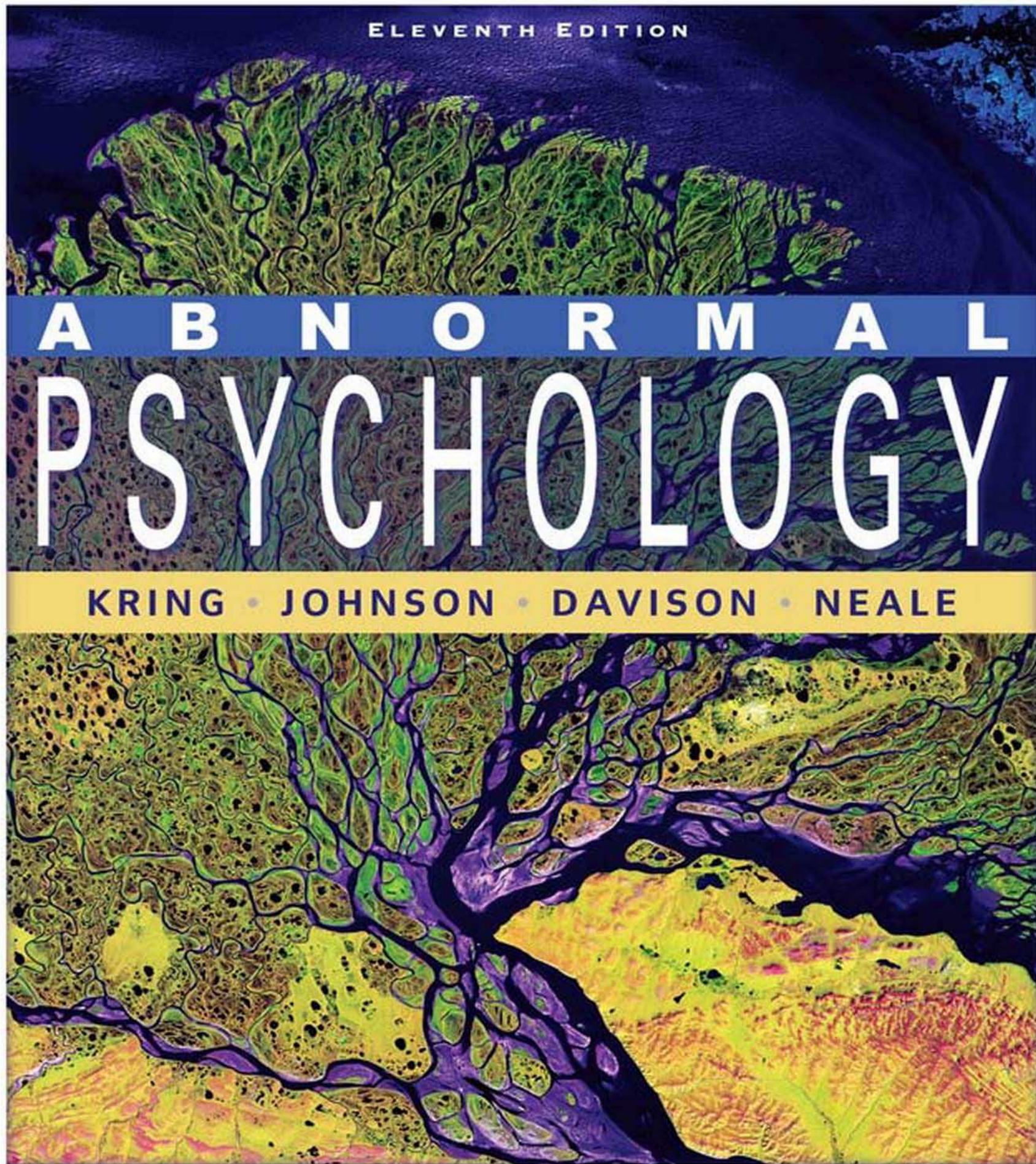


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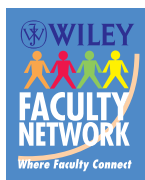




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# Abnormal Psychology

Eleventh Edition

**Ann M. Kring**

University of California, Berkeley

**Sheri L. Johnson**

University of Miami

**Gerald C. Davison**

University of Southern California

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To

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Angela Hawk

Margaret Hunt

Kathleen C. Chambers, Eve H. Davison, and Asher Davison

Gail and Sean Neale



# About the Authors



ANN M. KRING is Professor of Psychology at the University of California at Berkeley, where she is also the Director of the Clinical Science Program and Psychology Clinic. She received a B.S. from Ball State University and her M.A. and Ph.D. from the State University of New York at Stony Brook. Her internship in clinical psychology was completed at Bellevue Hospital and Kirby Forensic Psychiatric Center, in New York. Before moving to Berkeley, she was on the psychology faculty at Vanderbilt University (1991–1998). At both Vanderbilt and UC Berkeley, she has taught a course in abnormal psychology every year. She received a Distinguished Teaching Award from UC Berkeley in 2008. She is on the editorial board of *Emotion*, *Applied and Preventive Psychology*, and *Psychological Science in the Public Interest*, was formerly an Associate Editor for *Cognition and Emotion* and is currently Associate Editor for *Journal of*

*Abnormal Psychology*. She is currently a member of the Executive Board for the Society for Research in Psychopathology and the International Society for Research on Emotion.

