment, led to declines in public support for funding such institutions. Reduced funding led to even greater declines in the quality of care. At the turn of the twentieth century, many public hospitals were no better than warehouses (Grob, 1994; McGovern, 1985; Scull, 1993).

Effective treatments for most major mental health problems were not developed until well into the twentieth century. Until then, patients who could not afford private care were warehoused in large, overcrowded, physically isolated state institutions that did not offer treatment (Deutsch, 1937).

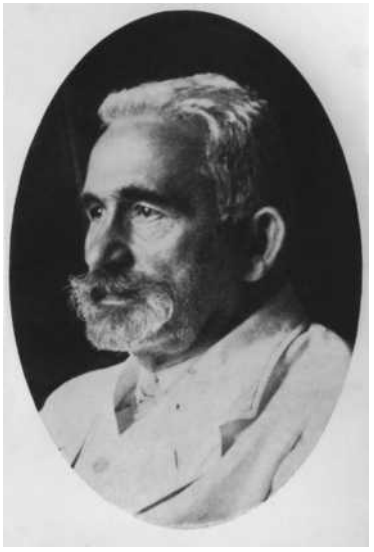
THE EMERGENCE OF MODERN PERSPECTIVES

Although the treatment of people who exhibited abnormal behavior deteriorated somewhat at the turn of the twentieth century, the early twentieth century saw tremendous advances in the scientific study of disorders. These advances laid the groundwork for the biological, psychological, and social theories of abnormality that now dominate psychology and psychiatry.

The Beginnings of Modern Biological Perspectives

Dorothea Dix fought for the moral treatment of mental patients in the United States. *Source: Library of Congress, Prints & Photographs Division, Reproduction number LC-USZ62-9797 (b&w film copy neg.)*

Basic knowledge of the anatomy, physiology, neurology, and chemistry of the body increased rapidly in the late nineteenth century. With the advancement of this basic knowledge came an increasing focus on biological causes of abnormality. In 1845, German psychiatrist Wilhelm Griesinger (1817–1868) published *The Pathology and Therapy of Psychic Disorders,* presenting a systematic argument that all psychological disorders can be explained in terms of brain pathology. In 1883 one of Griesinger's followers, Emil Kraepelin (1856–1926), also published a text emphasizing the importance of brain pathology in psychological disorders. More important, Kraepelin developed a scheme for classifying symptoms into discrete disorders that is the basis for our modern classification systems (Kendler & Engstrom, 2016), as we will discuss in the chapter "Assessing and Diagnosing Abnormality." Having a good classification system gives investigators a common set of labels for disorders as well as a set of criteria for distinguishing between them, contributing immensely to the advancement of the scientific study of the disorders.



Emil Kraepelin (1856–1926) developed a classification system for mental disorders that remains influential today. *©Hulton Archive/Getty Images*

One of the most important discoveries underpinning modern biological theories of abnormality was the discovery of the cause of **general paresis,** a disease that leads to paralysis, insanity, and eventually death (Duffy, 1995). In the mid-1800s, reports that patients with paresis also had a history of syphilis led to the suspicion that syphilis might be a cause of paresis. In 1897, Viennese psychiatrist Richard Krafft-Ebing injected paretic patients with matter from syphilitic sores. None of the patients developed syphilis, and Krafft-Ebing concluded that they must already have been infected with it. The discovery that syphilis is the cause of one form of insanity lent great weight to the idea that biological factors can cause abnormal behaviors (Duffy, 1995).

As we will discuss in more detail in the chapter "Theories and Treatment of Abnormality," modern biological theories of the psychological disorders

have focused on the role of genetics, structural and functional abnormalities in the brain, and biochemical imbalances. The advances in our understanding of the biological aspects of psychological disorders have contributed to the development of therapeutic medications.

The Psychoanalytic Perspective

The development of psychoanalytic theory begins with the odd story of Franz Anton Mesmer (1734–1815), an Austrian physician who believed that people have a magnetic fluid in the body that must be distributed in a particular pattern in order to maintain health. The distribution of magnetic fluid in one person could be influenced by the magnetic forces of other people, as well as by the alignments of the planets. In 1778 Mesmer opened a clinic in Paris to treat all sorts of diseases by applying animal magnetism.

The psychological disorders that were the focus of much of Mesmer's treatment were the hysterical disorders, in which people lose functioning or feeling in some part of the body for no apparent physiological reason. His patients sat in darkness around a tub containing various chemicals, and the affected areas of their bodies were prodded by iron rods emerging from the tub. With music playing, Mesmer emerged wearing an elaborate robe, touching each patient as he passed by, supposedly realigning people's magnetic fluids through his own powerful magnetic force. This process, Mesmer said, cured illness, including psychological disorders.

Mesmer eventually was labeled a charlatan by a scientific review committee that included Benjamin Franklin. Yet his methods, known as **mesmerism,** continued to fuel debate long after he had faded into obscurity. The "cures" Mesmer effected in his psychiatric patients were attributed to the trancelike state that Mesmer seemed to induce in his patients. Later this state was labeled hypnosis. Under hypnosis, Mesmer's patients appeared very suggestible, and the mere suggestion that their ailments would disappear seemed enough to make them actually disappear.

The connection between hypnosis and hysteria fascinated several leading scientists of the time, although not all scientists accepted this connection. In particular, Jean Charcot (1825–1893), head of La Salpêtrière Hospital in Paris and the leading neurologist of his time, argued that hysteria was caused by degeneration in the brain. The work of two physicians practicing in the French town of Nancy, Hippolyte-Marie Bernheim (1840–1919) and Ambroise-Auguste Liebault (1823–1904), eventually won over Charcot, however. Bernheim and Liebault showed that they could induce the symptoms of hysteria, such as paralysis in an arm or the loss of feeling in a leg, by suggesting these symptoms to patients who were hypnotized. Fortunately, they could also remove these symptoms under hypnosis. Charcot was so impressed by the evidence that hysteria has psychological roots that he became a leading researcher of the psychological causes of abnormal behavior. The experiments of Bernheim and Liebault, along with the leadership of Charcot, did a great deal to advance psychological perspectives on abnormality.

One of Charcot's students was Sigmund Freud (1856–1939), a Viennese neurologist who went to study with Charcot in 1885. In the course of this work, Freud became convinced that much of the mental life of an individual remains hidden from consciousness. This view was further supported by Freud's interactions with Pierre Janet (1859–1947) in Paris. Janet was investigating multiple personality disorder, in which people appear to have multiple, distinct personalities, each of which operates independently of the others, often not knowing the others exist (Matarazzo, 1985).

When he returned to Vienna, Freud worked with Josef Breuer (1842–1925), another physician interested in hypnosis and in the unconscious processes behind psychological problems. Breuer had discovered that encouraging patients to talk about their problems while under hypnosis led to a great upwelling and release of emotion, which eventually was called catharsis. The patient's discussion of his or her problems under hypnosis was less censored than conscious discussion, allowing the therapist to elicit important psychological material more easily.

Breuer and Freud collaborated on a paper published in 1893 as *On the Psychical Mechanisms of Hysterical Phenomena,* which laid out their discoveries about hypnosis, the unconscious, and the therapeutic value of catharsis. This paper proved to be a foundation stone in the development of **psychoanalysis,** the study of the unconscious. Freud introduced his ideas to America in 1909 in a series of lectures at Clark University in Worcester, Massachusetts, at the invitation of G. Stanley Hall, one of the founders of American psychology.

Freud wrote dozens of papers and books on his theory of psychoanalysis (discussed in detail in the chapter "Theories and Treatment of Abnormality"), and he became the best-known figure in psychiatry and psychology. The impact of Freud's theories on the development of psychology over the next century cannot be overstated. Freudian ideas not only influenced the professional literature on psychopathology but also are used heavily in literary theory, anthropology, and other humanities. They pervade popular notions of psychological processes to this day.

The Roots of Behaviorism

In what now seems like a parallel universe, while psychoanalytic theory was being born, the roots of

behaviorism were being planted first in Europe and then in the United States. Ivan Pavlov (1849–1936), a Russian physiologist, developed methods and theories for understanding behavior in terms of stimuli and responses rather than in terms of the internal workings of the unconscious mind. He discovered that dogs could be conditioned to salivate when presented with stimuli other than food if the food was paired with these other stimuli—a process later called **classical conditioning.** Pavlov's discoveries inspired American John Watson (1878–1958) to study important human behaviors, such as phobias, in terms of classical conditioning (see the chapter "Trauma, Anxiety, Obsessive-Compulsive, and Related Disorders"). Watson rejected psychoanalytic and biological theories of abnormal behaviors such as phobias and explained them entirely on the basis of the individual's history of conditioning. Watson (1930) went so far as to boast that he could train any healthy child to become any kind of adult he wished:

> Give me a dozen healthy infants, well-formed, and my own specified world to bring them up in, and I'll guarantee to take any one at random and train him to be any type of specialist I might select—doctor, lawyer, artist, merchant-chief, and yes, even beggar-man and thief, regardless of his talents, penchants, tendencies, abilities, vocations, and the race of his ancestors. (p. 104)

At the same time, two other psychologists, E. L. Thorndike (1874–1949) and B. F. Skinner (1904–1990), were studying how the consequences of behaviors shape their likelihood of recurrence. They argued that behaviors followed by positive consequences are more likely to be repeated than are behaviors followed by negative consequences. This process came to be known as operant, or instrumental, conditioning. This idea may seem simple to us now (one sign of how much it has influenced thinking over the past century), but at the time it was considered radical to argue that even complex behaviors, such as violence against others, can be explained by the reinforcement or punishment these behaviors have received in the past.

Behaviorism—the study of the impact of reinforcements and punishments on behavior—has had as profound an impact on psychology and on our common knowledge of psychology, as has psychoanalytic theory. Behavioral theories have led to many of the effective psychological treatments for disorders that we will discuss in this book.

The Cognitive Revolution

In the 1950s, some psychologists argued that behaviorism was limited in its explanatory power by its refusal to look at internal thought processes that mediate the relationship between stimulus and response. It wasn't until the 1970s that psychology shifted its focus substantially to the study of **cognitions**. Cognitions are thought processes—like attention, interpretation of events, and beliefs—that influence behavior and emotion. The cognitive revolution shifted perspectives toward such internal processes. An important player in this cognitive revolution was Albert Bandura, a clinical psychologist trained in behaviorism who had contributed a great deal to the application of behaviorism to psychopathology (see the chapters "Theories and Treatment of Abnormality" and "Trauma, Anxiety, Obsessive-Compulsive, and Related Disorders"). Bandura argued that people's beliefs about their ability to execute the behaviors necessary to control important events—which he called **self-efficacy beliefs**—are crucial in determining people's well-being. Again, this idea seems obvious to us now, but only because it took hold in both professional psychology and lay notions of psychology.

Another key figure in cognitive perspectives was Albert Ellis, who argued that people prone to psychological disorders are plagued by irrational negative assumptions about themselves and the world. Ellis developed a therapy for emotional problems based on his theory called rational-emotive therapy. This therapy was controversial because it required therapists to challenge, sometimes harshly, their patients' irrational belief systems. It became very popular, however, and moved psychology into the study of the thought processes behind serious emotional problems. Another therapy, developed by Aaron Beck, focused on the irrational thoughts of people with psychological problems. Beck's cognitive therapy has become one of the most widely used therapies for many disorders (see the chapter "Theories and Treatment of Abnormality"). Since the 1970s, theorists have continued to emphasize cognitive factors in psychopathology, although behavioral theories have remained strong as interpersonal theories, which we examine in the chapter "Theories and Treatment of Abnormality," have become more prominent.

MODERN MENTAL HEALTH CARE

Halfway through the twentieth century, major breakthroughs were made in drug treatments for some of the major forms of abnormality. In particular, the discovery of a class of drugs that can reduce hallucinations and delusions, known as the phenothiazines (see the chapter "Theories and Treatment of Abnormality"), made it possible for many people who had been institutionalized for years to be released

from asylums and hospitals. Since then, there has been an explosion of new drug therapies for psychopathology. The biomedical approach has revolutionized the way we understand and treat mental disorders as biological phenomena. In addition, as we will discuss in the chapter "Theories and Treatment of Abnormality," several types of psychotherapy have been developed that have proven effective in treating a wide range of psychological problems. However, there are still significant problems in the delivery of mental health care, some of which began with the deinstitutionalization movement of the mid-twentieth century.

Deinstitutionalization

By 1960 a large and vocal movement known as the **patients' rights movement** had emerged. Patients' rights advocates argued that mental patients can recover more fully or live more satisfying lives if they are integrated into the community, with the support of community-based treatment facilities—a process known as **deinstitutionalization.** While many of these patients would continue to need around-the-clock care, it could be given in treatment centers based in neighborhoods rather than in large, impersonal institutions. In the United States, the **community mental health movement** was officially launched in 1963 by President John Kennedy as a "bold new approach" to mental health care. This movement attempted to provide coordinated mental health services to people in **community mental health centers,** a move that has had both positive and negative consequences.

The deinstitutionalization movement had a massive effect on the lives of people with serious psychological problems. Between 1955 and 2016, the number of patients in state psychiatric hospitals in the United States declined from a high of 559,000 to about 38,000 despite overall population growth, resulting in a rate lower than that before the moral treatment movement (Fuller, Sinclair, Geller, Quanbeck, & Snook, 2016; Lamb & Weinberger, 2016). Parallel trends were seen in Europe. Many former mental patients who had lived for years in cold, sterile facilities, receiving little useful care, experienced dramatic increases in their quality of life on their release. Moreover, they suddenly had the freedom to live where they wanted to, as they saw fit.

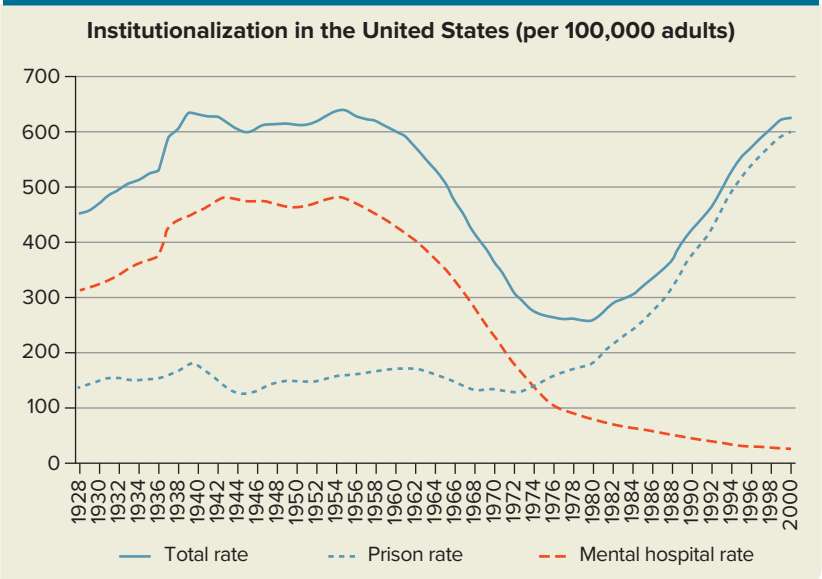
Several types of community-based treatment facilities were created as part of deinstitutionalization and continue to serve people with mental health problems today. *Community mental health centers* often include teams of social workers, therapists, and physicians who coordinate care. **Halfway houses** offer people with long-term mental health problems the opportunity to live in a structured, supportive environment as they try to reestablish working relationships and ties to family and friends. **Day treatment centers** allow people to obtain treatment during the day, along with occupational and rehabilitative therapies, but live at home at night.

People with acute problems that require hospitalization may go to inpatient wards of general hospitals or specialized psychiatric hospitals. Sometimes, their first contact with a mental health professional is in the emergency room of a hospital. Once their acute problems have subsided, however, they often are released back to their community treatment center rather than remaining for the long term in a psychiatric hospital.

Unfortunately, the resources to care for all the mental patients released from institutions have never been adequate. There were not enough halfway houses built or community mental health centers funded to serve the thousands of men and women who formerly were institutionalized or would have been institutionalized if the movement had not taken place (Figure 1). Meanwhile, the state psychiatric hospitals to which former patients would have retreated were closed down by the hundreds. The community mental health movement spread to Europe, with similar consequences. Twenty-eight percent of European countries have few or no community-based services for people with serious mental health problems (Semrau, Barley, Law, & Thornicroft, 2011; WHO World Mental Health Survey Consortium, 2004).

Men and women released from mental institutions began living in nursing homes and other types of group homes, where they received little mental health

FIGURE 1 **As Deinstitutionalization Led to Fewer People in Mental Hospitals, Incarceration Rates in Prisons Increased Dramatically.** Many observers believe that prisons serve as de facto institutionalization of individuals with mental illness who would previously have been served by mental health facilities.



Deinstitutionalization led to a rise in homelessness among people with mental illnesses, which often go untreated. ©*Sonda Dawes/The Image Works*

treatment, or with their families, many of whom were ill-equipped to handle serious mental illness (Lamb & Weinberger, 2016). Some began living on the streets. Certainly not all homeless people are mentally ill, but some researchers estimate that up to four-fifths of all long-term homeless adults in the United States and Europe have a major mental disorder, a severe substance use disorder (such as alcohol use disorder), or both (WHO World Mental Health Survey Consortium, 2004). In emergencies, these people end up in general or private hospitals that are not equipped to treat them appropriately. Many end up in jail. One study of prison inmates found that two-thirds had experienced some form of diagnosable mental disorder in their lifetime (Trestman, Ford, Zhang, & Wiesbrock, 2007). In some areas, correctional facilities are the largest providers of mental health services; some argue that following deinstitutionalization, jails have become de facto institutions (Lamb & Weinberger, 2017).

Thus, although deinstitutionalization began with laudatory goals, many of these goals were never fully reached, leaving many people who formerly would have been institutionalized in mental hospitals no better off. In recent years, the financial strains on local, state, and federal governments have led to the closing of many community mental health centers.

Managed Care

The entire system of private insurance for health care in the United States underwent a revolution in the second half of the twentieth century, when managed care emerged as the dominant means for organizing health care. **Managed care** is a collection of methods for coordinating care that ranges from simple monitoring to total control over what care can be provided and paid for. The goals are to coordinate services for an existing medical problem and to prevent future medical problems. Often, health care providers are given a set amount of money per member (patient) per month and then must determine how best to serve each patient.

Managed care can solve some of the problems created by deinstitutionalization. For example, instead of leaving it up to people with a serious psychological problem, or their families, to find appropriate care, the primary provider might find this care and ensure that patients have access to it. Suppose an individual patient reported to his physician that he was hearing voices when no one was around. The physician might refer the patient to a psychiatrist for an evaluation to determine if the patient might be suffering from schizophrenia. In some cases, the primary care physician might coordinate care offered by other providers, such as drug treatments, psychotherapy, and rehabilitation services. The primary provider also might ensure continuity of care so that patients do not "fall through the cracks." Thus, theoretically, managed care can have tremendous benefits for people with long-term, serious mental health problems. For people with less severe psychological problems, the availability of mental health care through managed care systems and other private insurance systems has led to a large increase in the number of people seeking psychotherapy and other types of mental health care.

Unfortunately, however, mental health care often is not covered fully by health insurance. Also, many people do not have any health insurance. Laws have been passed in recent years that are intended to increase the availability of coverage for mental health services, but these laws are being hotly contested. The Affordable Care Act (ACA), passed in 2010, requires insurance plans to cover mental health and substance abuse treatment, and acknowledges the increasing role of primary care providers in psychiatric treatment. The ACA expands mental health care access in the United States for those already insured, and it is estimated that millions of severely mentally ill people will newly acquire coverage (Mechanic & Olfson, 2016). However, the current mental health system has yet to fully adjust to sweeping changes, and health care policy remains a complex, controversial, and shifting political territory with clear implications for people with mental disorders. Mental health services are expensive. Because mental health problems are sometimes chronic, mental health treatment can take a long time.

CASE STUDY

Because of severe schizoaffective disorder, Rebecca J., age 56, had spent 25 years in a New York State psychiatric hospital. She lived in a group home in the community but required rehospitalization for several weeks approximately once a year when she relapsed despite taking medications. As a result of the reduction in state hospital beds (for people with mental disorders) and attempts by the state to shift readmissions for fiscal reasons, these rehospitalizations increasingly took place on the psychiatric wards of general hospitals that varied widely in quality. In 1994 she was admitted to a new hospital because the general hospital where she usually went was full. The new hospital was inadequately staffed to provide care for patients as sick as Rebecca J. In addition, the psychiatrist was poorly trained and had access to only a small fraction of Rebecca J.'s complex and voluminous past history. During her 6-week hospitalization, Rebecca J. lost 10 pounds because the nursing staff did not help her eat, had virtually all her clothing and personal effects lost or stolen, became toxic from her lithium medication, which was not noticed until she was semicomatose, and was prematurely discharged while she was still so psychotic that she had to be rehospitalized in another hospital less than 24 hours later. Meanwhile, less than a mile away in the state psychiatric hospital where she had spent many years, a bed sat empty on a ward with nursing staff and a psychiatrist who knew her case well and with her case records readily available in a file cabinet.

Source: Torrey, 2006, pp. 105–106.

The Medicaid program, which covers one-quarter of all mental health care spending in the United States, has been a target for reductions in recent years, even as the number of people seeking mental health care has risen. Many states have reduced or restricted eligibility and benefits for mental health care, increased co-payments, controlled drug costs, and reduced or frozen payments to providers (Shirk, 2008). At the same time, reductions in state and city welfare programs and other community services targeted at the poor have made daily life more difficult for poor people in general, and in particular for people with serious mental disorders, who often have exhausted their financial resources.

Only 50 to 60 percent of people in the United States with serious psychological problems receive stable mental health treatment, with much lower percentages receiving care in less-developed and poorer countries (Kessler et al., 2001; Wang et al., 2007). For example, in Europe wealthier countries such as Finland and Belgium have more than 20 mental health experts per 100,000 people, whereas poorer countries such as Turkey and Tajikistan have fewer than 2 mental health experts per 100,000 people (Semrau et al., 2011). Sometimes, people refuse care that might help them. Other times, they fall through holes in the medical safety net because of bureaucratic rules designed to shift the burden of mental health care costs from one agency to another, as in the case of Rebecca J.

As we discuss the research showing the effectiveness of various treatments for specific disorders throughout the remainder of the book, it is important to keep in mind that those treatments can work only if people have access to them.

Professions Within Abnormal Psychology

In our times, a number of professions are concerned with abnormal or maladaptive behavior. *Psychiatrists* have an MD degree and have received specialized training in the treatment of psychological problems. Psychiatrists can prescribe medications for the treatment of these problems and have been trained to conduct psychotherapies as well.