In 1997 she was awarded a Young Investigator award from the National Alliance for Research on Schizophrenia and Depression, and in 2006 she was awarded the Joseph Zubin Memorial Fund Award in recognition of her research in schizophrenia. In 2005, she was named a fellow of the Association for Psychological Science. Her research has been supported by grants from the Scottish Rite Schizophrenia Research program, the National Alliance for Research on Schizophrenia and Depression, and the National Institute of Mental Health. She is a co-editor (with Denise Sloan) of the forthcoming book *Emotion Regulation and Psychopathology*, and is an author on more than 60 articles and chapters. Her current research focus is on emotion and psychopathology, with a specific interest in the emotional features of schizophrenia, assessing negative symptoms in schizophrenia, and the linkage between cognition and emotion in schizophrenia. Additional foci of Kring's research include the origins and consequences of individual differences in emotional expressivity, how gender and social context shape the experience and expression of emotion, and how anticipatory processes influence emotion.



SHERI L. JOHNSON received her B.A. from Salem College in 1982 and her Ph.D. from the University of Pittsburgh in 1992. She completed an internship and postdoctoral fellowship at Brown University, and she was a clinical assistant professor at Brown from 1993 to 1995. From 1995 through 2008, she taught in the Department of Psychology at the University of Miami. In 2008, she became a professor at the University of California at Berkeley.

She regularly teaches courses on abnormal psychology at undergraduate and graduate levels. In 2001, 2005, and 2007, she received the Award for Excellence in Graduate Teaching from the Department of Psychology at the University of Miami.

In 1993, Johnson received the Young Investigator Award from the National Alliance for Research in Schizophrenia and Depression. Dr. Johnson's previous books include *Psychological Treatments of Bipolar Disorder* (available in paperback), *Stress, Coping and Depression*, and *Emotion and Psychopathology*. She has published more than 100 articles and chapters. She is an associate editor for *Applied and Preventive Psychology* and *Cognition and Emotion*, and she serves on the editorial board for *Psychological Bulletin*, *Psychology and Psychotherapy*, and *International Journal of Cognitive Therapy*. She is a member of the Executive Board for the Society for Research in Psychopathology, and she is a fellow in the Academy of Behavioral Medicine Research. Her work has been supported by grants from the National Alliance of Research on Schizophrenia and Depression, the National Science Foundation, the National Institute of Mental Health, and the National Cancer Institute. Her research is focused on understanding the psychological and environmental factors that shape the course of mania and major depression.





GERALD C. DAVISON is Dean of the USC Davis School of Gerontology and Executive Director of the Andrus Gerontology Center at the University of Southern California. He is holder of the William and Sylvia Kugel Dean's Chair and is Professor of Gerontology and Psychology. Previously he was Professor and Chair of the Department of Psychology at USC and served also as Director of Clinical Training. Prior to moving to USC, he was on the psychology faculty at the State University of

New York at Stony Brook. He is a Fellow of the American Psychological Association, a Charter Fellow of the Association for Psychological Science, and a member of the Gerontological Society of America. During 2006 he served as President of the Society of Clinical Psychology (Division 12 of the American Psychological Association) and as Chair of the Council of Graduate Departments

of Psychology. He earned his B.A. in social relations from Harvard and his Ph.D. in psychology from Stanford.

Among his honors and awards are an outstanding achievement award from APA's Board of Social and Ethical Responsibility, the USC Associates Award for Excellence in Teaching, and the Outstanding Educator Award and the Lifetime Achievement Award of the Association for Behavioral and Cognitive Therapies.

Among his more than 150 publications, his book *Clinical Behavior Therapy*, co-authored in 1976 with Marvin Goldfried and reissued in expanded form in 1994, is one of two publications that have been recognized as Citation Classics by the Social Sciences Citation Index; it appears in German and Spanish translation. Other books are *Case Studies in Abnormal Psychology*, Seventh Edition (2007) with Tom Oltmanns and John Neale and *Exploring Abnormal Psychology* (1996) with John Neale and David Haaga. Davison is also on the editorial board of several professional journals.

His publications emphasize experimental and philosophical analyses of psychopathology, assessment, and therapeutic change. His current research focuses on the relationships between cognition and a variety of behavioral and emotional problems via his articulated thoughts in simulated situations think-aloud paradigm.



JOHN M. NEALE is Professor Emeritus of Psychology at the State University of New York at Stony Brook, where he regularly taught the undergraduate course in abnormal psychology. He received his B.A. from the University of Toronto and his M.A. and Ph.D. from Vanderbilt University. His internship in clinical psychology was as a Fellow in Medical Psychology at the Langley Porter Neuropsychiatric Institute. In 1975 he

was a Visiting Fellow at the Institute of Psychiatry, London, England. In 1974 he won the American Psychological Association's Early Career Award for his research on cognitive processes in schizophrenia. In 1991 he won a Distinguished Scientist Award from the American Psychological Association's Society for a Science of Clinical Psychology. He has been on the editorial boards of several journals and has been Associate Editor of the *Journal of Abnormal Psychology*. Besides his numerous articles in professional journals, he has published books on the effects of televised violence on children, research methodology, schizophrenia, case studies in abnormal psychology, and psychological influences on health. Schizophrenia was a major focus of his research, and he also conducted research on the influence of stress on health.



# Preface

**I**t has been more than 30 years since the first edition of this book was published. Emerging from conversations about teaching abnormal psychology between Davison and Neale, then young faculty at Stony Brook, came the first edition of a textbook that was different from the texts available at the time in its balance and blending of research and clinical application; in its use of paradigms as an organizing principle; and in its effort to involve the reader in the problem solving engaged in by clinicians and scientists. These qualities have continued to be the cornerstones of subsequent editions of the book, and we have been both surprised and delighted at the favorable reception the book has received and, perhaps more importantly, the impact it has had on the lives of so many students of psychopathology throughout the years.

With the eleventh edition of the book, we continue to emphasize the recent and comprehensive research coverage that has been the hallmark of the book, and we continue to expand the pedagogical features that we added in the tenth edition. We have added additional clinical cases, figures, tables, and clarifying writing to make this material accessible to a broad audience. We continue to emphasize an integrated approach, showing how psychopathology is best understood by considering multiple perspectives and how these varying perspectives can provide us with the clearest accounting of the causes of these disorders as well as the best possible treatments.