Clinical psychologists typically have a PhD in psychology, with a specialization in treating and researching psychological problems. Some have a PsyD degree from a graduate program that emphasizes clinical training more than research training. Clinical psychologists can conduct psychotherapy, but in most states they do not currently prescribe medications. (They do have limited prescription privileges in some states, and psychologists are lobbying for prescription privileges in many others.)

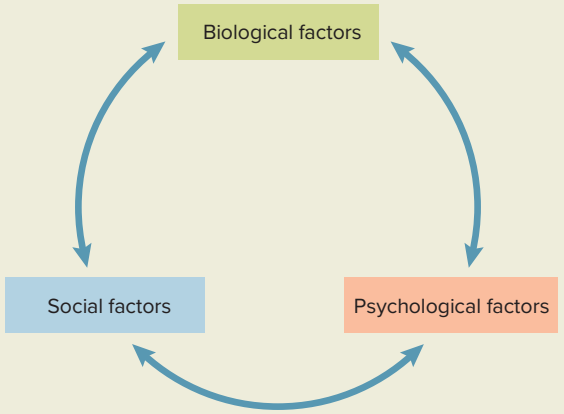
Marriage and family therapists specialize in helping families, couples, and children overcome problems that are interfering with their well-being. *Clinical social workers* have a master's degree in social work and often focus on helping people with psychological problems overcome social conditions that are contributing to their problems, such as joblessness or homelessness. Some states have *licensed mental health counselors,* individuals who have graduate training in counseling beyond the bachelor's degree in counseling but have not obtained a PhD. *Psychiatric nurses* have a degree in nursing, with a specialization in the treatment of people with severe psychological problems. They often work on inpatient psychiatric wards in hospitals, delivering medical care and certain forms of psychotherapy, such as group therapy to increase patients' contacts with one another. In some states, they have privileges to write prescriptions for psychotherapeutic drugs.

Each of these professions has its rewards and limitations. Students who are interested in one or more of these professions often find it helpful to volunteer as a research assistant in studies of psychological problems or for work in a psychiatric clinic or hospital. Some students find tremendous gratification working with people with psychological problems, whereas others find it more gratifying to conduct research that might answer important questions about these problems. Many mental health professionals of all types combine clinical practice and research in their careers.

CHAPTER INTEGRATION

Although the biological, psychological, and social theories of abnormality have traditionally been viewed as competing with one another to explain psychological disorders, many clinicians and researchers now believe that theories that integrate biological, psychological, and social perspectives on abnormality will prove most useful (Figure 2). For example, in the chapter "Trauma, Anxiety, Obsessive-Compulsive, and Related Disorders," we discuss theories of anxiety disorders that take into account individuals' genetic and biochemical vulnerabilities, the impact of stressful events, and the role of cognition in explaining why some people suffer debilitating anxiety. Throughout this book, we will emphasize how biological, psychological, and social factors interact with and influence one another to produce and maintain mental health problems. In other words, we will present an integrationist approach to psychological problems.

FIGURE 2 **The Integrationist Approach to Understanding Mental Health.** Many mental health theories today strive to integrate biological, psychological, and social factors in understanding mental health issues. This integrationist approach will be emphasized in this book.



SHADES OF GRAY DISCUSSION

Our society highly values extreme thinness in women, and Jennifer has received substantial reinforcement for her weight loss. Thus, we see her behaviors as not very deviant. Her dieting causes her some dysfunction and distress: She is having trouble concentrating in school and is terrified of gaining weight. But her weight loss is also bringing her social benefits. Are her behaviors dangerous? Extremely thin women risk medical complications such as reduced bone density and heart arrhythmias (see the chapter "Eating Disorders"). So Jennifer's behaviors are somewhat dysfunctional, distressing, and dangerous, but they are so typical of women her age that people will differ in whether they believe her behaviors qualify as abnormal.

Mark's behaviors also seem familiar, because drinking is considered a "rite of passage" by some students. Mark drinks considerably more than most young men (see the chapter "Substance Use and Gambling Disorders"), so his level of drinking is deviant. He also has experienced some dysfunction as a result of his drinking: He has gotten in legal trouble and his grades are low. Mark certainly doesn't seem distressed about his drinking. Mark's behaviors are dangerous: He is more likely to be involved in accidents while drunk and risks alcohol poisoning from the volume he consumes. So Mark's behaviors might be considered more abnormal than Jennifer's behaviors, but people will differ on the degree of abnormality.

Would your judgments of the abnormality of these behaviors change if it were Jennifer who was drinking heavily and Mark who was dieting excessively to lose weight? Cultural norms for thinness and for drinking alcohol differ significantly for women and men. Gender strongly influences our views of normality and abnormality.

CHAPTER SUMMARY

- Cultural relativists argue that the norms of a society must be used to determine the normality of a behavior. Others have suggested that unusual behaviors, or behaviors that cause subjective distress in a person, should be labeled abnormal. Still others have suggested that only behaviors resulting from mental illness or disease are abnormal. All these criteria have serious limitations, however.
- The current consensus among professionals is that behaviors that cause a person to suffer distress, prevent him or her from functioning in daily life, are unusual or deviant, and pose a threat to the person or others are abnormal. These criteria can be remembered as the four Ds: dysfunction, distress, deviance, and dangerousness. Abnormal behaviors fall along a continuum from adaptive to maladaptive, and the location of the line designating behaviors as disordered is based on a subjective decision.
- Historically, theories of abnormality have fallen into one of three categories. Biological theories saw psychological disorders as similar to physical diseases, caused by the breakdown of a system of the body. Supernatural theories saw abnormal behavior as a result of divine intervention, curses, demonic possession, and personal sin. Psychological theories saw abnormal behavior as being a result of stress.
- In prehistoric times, people probably had largely supernatural theories of abnormal behavior, attributing it to demons or ghosts. In the Stone Age, drilling holes in the skull to allow demons to depart, a procedure known as trephination, might have been a treatment for abnormality.
- Ancient Chinese, Egyptian, and Greek texts suggest that these cultures took a biological view of abnormal behavior, although references to supernatural and psychological theories also can be found.
- During the Middle Ages, abnormal behavior may have been interpreted as being due to witchcraft.
- In psychic epidemics and mass hysterias, groups of people show similar psychological and behavioral symptoms. Usually, these have been attributed to common stresses or beliefs.
- Even well into the nineteenth and twentieth centuries, many people who acted abnormally were shut away in prisonlike conditions, tortured, starved, or ignored.
- As part of the mental hygiene movement, the moral management of mental hospitals became more widespread. Patients in these hospitals were treated with kindness and given the best biological treatments available. However, effective biological treatments for most psychological problems were not available until the mid-twentieth century.
- Modern biological perspectives on psychological disorders were advanced by Kraepelin's development of a classification system and the discovery that general paresis is caused by a syphilis infection.
- The psychoanalytic perspective began with the work of Anton Mesmer. It grew as Jean Charcot, and eventually Sigmund Freud, became interested in the role of the unconscious in producing abnormality.
- Behaviorist views on abnormal behavior began with John Watson and B. F. Skinner, who used principles of classical and operant conditioning to explain normal and abnormal behavior.
- Cognitive theorists such as Albert Ellis, Albert Bandura, and Aaron Beck focused on the role of thinking processes in abnormality.
- The deinstitutionalization movement attempted to move mental patients from mental health facilities to community-based mental health centers. Unfortunately, community-based mental health centers have never been fully funded or supported, leaving many former mental patients with few resources in the community.
- Managed care systems are meant to provide coordinated, comprehensive medical care to patients. They can be a great asset to people with long-term, serious psychological disorders.
- The professions within abnormal psychology include psychiatrists, psychologists, marriage and family therapists, clinical social workers, licensed mental health counselors, and psychiatric nurses.

KEY TERMS

continuum model of abnormality
psychopathology
cultural relativism
biological theories
supernatural theories
psychological theories
trephination
psychic epidemics
mental hygiene movement
moral treatment
general paresis
mesmerism
psychoanalysis
classical conditioning
behaviorism
cognitions
self-efficacy beliefs
patients' rights movement
deinstitutionalization
community mental health movement
community mental health centers
halfway houses
day treatment centers
managed care

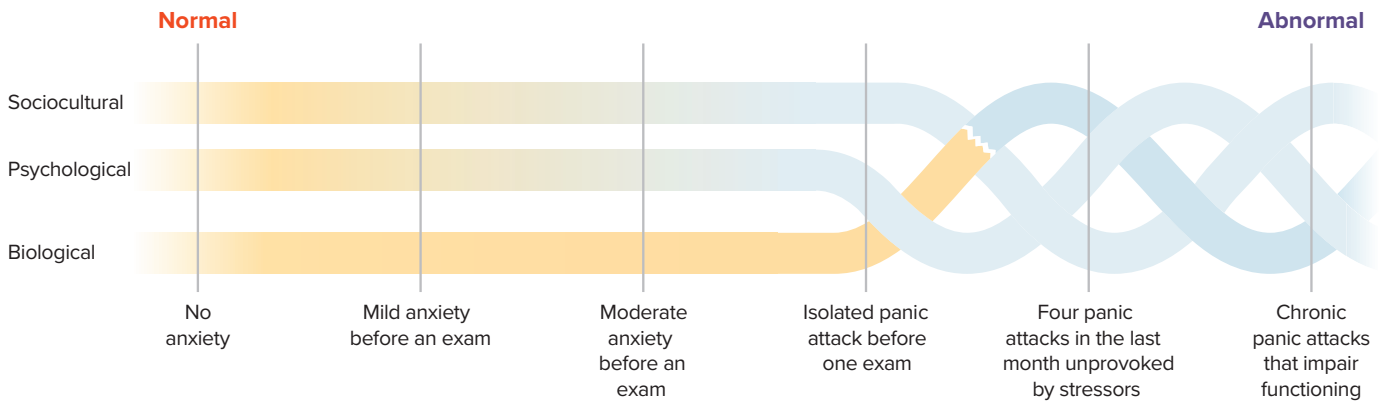
Chapter 2

©ESB Professional/Shutterstock

Theories and Treatment of Abnormality

CHAPTER OUTLINE

Approaches Along the Continuum



In this chapter, we discuss three general approaches to understanding psychological disorders. The **sociocultural approach** views these disorders as the result of environmental conditions and cultural norms. The **biological approach** views disorders as the result of abnormal genes or neurobiological dysfunction. The **psychological approach** views disorders as the result of thinking processes, personality styles, and conditioning.

People who favor a sociocultural approach generally view psychological disorders as falling along a continuum because they do not view these disorders as vastly different from normal functioning. Instead, they think of psychological disorders as labels that society puts on people whose behaviors and feelings differ from social and cultural norms (Chu & Leino, 2017). While they agree that these behaviors may be dysfunctional, distressing, deviant, and dangerous, they see them as understandable consequences of social stress in the individuals' lives.

A decade ago, proponents of the biological approach generally did not accept a continuum model of abnormality. Instead, they viewed psychological disorders as either present or absent—much the way they viewed medical or physical disorders (such as cancer). In recent years, however, proponents of biological approaches have embraced a continuum perspective on abnormality, seeing disorders as collections of deficits in fundamental neurobiological processes (Beauchaine & Constantino, 2017; Cuthbert & Insel, 2013; Hyman, 2010). For example, the symptoms of schizophrenia are increasingly viewed as problems in cognition and emotional processing that are due to deficits in specific areas of the brain. These problems in cognition and emotional processing can range from very mild to very severe, causing symptoms that also vary along a continuum from mild to severe. In other words, a person can have "a little bit of schizophrenia" or can exhibit significantly more symptoms, to the point of qualifying for a diagnosis of schizophrenia.

Psychological approaches to disorders have also been moving toward a continuum model of psychopathology in recent years (Clark, Cuthbert, Lewis-Fernández, Narrow, & Reed, 2017). According to these approaches, psychological processes such as cognition, learning, and emotional control also fall along a continuum that ranges from very typical to highly dysfunctional. Minor learning difficulties, for example, would be placed on the more "typical" end of the continuum, and severe mental retardation on the "dysfunctional" end. Likewise, problems in emotional control might range from feeling blue (typical) to feeling severely depressed with suicidal intentions (dysfunctional). A continuum perspective would suggest that people on the less severe end of the spectrum (who do not meet the criteria for the disorder) give us insight into the behavior of those on the more severe end (those who do meet the criteria).

As we discuss in this chapter, the sociocultural, biological, and psychological approaches are increasingly being integrated into a biopsychosocial approach to mental disorders. This integrative approach suggests that factors along the continua of biological dysfunction, psychological dysfunction, and sociocultural risks interweave to create the problems we call mental disorders.

Extraordinary People

Steven Hayes

Photo by Drew Altizer, Courtesy, Steven C. Hayes

Sitting in a faculty meeting in the Psychology Department at the University of North Carolina at Greensboro, assistant professor Steven Hayes opened his mouth to make a point and found himself unable to utter a sound. His heart began racing, and he thought he might be having a heart attack. He was only 29. The episode passed, but a week later he had a similar experience in another meeting. Over the next 2 years, his attacks of absolute panic became more frequent and began dominating his life. He had great difficulty lecturing and couldn't be in an enclosed place, such as a movie theater or an elevator, without being engulfed with anxiety. He thought his career and his life were over.

Now, nearly 30 years later, Hayes is a full professor at the University of Nevada and one of the most accomplished psychologists in the field, with over 300 published articles. Hayes says that he didn't overcome his debilitating anxiety with medications or with any of the psychotherapies prominent in the 1980s, when he was suffering the most. Instead, he learned to accept that he would have anxiety attacks and to stop fighting them. Out of his experiences, he developed a new form of psychological therapy, called *acceptance and commitment therapy* or *ACT.* This therapy teaches individuals with psychological problems to be more accepting and compassionate toward themselves, to commit to their values, and to use meditation practices that help them live more in the present moment. ACT is one of the hottest of the *third-wave approaches* to psychotherapy, which we discuss later in this chapter.

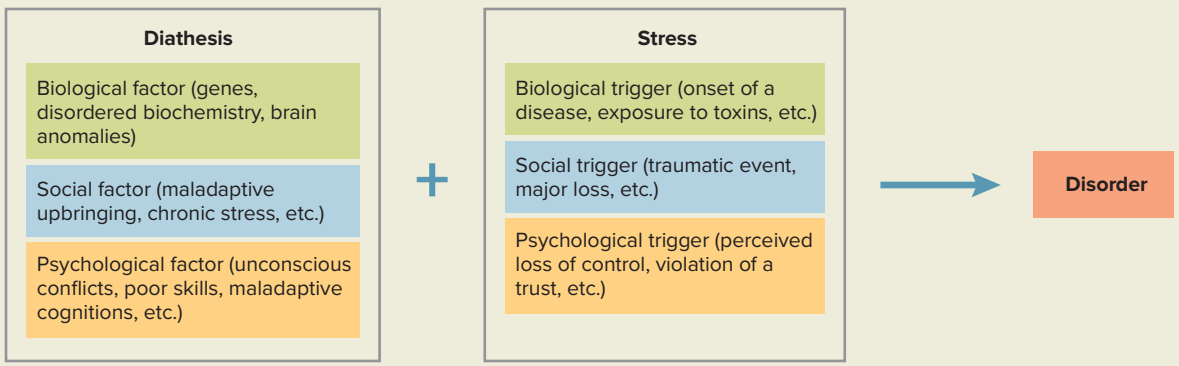
Steven Hayes was able to integrate his personal experiences with his training in psychology to develop a new theory and therapy of his own. A **theory** is a set of ideas that provides a framework for asking questions about a phenomenon and for gathering and interpreting information about that phenomenon. A *therapy* is a treatment, usually based on a theory of a phenomenon, that addresses those factors the theory says cause the phenomenon.

Hayes believed that his anxiety attacks were due to the inability to accept his symptoms, but other theories suggest alternative causes. If you took a biological approach to abnormality, you would suspect that Hayes' symptoms were caused by a biological factor, such as a genetic vulnerability to anxiety, inherited from his parents. The psychological approach, like Hayes' approach, looks for the causes of abnormality in people's beliefs, life experiences, and relationships. Finally, if you took a sociocultural approach, you would consider the ways Hayes' cultural values or social environment might affect his anxiety.

Traditionally, these different approaches have been seen as incompatible. People frequently ask, "Is the cause of these symptoms biological *or* psychological *or* environmental?" This question is often called the nature-nurture question: Is the cause of psychological problems something in the nature or biology of the person, or is it in the person's nurturing or history of events to which the person was exposed? This question implies that such problems must have a single cause, rather than multiple causes. Indeed, most theories of psychological problems over history have searched for the one factor—the one gene, the one traumatic experience, the one personality trait—that causes people to develop a particular set of symptoms.

Many contemporary theorists, however, take a **biopsychosocial approach,** recognizing that the development of psychological symptoms often results from a combination of biological, psychological, and sociocultural factors. These factors are often referred to as *risk factors,* because they increase the risk of psychological problems. Risk factors can be biological, such as a genetic predisposition. They may also be psychological, such as difficulty remaining calm in stressful situations. Or they may be sociocultural, such as growing up with the stress of discrimination based on ethnicity or race.

FIGURE 1 **The Diathesis-Stress Model of the Development of Disorders.** According to the diathesis-stress model, the creation of a disorder requires both an existing diathesis to a disorder and a trigger, or stress.



Some risk factors may lead specifically to certain types of symptoms; for example, a specific gene, known as DISC1, appears to substantially increase the risk of developing schizophrenia (Cannon et al., 2005). More commonly, however, risk factors create increased risk for a number of different problems. For instance, severe stress, such as being the victim of childhood abuse, is associated with increased risk of developing a wide range of psychopathologies (Keyes et al., 2012). Factors that increase risk for multiple types of psychological problems are referred to as *transdiagnostic risk factors* (Nolen-Hoeksema & Watkins, 2011). We will discuss several biological, psychological, and sociocultural transdiagnostic risk factors in this book.

In many cases, a risk factor may not be enough to lead a person to develop severe psychological symptoms. It may take some other experience or trigger for psychopathology to develop. Again, this trigger can be biological, such as an illness that changes a person's hormone levels. Or the trigger can be psychological or social, such as a traumatic event. Only when the risk factor and the trigger or stress come together in the same individual does the full-blown disorder emerge. This situation is often referred to as a **diathesis-stress model** (*diathesis* is another term for risk factor) (Figure 1). Although Hayes may indeed have had a genetic or personality vulnerability to anxiety (his diathesis), it may have been only when he experienced particular stressors that he developed significant anxiety.

Each of the different approaches to abnormality has led to treatments meant to relieve the symptoms people suffer. Proponents of biological theories of mental disorders most often prescribe medication, although several other types of biological treatments are discussed in this book. Proponents of psychological and some sociocultural approaches to abnormality most often prescribe psychotherapy. There are many forms of psychotherapy, but most involve a therapist (psychiatrist, psychologist, clinical social worker) talking with the person suffering from psychological problems (typically called a patient or client) about his or her symptoms and what is contributing to these symptoms. The specific topic of these conversations depends on the therapist's theoretical approach. Both medications and psychotherapy have proven effective in the treatment of many types of psychological symptoms. Medications and psychotherapy are often used together in an integrated approach, although use of medications alone has increased in recent years (Weissman & Cuijpers, 2017). Proponents of sociocultural approaches also may work to change social policies or the social conditions of vulnerable individuals so as to improve their mental health.

In this chapter, we introduce the major theories of abnormality that have dominated the field in its modern history, along with the treatments that derive from these theories. We present the theories and treatments one at a time to make them easier to understand. Keep in mind, however, that most mental health professionals now take an integrated biopsychosocial approach to understanding mental health problems, viewing them as the result of a combination of biological, psychological, and social risk factors and stresses that come together and feed off one another. We will discuss these integrated biopsychosocial approaches throughout this book.

BIOLOGICAL APPROACHES

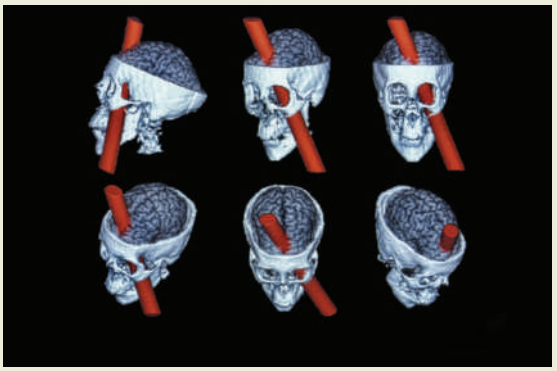
Consider the story of Phineas Gage, one of the most dramatic examples of the effect of biological factors on psychological functioning.

CASE STUDY

On September 13, 1848, Phineas P. Gage, a 25-year-old construction foreman for the Rutland and Burlington Railroad in New England, became the victim of a bizarre accident. On the fateful day, an accident led to a powerful explosion that sent a fine-pointed, 3-cm-thick, 109-cm-long tamping iron hurling, rocketlike, through Gage's face, skull, and brain and then into the sky. Gage was momentarily stunned but regained full consciousness immediately after. He was able to talk and even walk with the help of his men. The iron landed several yards away.

Phineas Gage not only survived the momentous injury, in itself enough to earn him a place in the annals of medicine, but he survived as a different man. Gage had been a responsible, intelligent, and socially well-adapted individual, a favorite with peers and elders. He had made progress and showed promise. The signs of a profound change in personality were already evident during his convalescence under the care of his physician, John Harlow. But as the months passed, it became apparent that the transformation was not only radical but difficult to comprehend. In some respects Gage was fully recovered. He remained as able-bodied and appeared to be as intelligent as before the accident, he had no impairment of movement or speech, new learning was intact, and neither memory nor intelligence in the conventional sense had been affected. However, he had become irreverent and capricious. His respect for the social conventions by which he once abided had vanished. His abundant use of profanity offended those around him. Perhaps most troubling, he had taken leave of his sense of responsibility. He could not be trusted to honor his commitments. His employers had deemed him "the most efficient and capable" man in their employ but now they had to dismiss him. In the words of his physician, "the equilibrium or balance, so to speak, between his intellectual faculty and animal propensities" had been destroyed. In the words of his friends and acquaintances, "Gage was no longer Gage." (Adapted from Damasio et al., 1994, p. 1102)

FIGURE 2 **Phineas Gage's Brain Injury.** Modern neuroimaging techniques have helped identify the precise location of damage to Phineas Gage's brain.



©SPL/Science Source

As a result of damage to his brain from the accident, Gage's basic personality seemed to have changed. He was transformed from a responsible, socially appropriate man into an impulsive, emotional, and socially inappropriate man. Almost 150 years later, researchers using modern neuroimaging techniques on Gage's preserved skull and a computer simulation of the tamping-iron accident determined the precise location of the damage to Gage's brain (Figure 2).

Studies of people today who suffer damage to this area of the brain reveal that they have trouble with making rational decisions in personal and social matters and with processing information about emotions. They do not have trouble, however, with following the logic of an abstract problem, with arithmetic calculations, or with memory. Like Gage, their basic intellectual functioning remains intact, but their emotional control and social judgment are impaired (Damasio, Grabowski, Frank, Galaburda, & Damasio, 1994).