The beautiful cover image is a satellite photograph of the Lena River Delta as it empties into the Laptev Sea. Beyond the sheer beauty of this image, it illustrates a number of key principles about our book. The image shows how different parts (tributaries of the river) flow into the whole (sea), which is what the study of psychopathology is all about: different paradigms (genetic, neuroscience, psychodynamic, cognitive behavioral) coming together to explain the whole (mental illness). This is also how science works. Layer and layer of discovery build pathways that flow into our current understanding of mental illness. Our book is first and foremost grounded in the latest science of mental illness. However, just as rivers continually change and shift over time, so does the field of psychopathology. As new discoveries and new treatments are developed, our understanding shifts toward a better conceptualization of mental illness. Finally, although the image is of a river delta, it also resembles a colorful image of the human brain that can be obtained from the latest imaging technologies. As our understanding of the human brain has grown in recent years, so has our understanding of the causes and maintaining factors and treatments for mental illness.

## Goals of the Book

With each new edition, we update, make changes, and streamline features to enhance both the scholarly and pedagogical characteristics of the book. We also devote considerable effort to couching complex concepts in prose that is sharp, clear, and vivid. In the past 30 years, the domains of psychopathology and intervention have become increasingly multifaceted and technical. Therefore, a good abnormal psychology textbook must engage the careful and focused attention of students so that they can acquire a deep and critical understanding of the issues and the material. Some of the most exciting breakthroughs in psychopathology research and treatment that we present in the book have come in areas that are complex, such as molecular genetics, neuroscience, and cognitive science. Rather than oversimplify these complex issues, we have instead added a number of pedagogical features to enhance understanding of this vital material.

We endeavor to present up-to-date theories and research in psychopathology and intervention, and also to convey some of the intellectual excitement that is associated with the search for answers to some of the most puzzling questions facing humankind. A reviewer of an earlier edition once said that our book reads like a detective story, for we do more than just state the problem and then its solution. Rather, we try to involve the student in the search for clues, the follow-up of hunches, and the evaluation of evidence that are part and parcel of the science and art of the field. We try to encourage students to participate with us in a process of discovery as we sift through the evidence on the origins of psychopathology and the effectiveness of specific interventions.

In this edition, we continue to emphasize ways in which we can take away the stigma that is unfortunately still associated with mental illness. Psychopathology is something that affects all of us in one way or another. As many as half of us may experience a psychological disorder at some time or another, and most of us know someone who has had a mental disorder. Despite the ubiquity of psychopathology, the stigma associated with it can keep some from seeking treatment, keep our legislatures from providing adequate funding for treatment and research, and keep some terms as accepted popular vernacular (*crazy, nuts, schizo*). Thus, another of our goals for the book is to combat this stigma and present a positive and hopeful view on the causes and treatments of mental illness.



## Paradigms as an Organizing Principle

A recurrent theme in the book is the importance of major points of view, perspectives, or, to use Kuhn's (1962/1970) phrase, paradigms. Our experience in teaching undergraduates has made us very much aware of the importance of making explicit the unspoken assumptions underlying any quest for knowledge. In our handling of the paradigms, we have tried to make their premises clear. Long after specific facts are forgotten, we hope students will retain a grasp of the basic problems in the field of psychopathology and understand that the answers one arrives at are, in an important but often subtle way, constrained by the questions one poses and the methods employed to ask those questions.

Throughout the book we discuss four major paradigms: genetic, neuroscience, psychodynamic, and cognitive behavioral. We also emphasize the importance of factors that are important to all paradigms, including emotion, gender, culture, ethnicity, and socioeconomic status. A related issue is the use of more than one paradigm in studying abnormal psychology. Rather than force an entire field into, for example, a cognitive behavioral paradigm, we argue from the available information that different problems in psychopathology are amenable to analyses within different frameworks. For instance, genetic factors are important in bipolar disorder and attention-deficit/hyperactivity disorder, but genes do their work via the environment. In disorders such as depression, cognitive behavioral factors are essential, but neurotransmitters also exert an influence. For still other disorders, for example, dissociative disorders, psychodynamic theories can enhance our understanding, but cognitive factors involving consciousness are also important to consider. Furthermore, the importance of a diathesis–stress approach has become increasingly evident. Emerging data indicate that many, perhaps most, disorders arise from subtle interactions between genetic or psychological predispositions and stressful life events.

## Organization of the Eleventh Edition

In Chapters 1 through 4, we place the field in historical context, present the concept of paradigms in science, describe the major paradigms in psychopathology, review the text revision of the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV-TR), discuss critically its validity and reliability, provide an overview of major approaches and techniques in clinical assessment, and then describe the major research methods of the field. These chapters are the foundation upon which the later chapters can be interpreted and understood. As in the 10th edition, specific disorders and their treatment are discussed in Chapters 5 through 14. We continue to provide up-to-date coverage of late-life and psychological disorders in Chapter 15. In Chapter 16 we discuss process and outcome research on treatment and controversial issues surrounding the therapy enterprise. In Chapter 17 we have updated and strengthened our chapter on legal and ethical issues.

Throughout the book we have included considerable material on culture and ethnicity in the study of psychopathology and intervention. In Chapter 2, we present a separate section that emphasizes the importance of culture and ethnicity in all para-

digms. We point to the important role of culture and ethnicity in the other chapters as well. For example, in the Diagnosis and Assessment chapter (3), we have extended our earlier discussions of cultural bias in assessment and ways to guard against this selectivity in perception. We have expanded and updated information on ethnicity with respect to how stress impacts health in Chapter 7, we have provided new findings about symptom patterns across culture in Chapter 8, and we have updated coverage of culture and ethnicity in eating disorders (Chapter 9) and substance-related disorders (Chapter 10).