The damage Gage suffered caused areas of his brain to not function properly. *Brain dysfunction* is one of three causes of abnormality on which biological approaches often focus. The other two are biochemical imbalances and genetic abnormalities. Brain dysfunction, biochemical imbalances, and genetic abnormalities can all influence one another. For example, brain dysfunction may be the result of genetic factors and may cause biochemical imbalances. We explore these three biological causes of abnormality in this section.

Brain Dysfunction

Like Phineas Gage, people whose brains do not function properly often show problems in psychological functioning. The brain can be divided into three main regions: the hindbrain, which includes all the structures located in the hind (posterior) part of the brain, closest to the spinal cord; the midbrain, located in the middle of the brain; and the forebrain, which includes the structures located in the front (anterior) part of the brain (Figures 3 and 4). The hindbrain sits on top of the spinal cord and is crucial for basic life functions. It contains the medulla, which helps control breathing and reflexes; the pons, which is important for attentiveness and the timing of sleep; the reticular formation, a network of neurons that control arousal and attention to stimuli; and the cerebellum, which is concerned primarily with the coordination of movement. The midbrain contains the superior colliculus and inferior colliculus, which relay sensory information and control movement, and the substantia nigra, a crucial part of the pathway that regulates responses to reward.

The human forebrain is relatively large and developed compared to that of other organisms. The outer layer of the cerebrum is called the **cerebral cortex** (or simply cortex; Figure 5a and b); it is this area of the brain that was damaged in Phineas Gage's accident. The cerebral cortex is involved in many of our most advanced thinking processes. It is composed of two hemispheres, on the left and right sides of the brain, that are connected by the corpus collosum. Each hemisphere is divided into four lobes (see Figure 5a and b): the frontal, parietal, occipital, and temporal lobes, large regions that perform diverse functions.

FIGURE 3 Organization of the Brain.

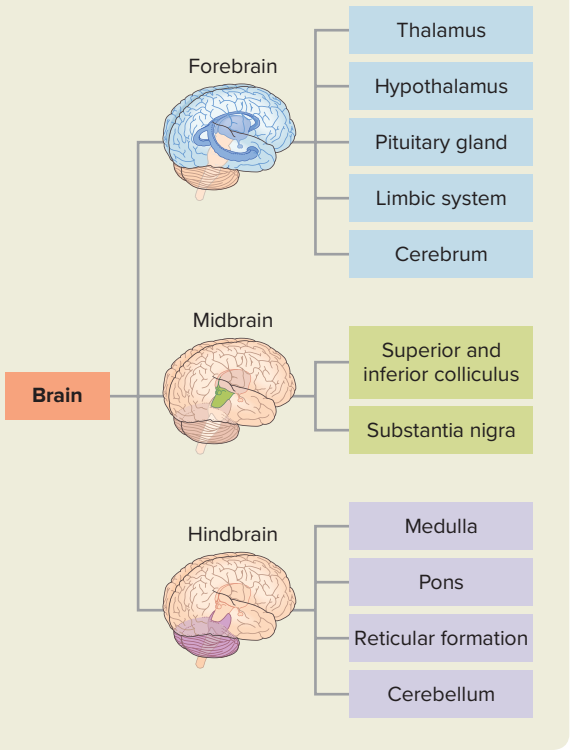


FIGURE 4 Some of the Major Structures of the Brain.

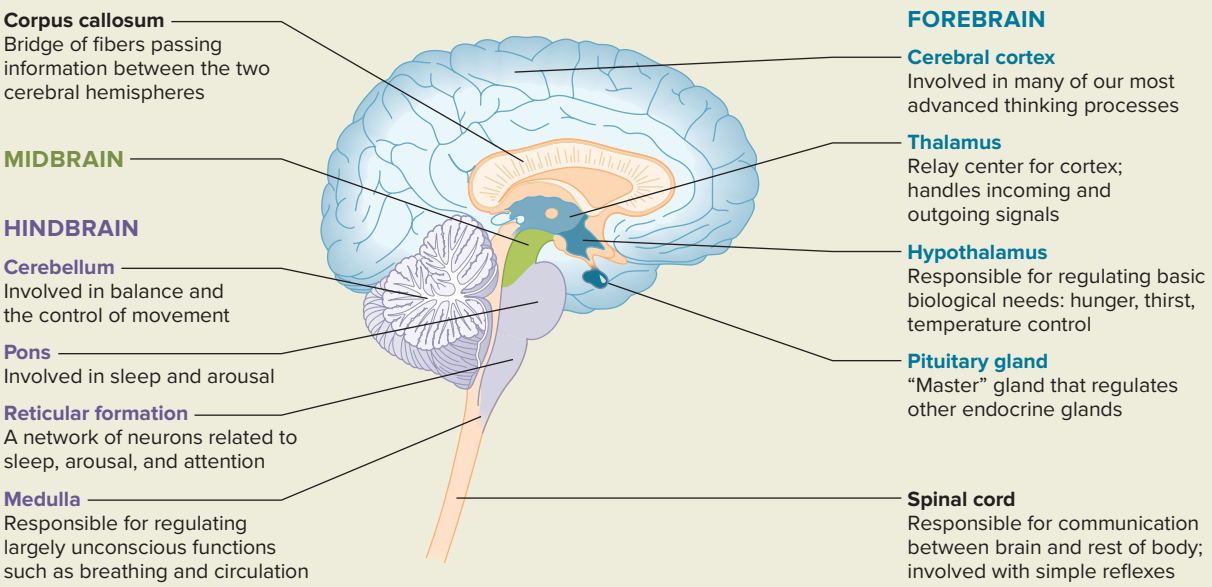
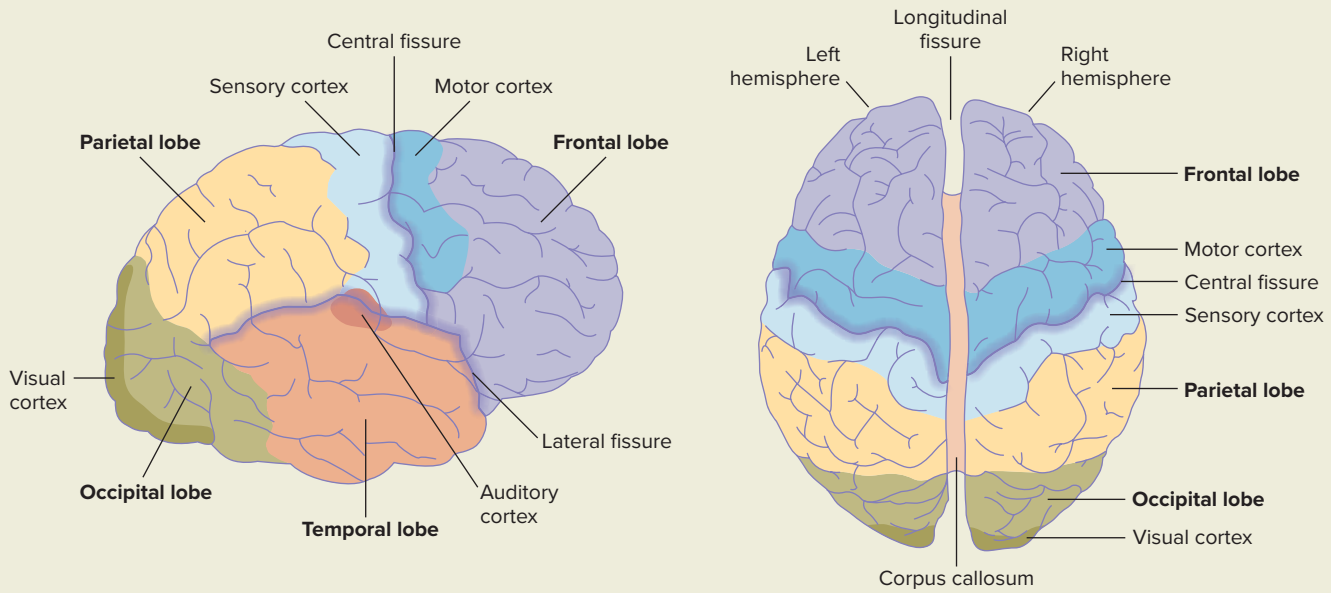
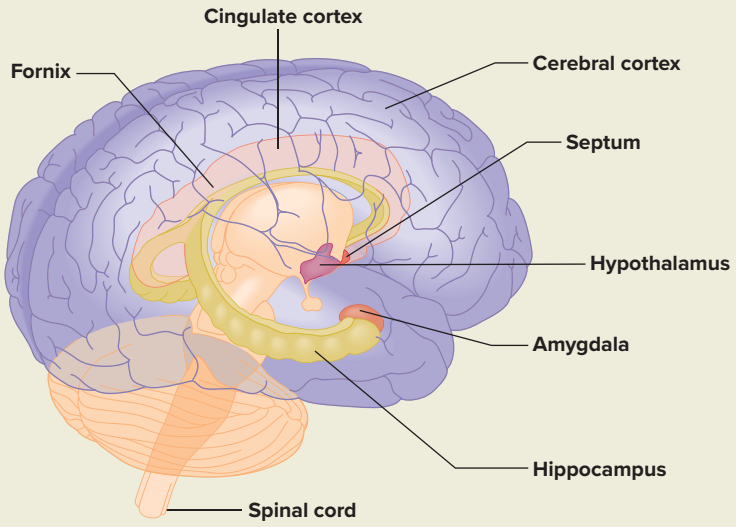


FIGURE 5 Major Sections of the Cerebral Cortex.



The other structures of the forebrain are found just under the cerebrum and are called *subcortical structures*. The **thalamus** directs incoming information from sense receptors (such as vision and hearing) to the cerebrum. The **hypothalamus,** a small structure just below the thalamus, regulates eating, drinking, and sexual behavior, and is involved in processing basic emotions. The pituitary gland, the most important part of the endocrine system, is discussed in the next section.

FIGURE 6 **Structures of the Limbic System.** The limbic system is a collection of structures that are closely interconnected with the hypothalamus. They appear to exert additional control over some of the instinctive behaviors regulated by the hypothalamus, such as eating, sexual behavior, and reaction to stressful situations.



Around the central core of the brain and closely interconnected with the hypothalamus is the **limbic system,** a set of structures that regulate many instinctive behaviors, such as reactions to stressful events and eating and sexual behavior (Figure 6). The **amygdala** is a structure of the limbic system that is critical in emotions such as fear. Monkeys with damage to the limbic system sometimes become chronically aggressive, reacting with rage to the slightest provocation. At other times, they become exceptionally passive, not reacting at all to real threats. The **hippocampus** is a part of the limbic system that plays a role in memory.

Brain dysfunction can result from injury, such as from an automobile accident, and from diseases that cause brain deterioration. In this book you will see that certain areas of the brain are associated with a wide range of psychological symptoms. Thus, dysfunctions in these areas are transdiagnostic risk factors. For example, alterations in the size or activity of the frontal cortex are associated with schizophrenia, a severe disorder in which people have

hallucinations (unreal perceptual experiences) and delusions (unreal beliefs); with depression; and with attention-deficit/hyperactivity disorder (ADHD), among other disorders. We will also consider examples of how environmental and psychological factors can change brain functioning. For example, a number of studies have shown that psychotherapy alone, without drug therapy, can change brain activity (Barsaglini, Sartori, Benetti, Pettersson-Yeo, & Mechelli, 2014).

Biochemical Imbalances

The brain requires a number of chemicals in order to work efficiently and effectively. These chemicals include neurotransmitters and hormones, the latter produced by the endocrine system.

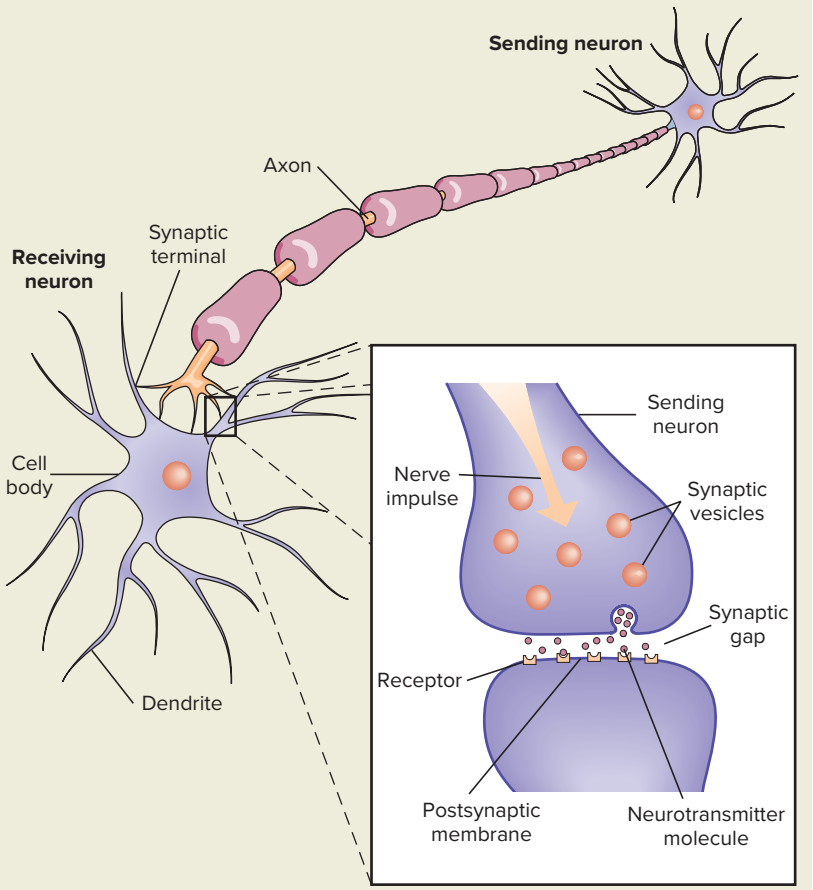
Neurotransmitters

Neurotransmitters are biochemicals that act as messengers carrying impulses from one neuron, or nerve cell, to another in the brain and in other parts of the nervous system (Figure 7). Each neuron has a cell body and a number of short branches, called dendrites. The dendrites and cell body receive impulses from adjacent neurons. The impulse then travels down the length of a slender, tubelike extension, called an axon, to small swellings at the end of the axon, called synaptic terminals. Here the impulse stimulates the release of neurotransmitters.

The synaptic terminals do not actually touch the adjacent neurons. There is a slight gap between the synaptic terminals and the adjacent neurons, called the *synaptic gap* or **synapse.** The neurotransmitter is released into the synapse. It then binds to special **receptors**—molecules on the membrane of adjacent neurons. This binding works somewhat the way a key fits into a lock. The binding stimulates the adjacent neuron to initiate the impulse, which then runs through its dendrites and cell body and down its axon to cause the release of more neurotransmitters between it and other neurons.

Many biochemical theories of psychopathology suggest that the amount of certain neurotransmitters in the synapses is associated with specific types of psychopathology. The amount of a neurotransmitter available in the synapse can be affected by two processes. The process of **reuptake** occurs when the initial neuron releasing the neurotransmitter into the synapse reabsorbs the neurotransmitter, decreasing the amount left in the synapse. Another process, **degradation,** occurs when the receiving neuron releases an enzyme into the synapse that breaks down the neurotransmitter into other biochemicals. Degradation also occurs when the releasing neuron provides an enzyme. The reuptake and degradation of neurotransmitters happen naturally. When one or both of these processes malfunction, abnormally high or low levels of neurotransmitter in the synapse result.

FIGURE 7 **Neurotransmitters and the Synapse.** The neurotransmitter is released into the synaptic gap. There it may bind with the receptors on the postsynaptic membrane.

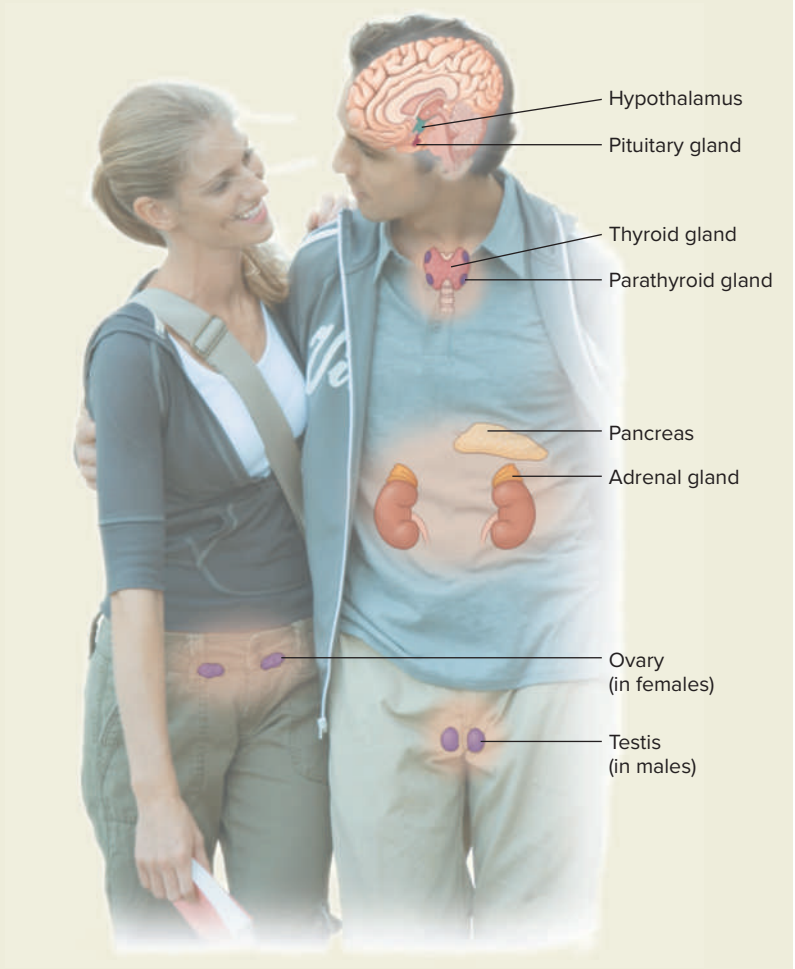


Psychological symptoms may also be associated with the number and functioning of the receptors for neurotransmitters on the dendrites. If there are too few receptors or if the receptors are not sensitive enough, the neuron will not be able to make adequate use of the neurotransmitter available in the synapse. If there are too many receptors or if they are too sensitive, the neuron may be overexposed to the neurotransmitter that is in the synapse. Within the neuron, a complex system of biochemical changes takes place as the result of the presence or absence of neurotransmitters. Psychological symptoms may be the consequence of malfunctioning in neurotransmitter systems; also,

psychological experiences may cause changes in neurotransmitter system functioning.

Scientists have identified more than 100 different neurotransmitters. *Serotonin* is a neurotransmitter that travels through many key areas of the brain, affecting the function of those areas. You will see throughout this book that dysfunction in the system regulating serotonin is a transdiagnostic risk factor, associated with several different types of psychopathology. It plays an important and complicated role in emotional well-being, particularly in depression and anxiety, and in dysfunctional behaviors, such as aggressive impulses (Albert, Benkelfat, & Descarries, 2012).

FIGURE 8 **The Endocrine System.** The hypothalamus regulates the endocrine system, which produces most of the major hormones of the body.



Source: King, *Experience psychology,* 2e. Copyright ©2013 McGraw-Hill Higher Education. Reprinted by permission. ©*Laurence Mouton/Getty Images*

Dopamine is a prominent neurotransmitter in those areas of the brain associated with our experience of reinforcements or rewards, and it is affected by substances, such as alcohol, that we find rewarding (Volkow, Wise, & Baler, 2017). Dopamine also is important to the functioning of muscle systems and plays a role in disorders involving control over muscles, such as Parkinson's disease. Thus, dopamine dysfunction is also a transdiagnostic risk factor.

Norepinephrine (also known as noradrenaline) is a neurotransmitter produced mainly by neurons in the brain stem. Two well-known drugs, cocaine and amphetamine, prolong the action of norepinephrine by slowing its reuptake process. Because of the delay in reuptake, the receiving neurons are activated for a longer period of time, which causes the stimulating psychological effects of these drugs, Conversely, when there is too little norepinephrine in the brain, the person's mood is depressed. Another prominent neurotransmitter is gamma-aminobutyric acid, or GABA, which inhibits the action of other neurotransmitters. Certain drugs have a tranquilizing effect because they increase the inhibitory activity of GABA. GABA is thought to play an important role in anxiety symptoms, so one contributor to Steven Hayes' anxiety could be a dysfunction in his GABA system.

The Endocrine System

Other biochemical theories of psychopathology focus on the body's **endocrine system** (Figure 8). This system of glands produces chemicals called hormones, which are released directly into the blood. A **hormone** carries messages throughout the body, potentially affecting a person's mood, level of energy, and reaction to stress. One of the major endocrine glands, the **pituitary,** has been called the *master gland* because it produces the largest number of different hormones and controls the secretion of other endocrine glands. It lies just below the hypothalamus.

The relationship between the pituitary gland and the hypothalamus illustrates the complex interactions between the endocrine and central nervous systems. For example, in response to stress (fear, anxiety, pain, and so forth), neurons in the hypothalamus secrete a substance called corticotropin-release factor (CRF). CRF is carried from the hypothalamus to the pituitary through a channel-like structure. The CRF stimulates the pituitary to release the body's major stress hormone, adrenocorticotrophic hormone (ACTH). ACTH, in turn, is carried by the bloodstream to the adrenal glands and to various other organs of the body, causing the release of about 30 hormones, each of which plays

a role in the body's adjustment to emergency situations.

As we will discuss in the chapters "Trauma, Anxiety, Obsessive-Compulsive, and Related Disorders" and "Mood Disorders and Suicide," some theories of anxiety and depression suggest that these disorders result from dysregulation, or malfunctioning, of a system called the *hypothalamic-pituitary-adrenal axis* (or HPA axis). People who have a dysregulated HPA axis may have abnormal physiological reactions to stress that make it more difficult for them to cope with the stress, resulting in symptoms of anxiety and depression.

The proper working of the neurotransmitter and endocrine systems requires a delicate balance, and many forces can upset this balance. For example, chronic stress can cause dysregulation in neurotransmitter and endocrine systems that persists even after the stress has subsided.

For example, as noted earlier, the neurotransmitter serotonin appears to play a role in depression. One gene that influences the functioning of serotonin systems in the brain is the serotonin transporter gene. Every gene has two alleles, or coding sequences. Alleles for the serotonin transporter gene can be either short (s) or long (l). Thus, any given individual could have two short alleles (s/s genotype), two long alleles (l/l genotype), or one short and one long allele (s/l genotype). Some studies have suggested that the presence of at least one s allele on the serotonin transporter gene may increase an individual's chance of developing depression (Levinson, 2006).