We continue to emphasize and expand our discussion of genetics and psychopathology throughout the book. We repeatedly emphasize that psychopathology is best understood by considering how genes do their work via the environment. Thus, rather than asking whether genes or the environment are more important in a particular disorder, we emphasize that both of these factors are important. Exciting new discoveries have made it clear that nature and nurture work together, not in opposition to one another. Without the genes, a behavior might not be possible. But without the environment, genes could not express themselves and thus contribute to the behavior. Genes are remarkably flexible at responding to different types of environments. In turn, human beings are quite flexible at adapting to different environments.

## New to This Edition

The eleventh edition has many new exciting additions and changes. First, we have built upon the innovations from the tenth edition. The chapters covering the disorders all have a consistent organization, presenting sections on clinical descriptions, etiology, and treatments of the various disorders. We have further streamlined the writing across all the chapters to increase the clarity of presentation and to highlight the key issues in the field.

Second, we have continued to add additional pedagogy based on feedback from students and professors. We have added a number of new clinical case boxes and Focus on Discovery Boxes to the book in order to illustrate what the different disorders look like in the context of real people's lives. Additional Quick Summaries have been added to the chapter in order to summarize some of the more complex material. In addition, we have modified and added new Check Your Knowledge Questions in each chapter so that students may do a quick check to see if they are understanding and integrating the material. There are many new photos to provide students with additional real-world examples and applications of psychopathology. In addition, we have added several new and colorful illustrations and tables to provide additional visual clarification and explanation for more complex material. The end-of-chapter summaries continue to be consistent across the chapters, using a bulleted format and summarizing the descriptions, causes, and treatments of the disorders covered.

One of the strengths of the book has always been its current and forward-looking coverage of research in the descriptions, causes, and treatments of psychopathology, and this tradition is strongly maintained in this edition with the addition of over 1000 new references.



## New and Expanded Coverage

We are excited about the new features of this edition. Some of the major new material in this eleventh edition includes:

### Chapter 1: Introduction and Historical Overview

Expanded section on stigma and mental illness  
 New Focus on Discovery box on fighting stigma  
 New historical material added  
 Updated and revised section on the mental health professions

### Chapter 2: Current Paradigms in Psychopathology

Paradigms reorganized to include: genetic, neuroscience, psychodynamic, and cognitive behavioral  
 Revised and updated coverage of the psychodynamic paradigm  
 Updated coverage on cognitive science contributions  
 Expanded coverage of factors that cut across paradigms: emotion, gender, and sociocultural factors  
 New table on racial and ethnic differences in psychopathology  
 New Check Your Knowledge box

### Chapter 3: Diagnosis and Assessment

Updated material on intelligence testing, projective testing, and self-monitoring  
 Additional historical material added to Focus on Discovery 3.1  
 New table illustrating the costs of mental illness  
 New table on the prevalence of mental illnesses around the world  
 Updated and expanded coverage of cultural factors in diagnosis and assessment  
 Updated and expanded section previewing the DSM-V  
 New genetic and comorbidity data demonstrating the robust overlap in adulthood externalizing and internalizing disorders

### Chapter 4: Research Methods in the Study of Psychopathology

Expanded material on meta-analysis, including an example of a cross-national examination of the prevalence of disorders  
 Updated example of single-case experimental design  
 Material on epidemiological and behavior genetics research integrated as examples of the use of correlational methods

### Chapter 5: Anxiety Disorders

Substantially reorganized so that clinical descriptions for all disorders covered first, followed by etiology and treatment  
 Several new clinical cases  
 New sections on gender and cultural issues in anxiety disorders  
 Updated research on neurobiology, personality, life events, and cognition

Broader coverage of the common factors involved in treatment, including recent developments in the understanding of exposure treatment

### Chapter 6: Dissociative Disorders and Somatoform Disorders

Restructured chapter to cover dissociative disorders before somatoform disorders  
 Updated research on controversy about DID and repressed memories  
 More discussion of dissociation and memory  
 More clinical description of depersonalization  
 Issues being considered for DSM-V in the diagnosis of somatoform disorders

### Chapter 7: Stress and Health

Overall chapter streamlined substantially, making it more accessible to students  
 Section on theories of the stress-illness link revised and reorganized  
 Updated research on gender, ethnicity, and health  
 Updated research on asthma  
 Updated research on HIV prevention programs

### Chapter 8: Mood Disorders

New data on the 10-year outcomes of dysthymic disorder  
 Expanded discussion on gender differences in depression  
 New Focus on Discovery box on seasonal affective disorder  
 New data on medical and occupational consequences of bipolar disorder  
 New data on the genetics of bipolar disorder, including a meta-analysis showing the troubling inconsistency in findings  
 Findings of several large-scale trials on the medication and psychological treatment of mood disorders  
 New data on the predictors and treatment of suicidality

### Chapter 9: Eating Disorders

New research findings on descriptions and treatments for binge eating disorder  
 Substantially reorganized so that etiology sections are consistent with other chapters  
 Updated material on obesity  
 Updated material on ethnicity, gender, and eating disorders  
 New table with body mass index calculations  
 New research on longitudinal course of eating disorder risk factors and symptoms

### Chapter 10: Substance-Related Disorders

Entire chapter substantially streamlined to make the material more accessible and easier to integrate  
 Section on etiology reorganized and updated  
 Updated statistics on prevalence rates for all disorders, including gender and ethnicity

New and updated tables  
 Updated research on contingency management treatment  
 Updated research on medication treatment  
 New research on nicotine dependence