Although you may often hear of scientists having discovered "the gene" for a major disorder, most disorders are associated not with a single abnormal gene but with multiple abnormal genes. Each of these

Genetic Abnormalities

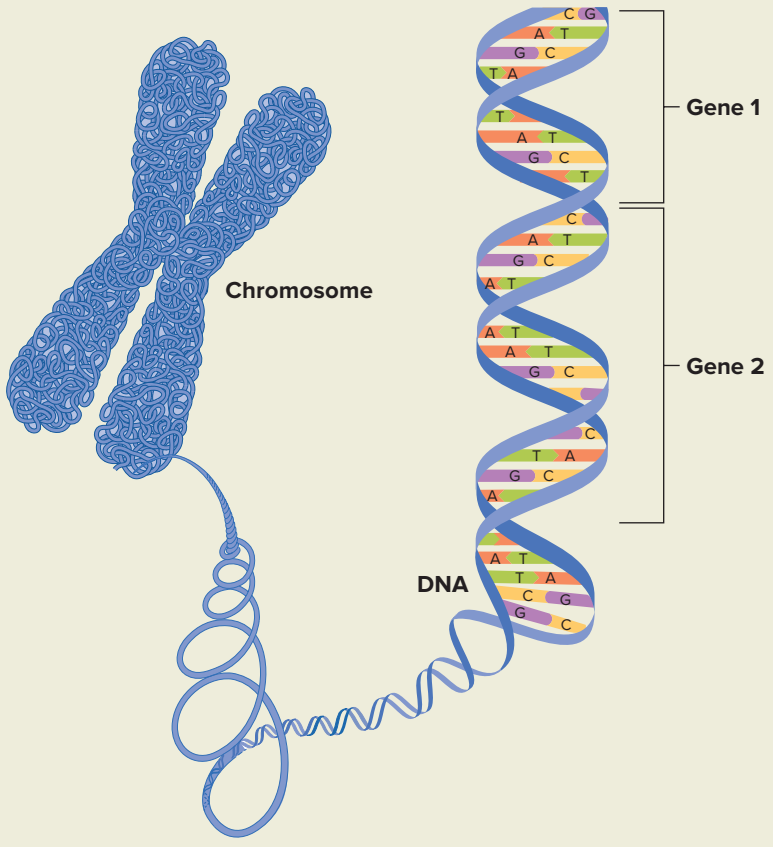
Behavioral genetics, the study of the genetics of personality and abnormality, is concerned with two questions: (1) To what extent are behaviors or behavioral tendencies inherited? and (2) What are the processes by which genes affect behavior (Loehlin, 2009)?

Let us begin by reviewing the basics of genetics. At conception, the normal fertilized embryo has 46 chromosomes, 23 from the female egg and 23 from the male sperm, making up 23 pairs of chromosomes. One of these pairs is referred to as the sex chromosomes because it determines the sex of the embryo: The XX combination results in a female embryo, and the XY combination results in a male embryo. The mother of an embryo always contributes an X chromosome, and the father can contribute either an X or a Y.

Alterations in the structure or number of chromosomes can cause major defects. Down syndrome, which is characterized by mental retardation, heart malformations, and facial features such as a flat face, a small nose, protruding lips and tongue, and slanted eyes, results when chromosome 21 is present in triplicate instead of as the usual pair.

Chromosomes contain individual genes, which are segments of long molecules of deoxyribonucleic acid (DNA; Figure 9). Genes give coded instructions to cells to perform certain functions, usually to manufacture certain proteins. Genes, like chromosomes, come in pairs. One half of the pair comes from the mother, and the other half from the father. Abnormalities in genes are much more common than major abnormalities in the structure or number of chromosomes.

FIGURE 9 **Chromosome.** Chromosomes consist of individual genes, long molecules of deoxyribonucleic acid (DNA).



Source: www.accessexcellence.org/AB/GG/genes.html.

altered genes might make only a partial contribution to vulnerability for the disorder, some greater than others. But when a critical number of these altered genes come together, the individual may develop the disorder. This is known as a **polygenic** ("many genes") process—that is, it takes multiple genetic abnormalities coming together in one individual to create a specific disorder. A number of physiological disorders, such as diabetes, coronary heart disease, epilepsy, and cleft lip and palate, result from such polygenic processes. Most genetic models of the major types of mental disorder are also polygenic. In the case of depression, the presence of at least one s allele increases the likelihood that an individual will have depression but probably is not sufficient to cause it. Rather, a combination of genetic abnormalities is thought to contribute to depression and other disorders (Geschwind & Flint, 2015).

Studies of identical twins reared apart offer researchers many opportunities to study the relationship of genes and environment. Lily McLeod and Gillian Shaw were born in China but raised by different adoptive families in Canada where researchers are exploring these factors. In their case, the girls continue to be raised by different parents—who have agreed to let them grow up together as sisters, thereby creating a new form of blended family arrangement.
©Carlos Osorio/Getty Images

Interactions Between Genes and Environment

Genetic factors and the environment interact in a number of ways to influence our behaviors. First, genetic factors can influence the kinds of environments we choose, which then reinforce our genetically influenced personalities and interests. Consider a startling example that involves identical twins, who have 100 percent of their genes in common. Jim Lewis and Jim Springer were identical twins reunited at the age of 39 after being separated since infancy (Holden, 1980). To their shock, both had married and later divorced women named Linda. Their second wives were both named Betty. Both had sons named James Allan and dogs named Toy. Both chain-smoked Salem cigarettes, worked as sheriffs' deputies, drove Chevrolets, chewed their fingernails, enjoyed stock car racing, had basement workshops, and had built circular white benches around trees in their yards.

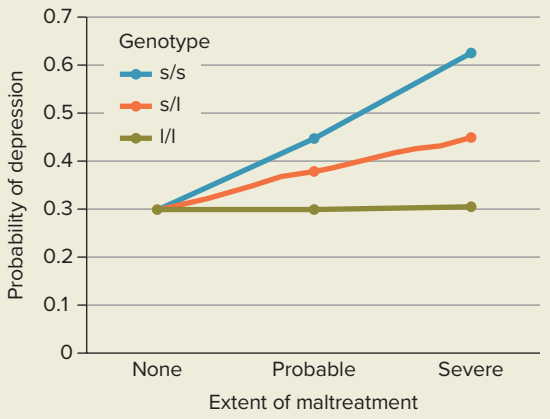
Could there possibly be genes for marrying women named Betty or for having basement workshops that account for the similarities between these twins, who had never before met each other? Genetic researchers think not. Instead, people with identical genes may have similar temperaments and talents that cause them to choose similar environments (Vukasović & Bratko, 2015). For example, both of the Jim twins may have woodworking talent that causes them to build workshops in their basements and circular benches in their yards.

Most examples of genes influencing our choices of environment are not as startling as in the case of the Jim twins, but such influences may be important in producing psychological symptoms. For example, children with tendencies toward aggression and impulsive behavior, both of which appear to be influenced by genetic factors, tend to choose friends who encourage their aggressive and impulsive behaviors and provide opportunities to engage in antisocial acts (Dishion & Patterson, 1997).

Second, the environment may act as a catalyst for a genetic tendency. For example, as noted earlier, the presence of at least one s allele on the serotonin transporter gene may increase an individual's chance of developing depression, but it does not determine whether the individual will develop depression. Researchers Avshalom Caspi, Terri Moffitt, and colleagues (Caspi, Sugden, et al., 2003) found that individuals who carried at least one s allele for the serotonin transporter gene were at increased risk for depression as adults only if they had a history of being maltreated as young children (Figure 10). Among individuals with no history of maltreatment, their genotype for the serotonin transporter gene had no relationship to depression. Those with the s/l genotype showed a greater probability of depression if they had been maltreated, and those with the s/s genotype showed an even greater probability of depression if they had been maltreated. Some subsequent studies have failed to replicate the findings of Caspi and colleagues (see Halldorsdottir & Binder, 2017), but this intriguing study inspired many other researchers to search for gene–environment interactions.

Third, the fascinating line of research called **epigenetics** indicates that environmental conditions

FIGURE 10 **Gene by Environment Interaction.** In this study, the interaction of certain genes and a history of maltreatment predicted the probability of depression.



Source: Adapted from Caspi, Sugden, et al., 2003.

can affect the expression of genes. DNA can be chemically modified by different environmental conditions, resulting in genes being turned on or off. As a result, cells, tissues, and organs are altered in their development. Epigenetics is the study of heritable changes in the expression of genes without change in the gene sequence.

Researcher Michael Meany studied the effects of epigenetic processes on stress responses in rats (Hellstrom & Meaney, 2010; Meaney, 2010). Mother rats typically lick and groom their infants (called pups), but the amount of licking and grooming varies from one mother to another. Pups who are licked and groomed more tend to grow into adult rats that are less fearful and show more modest physiological responses to stress, compared to pups who are licked and groomed less. In addition, when biological offspring of mothers who lick and groom less are raised by mothers who lick and groom more, they are less fearful and physiologically reactive to stress than sibling pups that are raised by their own mothers; and when the biological offspring of mothers who lick and groom more are raised by mothers who lick and groom less, they are more fearful and physiologically reactive to stress than sibling pups raised by their own mothers. This pattern of results suggests that the mother's behavior influences the development of the pups' reactions to stress (Meaney, 2010). The amount that mother rats lick and groom pups in the first week of life affects the release of certain hormones in the pup. These hormones in turn affect the expression of a gene that influences the development of the hippocampus (refer to Figure 6), an area of the brain that influences the stress response. So the mother's behavior toward the pup during the first week of life affects the expression of key genes, changing the development of an area of the brain and, in turn, influencing the pups' behavioral and physiological responses to stress.

The role of epigenetics in psychopathology in humans is in its early stages, but it likely is very important (Barker, Walton, & Cecil, 2018). For example, epigenetic processes could help explain how identical twins who share the same DNA sequence could differ in their expression of a disorder. Both twins may carry genes that increase their risk for a disorder, but if the environments of the twins differ during fetal development or in critical stages of development after birth, the expression of these genes may differ, leading one twin but not the other to develop the disorder (see the chapter "Schizophrenia Spectrum and Other Psychotic Disorders").

Drug Therapies

Most of the biological treatments for abnormality are drug treatments (Table 1). These drugs are thought to relieve psychological symptoms by improving the functioning of neurotransmitter systems.

Antipsychotic drugs help reduce the symptoms of psychosis, which include hallucinations (unreal perceptual experiences) and delusions (fantastic, unrealistic beliefs). The first group of antipsychotic drugs was the *phenothiazines*. These drugs have been extremely helpful in reducing psychotic symptoms, but they carry a number of dangerous side effects. These side effects include severe sedation, visual disturbances, and *tardive dyskinesia,* a neurological disorder characterized by involuntary movements of the tongue, face, mouth, or jaw (see the chapter "Schizophrenia Spectrum and Other Psychotic Disorders"). Fortunately, newer medications, referred to as the atypical antipsychotics, seem to be effective in treating psychosis without inducing some of the same side effects (see the chapter "Schizophrenia Spectrum and Other Psychotic Disorders").

Antidepressant drugs reduce symptoms of depression (sadness, low motivation, and sleep and appetite disturbance). The most frequently used antidepressants, the *selective serotonin reuptake inhibitors* (SSRIs; see the chapter "Mood Disorders and Suicide"), affect the serotonin neurotransmitter system. Some of the newest antidepressant drugs, *selective serotonin-norepinephrine reuptake inhibitors* (SNRIs; see the chapter "Mood Disorders and Suicide"), are designed to target both serotonin and norepinephrine. Common side effects

TABLE 1 Drug Therapies for Mental Disorders

These are the major types of drugs used to treat several kinds of mental disorders.