## Chapter 11: Schizophrenia

Entire chapter streamlined  
 New examples of clinical features  
 Updated information on genetics  
 New information on prenatal infections as a risk factor for schizophrenia  
 New information on glutamate in schizophrenia  
 New information on high-risk studies  
 New information on medication treatment and cognitive behavior therapy  
 Two new Focus on Discovery boxes

## Chapter 12: Personality Disorders

New data on the interrater reliability and stability of measures for personality disorder, as well as the long-term validity of these diagnoses  
 New findings on the heritability and neurobiology of personality disorders  
 Treatment outcome research for new approaches to borderline personality disorder  
 New table demonstrating the differences in the prevalence of personality disorders in community vs. treatment settings

## Chapter 13: Sexual and Gender Identity Disorders

New data on relationship satisfaction after sex-reassignment surgery  
 New community data on the high prevalence of voyeuristic and exhibitionistic behavior  
 New table describing rates of sexual problems from a representative community study of 2,000 adults  
 New clinical case illustrating on fetishism  
 Data on predictors of recidivism among sexual offenders

## Chapter 14: Disorders of Childhood

Updated information on neurobiological, environmental, and genetic factors in ADHD  
 Updated section on medication treatment for ADHD  
 Updated section on Head Start  
 New table describing learning disorders, streamlining this section  
 Updated Focus on Discovery box on controversies in developmental psychopathology, including suicide and antidepressant treatment  
 Updated and expanded information on etiology and treatment of mood and anxiety disorders in children  
 Updated and expanded sections on etiology and treatment for autism

## Chapter 15: Late-Life and Psychological Disorders

New Focus on Discovery box on cardiovascular disease and depression  
 Less focus (removed Focus on Discovery box) on nursing homes, given that other forms of care have become more common  
 New diagnostic criteria for dementia with Lewy bodies  
 Updated evidence about treatments for dementia, including a review of the role of exercise  
 Many updated references throughout

## Chapter 16: Psychological Treatment

Entire chapter restructured and streamlined, with distinct sections on types of therapy and therapy research  
 More specific descriptive information on the different therapies  
 Examples of therapy techniques and a new case study for emotion-focused therapy  
 New section on treatments that are harmful  
 Streamlined the chapter to focus on newer findings and approaches  
 Updated research on the mechanisms of change involved in cognitive therapy

## Chapter 17: Legal and Ethical Issues

Greater streamlining of court case descriptions  
 Revised material on *Tarasoff*  
 Updated material on insanity pleas in the states  
 Updated material on Yates, Atkins, and Hinckley cases  
 Two new clinical case boxes  
 Updated material numbers of people in psychiatric hospitals

## Special Features for the Student Reader

Several features of this book are designed to make it easier for students to master and enjoy the material.

**Clinical Case Boxes** We have expanded and added a number of new clinical cases throughout the book to provide a clinical context for the theories and research that occupy most of our attention in the chapters and to help make vivid the real-life implications of the empirical work of psychopathologists and clinicians.

**Focus on Discovery Boxes** There are many in-depth discussions of selected topics encased in Focus on Discovery boxes throughout the book. This feature allows us to involve the reader in specialized topics in a way that does not detract from the flow of the regular text. Sometimes a Focus on Discovery box expands on a point in the text; sometimes it deals with an entirely separate but relevant issue, often a controversial one. We have added a number of new boxes in this edition, replacing a number of the older boxes. Additional boxes feature real-life examples of individuals living with different disorders.





**Quick Summaries** We have added short summaries throughout the chapters to allow students to pause and assimilate the material. These should help students to keep track of the multifaceted and complex issues that surround the study of psychopathology.

**End-of-Chapter Summaries** Summaries at the end of each chapter have been rewritten in bulleted form. In Chapters 5–14, we organize these by clinical descriptions, etiology, and treatment—the major sections of every chapter covering the disorders. We believe this format will make it easier for readers to review and remember the material. In fact, we even suggest that the student read it before beginning the chapter itself in order to get a good sense of what lies ahead. Then re-reading the summary after completing the chapter itself will enhance the student's understanding and provide an immediate sense of what has been learned in just one reading of the chapter.

**Check Your Knowledge Questions** Throughout each chapter, we provide between three and six boxes that ask questions about the material covered in the chapter. These questions are intended to help students assess their understanding and retention of the material, as well as provide them with samples of the types of questions that often are found in course exams. The answers to the questions in these boxes are at the end of each chapter, just before the list of key terms. We believe that these will be useful aids for students as they make their way through the chapters.

**Glossary** When an important term is introduced, it is boldfaced and defined or discussed immediately. Most such terms appear again later in the book, in which case they will not be highlighted in this way. All of these terms are listed again at the end of each chapter, and definitions appear at the end of the book in a glossary.

**DSM-IV-TR Table** The endpapers of the book contain a summary of the current psychiatric nomenclature found in the text revision of the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders*, known as DSM-IV-TR. This provides a handy guide to where particular disorders appear in the “official” taxonomy or classification. We make considerable use of DSM-IV-TR, though in a selective and sometimes critical vein. Sometimes we find it more effective to discuss theory and research on a particular problem in a way that is different from DSM's conceptualization.

## Supplements

Several supplements have been prepared, free to adopters of the text, to enhance and facilitate teaching from this textbook. These supplements include the following:

**Produced by documentary film-maker Nathan Friedkin**, these video modules present an encompassing view of eleven psychological disorders. Each module features interviews with those living with the disorder, as well as their friends and family, and experts in the field. These videos are presented in the WileyPlus course that accompanies *Abnormal Psychology*, 11<sup>th</sup> Edition. To review one of these modules, please visit: [www.wiley.com/college/sc/kring](http://www.wiley.com/college/sc/kring) or contact your local Wiley representative for more details.

**Instructor's Resource Manual**, written by Dave Smith of University of Notre Dame, includes chapter summaries, lecture launchers, perspectives on the causes and treatment of each disorder, key points students should know, key terms, discussion stimulators, and guides to instructional films and websites.

**Instructor's PowerPoint slides**, written by Sandra Kerr of Westchester University, provide lecture-ready slides that include the figures and tables from the text so that the instructor can create a custom classroom presentation.

**Test Bank**, written by Daniel Fulford of the University of Miami, contains nearly 2,000 multiple-choice questions. It is available in printed form as well as on CD. An easy-to-use computerized test bank, containing the same questions as the printed version, is accessible from the web. Instructors can customize exams by adding new questions or editing existing ones.

**Study Guide**, written by Douglas Hindman of Eastern Kentucky University, includes a summary of each chapter, a list of key concepts, important study questions, and practice tests written in collaboration with the test bank author to ensure consistency and to encourage active reading and learning. Students find it to be a very helpful study guide.

**Book Website** (<http://www.wiley.com/college/kring>) includes an online Instructor Resource section and an online Student Resource section, as well as active learning links to several interesting sites related to the field of abnormal psychology. Online Student Quizzes for which students can receive immediate feedback are also on the site.

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# 1

# Introduction and Historical Overview

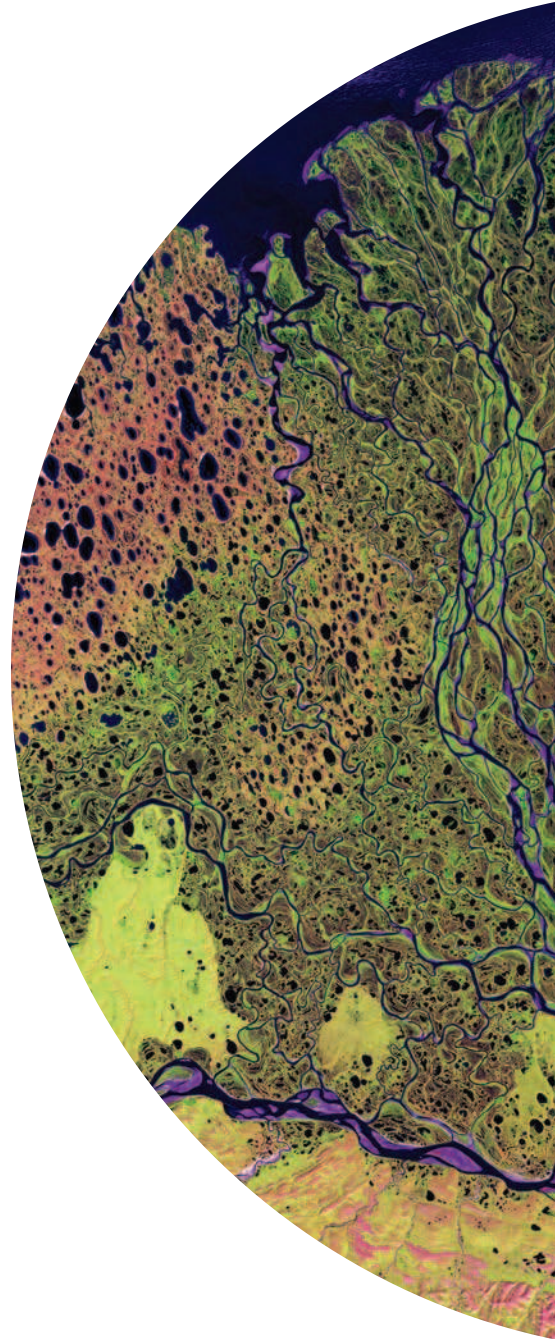
## LEARNING GOALS

1. Be able to explain the meaning of stigma as it applies to people with mental disorders.
2. Be able to describe and compare different definitions of mental disorder.
3. Be able to explain how the causes and treatments of mental disorders have changed over the course of history.
4. Be able to describe the historical forces that have helped to shape our current view of mental disorders, including biological, psychoanalytic, and behavioral views.
5. Be able to describe the different mental health professions, including the training involved and the expertise developed.

## Clinical Case: Jack

Jack dreaded family gatherings. His parents' house would be filled with his brothers and their families, and all the little kids would run around making a lot of noise. His parents would urge him to "be social" and spend time with the family, even though Jack preferred to be alone. He knew that the kids called him "crazy Uncle Jack." In fact, he had even heard his younger brother Kevin call him "crazy Jack" when he stopped by to see their mother the other day. Jack's mother admonished him, reminding Kevin that Jack had been doing very well on his new medication. "Schizophrenia is an illness," his mother had said.

Jack had not been hospitalized with an acute episode of his schizophrenia for over 2 years. Even though Jack still heard voices, he learned not to talk about them in front of his mother because she would then start hassling him about taking his medication or ask him all sorts of questions about whether he needed to go back to the hospital. He hoped he would soon be able to move out of his parents' house and into his own apartment. The landlord at the last apartment he had tried to rent rejected his application once he learned that Jack had schizophrenia. His mother and father needed to cosign the lease, and they had inadvertently said that Jack was doing very well with his illness. The landlord asked about the illness, and once his parents mentioned schizophrenia, the landlord became visibly uncomfortable. The landlord called later that night and said the apartment had already been rented. When Jack's father pressed him, the landlord admitted he "didn't want any trouble" and that he was worried that people like Jack were violent.





## Clinical Case: Felicia

Felicia didn't like to think back to her early school years. Elementary school was not a very fun time. She couldn't sit still or follow directions very well. She often blurted out answers when it wasn't her turn to talk, and she never seemed to be able to finish her class papers without many mistakes. If that wasn't bad enough, the other girls often laughed at her and called her names. She still remembers the time she tried to join in with a group of girls during recess. They kept running away, whispering to each other, and giggling. When Felicia asked what was so funny, one of the girls laughed and said, "You are hyper, girl! You fidget so much in class, you must have ants in your pants!"