Type of Drug	Purpose	Examples
Antipsychotic drugs	Reduce symptoms of psychosis (loss of reality testing, hallucinations, delusions)	Thorazine (a phenothiazine) Haldol (a butyrophenone) Clozaril (an atypical antipsychotic)
Antidepressant drugs	Reduce symptoms of depression (sadness, loss of appetite, sleep disturbances)	Parnate (an MAO inhibitor) Elavil (a tricyclic) Prozac (a selective serotonin reuptake inhibitor)
Lithium	Reduces symptoms of mania (agitation, excitement, grandiosity)	Lithobid Cibalith-S
Antianxiety drugs	Reduce symptoms of anxiety (fearfulness, worry, tension)	Nembutal (a barbiturate) Valium (a benzodiazepine)

of SSRIs and SNRIs include nausea, diarrhea, headache, tremor, daytime sedation, sexual dysfunction, and agitation. Older classes of antidepressants include the *tricyclic antidepressants* and the monoamine oxidase inhibitors (see the chapter "Mood Disorders and Suicide").

Lithium is a metallic element present in the sea, in natural springs, and in animal and plant tissue. It is widely used as a mood stabilizer, particularly in the treatment of bipolar disorder, which involves swings back and forth from depression to mania (highly elevated mood, irritability, grandiosity, and involvement in dangerous activities). Lithium's significant side effects include extreme nausea, blurred vision, diarrhea, tremors, and twitches (see the chapter "Mood Disorders and Suicide"). Other drugs, known as the **anticonvulsants,** are also used in the treatment of mania (see details in the chapter "Mood Disorders and Suicide") and have fewer side effects than lithium.

Media stories about so-called wonder drugs, including Prozac, often tout their ability to alleviate a wide range of problems beyond the treatment of serious psychological disorders. *©Darron Cummings/AP Images*

The first group of **antianxiety drugs** was the *barbiturates,* introduced at the beginning of the twentieth century. Although these drugs are effective in inducing relaxation and sleep, they are highly addictive, and withdrawal from them can cause life-threatening symptoms such as increased heart rate, delirium, and convulsions.

The other major class of anxiety-reducing drugs, the *benzodiazepines*, appears to reduce the symptoms of anxiety without interfering substantially with an individual's ability to function in daily life. A common use of these drugs is as sleeping pills. About 14 million adults receive prescriptions for benzodiazepines each year in the United States, a dramatic increase from past years (Bachhuber, Hennessy, Cunningham, & Starrels, 2016). Unfortunately, these drugs are also highly addictive. Up to 80 percent of people who take them for 6 weeks or longer show withdrawal symptoms, including heart rate acceleration, irritability, and profuse sweating. Benzodiazepines also carry risks of fatal overdose, and have increasingly figured into the United States' crisis of drug overdoses (Bachhuber et al., 2016).

Electroconvulsive Therapy and Newer Brain Stimulation Techniques

An alternative to drug therapies in the treatment of some disorders is **electroconvulsive therapy,** or **ECT.** ECT was introduced in the early twentieth century and is now most commonly used for treating severe mood disorders.

ECT consists of a series of treatments in which a brain seizure is induced by passing electrical current through the patient's brain. Patients are first anesthetized and given muscle relaxants so that they are not conscious when they have the seizure and their muscles do not jerk violently during it. Metal electrodes are taped to the head, and a current of 70 to 150 volts is passed through one side of the brain for about

½ second. Patients typically have a convulsion that lasts about 1 minute. The full series of treatments typically consists of 6 to 12 sessions. Although the mechanisms of ECT's effects are not totally clear, they may involve structural changes to the parts of the brain implicated in mood disorders (Dukart et al., 2014). ECT has shown effectiveness for severe depression, but also comes with side effects, including confusion and memory loss.

More recently, researchers have been developing alternative techniques for stimulating the brain that can be more targeted and that have fewer side effects (Slotema, Blom, Hoek, & Sommer, 2010). One procedure, known as *repetitive transcranial magnetic stimulation (rTMS),* noninvasively exposes patients to repeated, high-intensity magnetic pulses focused on particular brain structures. In the procedure known as *deep brain stimulation,* electrodes are surgically implanted in specific areas of the brain. These electrodes are then connected to a pulse generator placed under the skin that delivers stimulation to the specific brain areas. Similarly, in *vagus nerve stimulation,* electrodes are attached to the vagus nerve, a part of the nervous system that carries information to several areas of the brain, including the hypothalamus and amygdala. These electrodes are connected to a pulse generator that delivers stimulation to the vagus nerve, which in turn travels to targeted areas of the brain.

Some studies have suggested that these newer brain stimulation techniques can help relieve the symptoms of depression and auditory hallucinations (hearing voices that aren't there) in patients (Slotema et al., 2010). Electrical stimulation of neurons can result in long-term changes in neurotransmission across synapses. Patients who receive these newer brain stimulation treatments report few side effects—usually only minor headaches treatable by aspirin. Thus, there is a great deal of hope that these techniques will be effective and safe alternative therapies, particularly for people who do not respond to drug therapies and may not be able to tolerate ECT. Researchers continue to explore how these treatments affect symptoms across a wide range of disorders, and when they are better or worse treatment options (e.g., Coles, Kozak, & George, 2018).

Psychosurgery

In the chapter "Looking at Abnormality" we describe theories suggesting that prehistoric peoples performed crude brain surgery, called trephination, on people with mental disorders in order to release the evil spirits causing the disorders. In modern times, brain surgery did not become a mode of treatment for mental disorders until the early twentieth century. A Portuguese neurologist, Antonio de Egas Moniz, introduced a procedure in 1935 in which the frontal lobes of the brain are severed from the lower centers of the brain in people with psychosis. This procedure eventually developed into the procedure known as prefrontal lobotomy. Although Moniz won the Nobel Prize for his work, prefrontal lobotomies eventually were criticized as a cruel and ineffective means of treating psychosis. Patients often would experience severe and permanent side effects, including either an inability to control impulses or an inability to initiate activity, extreme listlessness and loss of emotions, seizures, and sometimes even death.

By the 1950s, the use of **psychosurgery** had declined dramatically, especially in countries outside the United States. Today psychosurgery is used rarely, and only with people who have severe disorders that do not respond to other forms of treatment. Modern neurological assessment and surgical techniques make psychosurgery more precise and safer than it was formerly, although it remains highly controversial, even among professionals (Tatagiba, Ugarte, & Acioly, 2015). Neurosurgeons attempt to lesion, or destroy, minute areas of the brain thought to be involved in a patient's symptoms. One of the greatest remaining problems in psychosurgery, however, is that we do not yet know what areas of the brain are involved in producing most psychiatric symptoms, and it is likely that many areas of the brain are involved in any given disorder.

Assessing Biological Approaches

The biological therapies have revolutionized the treatment of people with psychological disorders. We entered the twentieth century able only to house and comfort people with severe psychological disturbances. In the twenty-first century, we are able to treat many of these people so successfully that they can lead normal lives, thanks in part to the biological therapies that have been developed in recent decades. Overall, biological approaches have been remarkably effective.

Many people find biological theories appealing because they seem to erase any blame or responsibility that might be placed on the sufferer of a disorder. Indeed, many organizations that advocate for people with mental disorders argue that mental disorders should be seen as medical diseases, just like diabetes or high blood pressure. They argue that people who suffer from these disorders simply must accept that they have a disease and obtain the appropriate medical treatment.

Despite their current popularity, however, the biological therapies are not a panacea. They do not

work for everyone. Indeed, some people with psychological disorders do not respond to any of the drugs or other biological treatments currently available. In addition, for some disorders, such as phobias (see the chapter "Trauma, Anxiety, Obsessive-Compulsive, and Related Disorders"), psychotherapy works better than drug therapies in alleviating symptoms.

Most of the biological therapies have significant side effects, as other chapters of this book will describe. Often these side effects are tolerable, and people endure them because the drugs offer relief from their psychological disorder. For some people, however, the side effects are worse than the disorder itself. For yet others, the side effects can be dangerous or even deadly.

Some critics of biological theories and drug therapies worry that people will turn to the drugs rather than deal with the issues in their lives that are causing or contributing to their psychological problems. Critics also argue that biological theories often ignore the role of environmental and psychological processes in biological functioning. Finally, recent research suggests that individuals who attribute their mental health problems to biological causes are more pessimistic about their prognosis for recovery than are individuals who attribute their mental health problems to nonbiological causes (Lebowitz & Ahn, 2012).

PSYCHOLOGICAL APPROACHES

We turn now to a discussion of different psychological approaches to understanding and treating abnormality. We begin with behavioral and cognitive approaches, which are the focus of much research in psychopathology. We then discuss psychodynamic and humanistic approaches, family systems approaches, and third-wave approaches.

Behavioral Approaches

Behavioral approaches focus on the influence of reinforcements and punishments in producing behavior. The two core principles or processes of learning according to behaviorism are classical conditioning and operant conditioning. Learning can also occur through modeling and observational learning.

Classical Conditioning

Around the turn of the twentieth century, Ivan Pavlov, a Russian physiologist, was conducting experiments on the salivary glands of dogs when he made discoveries that would revolutionize psychological theory. Not surprisingly, his dogs would salivate when Pavlov or an assistant put food in their mouths. Pavlov noticed that, after a while, the dogs would salivate when he or his assistant simply walked into the room.

Pavlov had paired a previously neutral stimulus (himself) with a stimulus that naturally leads to a certain response (the dish of food, which leads to salivating); eventually the neutral stimulus (Pavlov) was able to elicit that response (salivation). This process gained the name **classical conditioning.** The stimulus that naturally produces a response is the **unconditioned stimulus (US),** and the response created by the unconditioned stimulus is the **unconditioned response (UR).** Thus, in Pavlov's experiments, the dish of food was the US, and salivation in response to this food was the UR. The previously neutral stimulus is the **conditioned stimulus (CS),** and the response that it elicits is the **conditioned response (CR).** Thus, Pavlov was the CS, and when the dogs salivated in response to seeing him, this salivation became the CR (Figure 11).

Classical conditioning has been used to explain people's seemingly irrational responses to a host of neutral stimuli. For example, a college student who previously failed a test in a particular classroom may break out in a cold sweat when she enters that room again. This response is the result of classical conditioning. The room has become a conditioned stimulus, eliciting a response of anxiety, because it was paired with an unconditioned stimulus (failing an exam) that elicited anxiety.

Operant Conditioning

E. L. Thorndike observed that behaviors that are followed by a reward are strengthened, whereas behaviors that are followed by a punishment are weakened. This simple but important observation, which Thorndike labeled the law of effect, led to the development of the principles of **operant conditioning**—the shaping of behaviors by providing rewards for desired behaviors and providing punishments for undesired behaviors.

In the 1930s, B. F. Skinner showed that a pigeon will learn to press on a bar if pressing it is associated with the delivery of food and will learn to avoid pressing another bar if pressing it is associated with an electric shock. Similarly, a child will learn to make his bed if he receives a hug and a kiss from his mother each time he makes the bed, and he will learn to stop hitting his brother if he doesn't get to watch his favorite television show every time he hits his brother.

In operant conditioning, behaviors will be learned most quickly if they are paired with the reward or punishment every time the behavior is emitted. This consistent response is called a *continuous reinforcement*