When Felicia started fourth grade, her parents took her to a psychologist. She took a number of tests and answered all sorts of questions. At the end of these testing sessions, the psychologist diagnosed Felicia with attention-

deficit/hyperactivity disorder (ADHD). Felicia began seeing a different psychologist, and her pediatrician prescribed the medication Ritalin. She enjoyed seeing the psychologist because she helped her learn how to deal with the other kids' teasing and how to do a better job of paying attention. The medication helped, too—she was able to concentrate better and didn't seem to blurt out things as much anymore.

Now in high school, Felicia is much happier. She has a good group of close friends, and her grades are better than they have ever been. Though it is still hard to focus sometimes, she has learned a number of ways to deal with her distractibility. She is looking forward to college, hoping she can get into the top state school. Her guidance counselor has encouraged her, thinking her grades and extracurricular activities will make for a strong application.

**WE ALL TRY TO** understand other people. Determining why another person does or feels something is not easy to do. In fact, we do not always understand our own feelings and behavior. Figuring out why people behave in normal, expected ways is difficult enough; understanding seemingly abnormal behavior, such as the behavior of Jack, Felicia, and José (see p. 6), can be even more difficult.

In this book, we will consider the description, causes, and treatments of a number of different mental disorders. We will also demonstrate the numerous challenges professionals in this field face. As you approach the study of **psychopathology**, the field concerned with the nature, development, and treatment of mental disorders, keep in mind that the field is continually developing and adding new findings. As we proceed, you will see that the field's interest and importance is ever growing.

One challenge we face is to remain objective. Our subject matter, human behavior, is personal and powerfully affecting, making objectivity difficult. The pervasiveness and potentially disturbing effects of psychopathology intrude on our own lives. Who has not experienced irrational thoughts, fantasies, and feelings? Most of us have known someone, a friend or a relative, whose behavior was upsetting and impossible to fathom, and we realize how frustrating and frightening it can be to try to understand and help a person suffering psychological difficulties. You can see that this personal impact of our subject matter requires us to make a conscious, determined effort to remain objective.

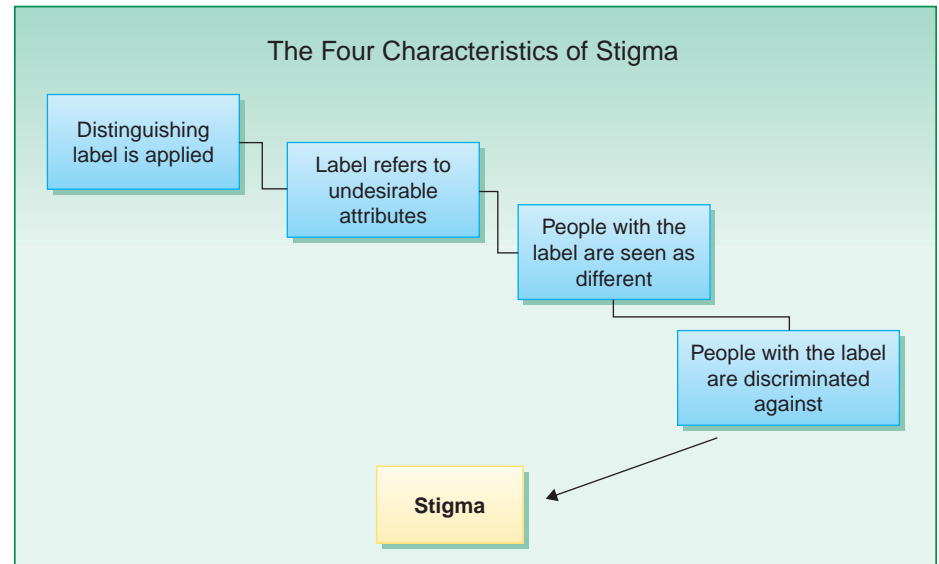
The other side of this coin is that our closeness to the subject matter adds to its intrinsic fascination; undergraduate courses in abnormal psychology are among the most popular in the entire college curriculum, not just in psychology departments. Our feeling of familiarity with the subject matter draws us to the study of psychopathology, but it also has a distinct disadvantage: we bring to the study our preconceived notions of what the subject matter is. Each of us has developed certain ways of thinking and talking about mental disorders, certain words and concepts that somehow seem to fit. As you read this book and try to understand the psychological disorders it discusses, we may be asking you to adopt different ways of thinking and talking from those to which you are accustomed.

Perhaps most challenging of all, we must not only recognize our own preconceived notions of mental disorders, but we must also confront and work to change the stigma we often associate with these conditions. **Stigma** refers to the destructive beliefs and attitudes



held by a society that are ascribed to groups considered different in some manner, such as people with mental illness. More specifically, stigma has four characteristics (see Figure 1.1):

1. A label is applied to a group of people that distinguishes them from others (e.g., “crazy”).
2. The label is linked to deviant or undesirable attributes by society (e.g., crazy people are dangerous).
3. People with the label are seen as essentially different from those without the label, contributing to an “us” versus “them” mentality (e.g., we are not like those crazy people).
4. People with the label are discriminated against unfairly (e.g., a clinic for crazy people can’t be built in our neighborhood).



**Figure 1.1** The four characteristics of stigma.

The case of Jack illustrates how stigma can lead to discrimination. Jack was denied an apartment due to his schizophrenia. The landlord believed Jack’s schizophrenia meant he would be violent. This belief is based more in fiction than reality, however. A person with mental illness is not necessarily any more likely to be violent than a person without mental illness (Steadman et al., 1998; Swanson et al., 1990).

As we will see below, the treatment of individuals with mental illness throughout recorded history has not generally been good, and this has contributed to their stigmatization, to the extent that they have often been brutalized and shunned by society. Torturous treatments have been described to the public as miracle cures, and even today, terms such as *crazy*, *insane*, *retard*, and *schizo* are tossed about without thought of the people who actually suffer from mental illnesses and for whom these insults and the intensely distressing feelings and behaviors they refer to are a reality of daily life. The cases of Jack and Felicia illustrate how hurtful using such careless and mean-spirited names can be. In the 1970s, attempts were made to correct deplorably overcrowded conditions in mental hospitals by releasing many patients. But this was done without having appropriate aftercare programs in place; as a result, over a third of the homeless population in the United States would qualify for diagnosis of a mental illness of some sort (see Chapter 17).

Sadly, mental illness remains one of the most stigmatized of conditions in the twenty-first century, despite advances in the public’s knowledge regarding the origins of mental disorders (Hinshaw, 2007). In 1999, David Satcher, then Surgeon General of the United States, wrote that stigma is the “most formidable obstacle to future progress in the arena of mental illness and mental health” in his groundbreaking report on mental illness (U.S. Department of Health and Human Services, 1999).

Throughout this book, we hope to fight this stigma by showing you the latest evidence about the nature, causes, and treatments for these disorders, dispelling myths and other misconceptions as we go. But you will have to help in this fight, for the mere acquisition of knowledge does not ensure the end of stigma (Penn, Chamberlin, & Mueser, 2003). As part of this effort, we will try to put a human face on mental disorders, by including descriptions of actual people with these disorders in the chapters that follow. Additional ways to fight stigma are presented in Focus on Discovery 1.1. There is much work to be done!

In this chapter, we first discuss what we mean by the term *mental disorder*. Then we look briefly at how our views of mental disorders have evolved through history to the more scientific perspectives of today. We will conclude with a discussion of the current mental health professions.

## FOCUS ON DISCOVERY 1.1

### Fighting against Stigma: A Strategic Approach

In 2007, psychologist Stephen Hinshaw published a book entitled *The Mark of Shame: The Stigma of Mental Illness and an Agenda for Change*. In this important book, Hinshaw outlines several steps that can be taken to end stigma surrounding mental illness. Here we briefly discuss some of the key suggestions for fighting stigma across many arenas, including law and policy, community, mental health professions, and individual/family behaviors and attitudes.

#### Policy and Legislative Strategies

**Parity in Insurance Coverage** In 1996, the Federal Mental Health Parity Act required that insurance coverage for mental illness be at the same level as for other illnesses. However, substance abuse was not included, small companies (under 50 employees) were not required to offer parity, companies could set limits on coverage, and the law allowed for companies to opt out if their costs increased over 1 percent. In February 2007, the U.S. Senate passed a new mental health parity bill to expand on the 1996 law. In March 2008, the U.S. House of Representatives passed an even broader parity bill, the Paul Wellstone Mental Health and Addiction Equity Act, which comes closer to offering true parity. House and Senate committees produced a bill that was signed into law on October 3, 2008.

**Discriminatory Laws** Some states have rules banning people with mental illness from voting, marrying, serving on juries, or holding public office. In a recent analysis of bills submitted for consideration in state legislatures in 2002, there were about an equal number of bills to take away liberties as there were to grant liberties to people with mental illness. Similarly, there were roughly equal numbers of new bills that would effectively increase discrimination against people with mental illness as there were bills that would diminish discrimination (Corrigan et al., 2005). Speaking to state legislators about the importance of nondiscriminatory laws is something we can all do to help fight stigma in this arena.

**Employment** Unemployment rates among people with mental illness are extremely high, despite the Americans with Disabilities Act (ADA) provisions that make it illegal to keep someone with mental illness from obtaining or keeping a job. The cruel irony here is that only a small number of ADA claims deal with job discrimination for people with mental illness (likely because people with mental illness are afraid to come forward due to the stigma surrounding their illness), yet these claims are among the easiest, at least in terms of cost, to fix (e.g., contrast the cost of allowing time off for therapy to the cost of redesigning and building a wheelchair-accessible area). Further training in job-relevant skills, such as provision of extra educational benefits to those whose education might have been curtailed by mental illness will help with employment opportunities. Similarly, training in social skills relevant to the workplace and other structured programs to enhance workplace success would be an important goal.

**Decriminalization** People with mental illness, particularly substance abuse, often end up in jail rather than a hospital. Large urban jails, such as Los Angeles County jail, Riker's Island in New York, and Cook County jail in Chicago, now house more people with mental illness than any hospital, public or private, in the United States. Many substance-related problems are first detected within the criminal justice system, and people may need more intensive treatment to address underlying substance abuse problems. Minimal or no treatment is provided in jail, and this is thus not an optimal place for people with mental illness. Many states have adopted assisted outpatient treatment (AOT) laws that provide court-mandated outpatient treatment rather than jail time for people with mental illness.

#### Community Strategies

**Housing Options** Rates of homelessness in people with mental illness are all too high, and more programs to provide community residences and group homes are needed. However, many neighborhoods are reluctant to embrace

## Defining Mental Disorder

A difficult but fundamental task facing those in the field of psychopathology is to define **mental disorder**. The best current definition of mental disorder is one that contains several characteristics. The definition of mental disorder presented in the current American diagnostic manual, the *Diagnostic and Statistical Manual of Mental Disorders*, Fourth Edition, Text Revision (DSM-IV-TR), includes a number of characteristics essential to the concept of mental disorder. In DSM-IV-TR, mental disorder is defined as:

*A clinically significant behavioral or psychological syndrome or pattern that occurs in an individual and that is associated with present distress (e.g., a painful symptom) or disability (i.e., impairment in one or more important areas of functioning) or with a significantly increased risk of suffering, death, pain, disability, or an important loss of freedom. In addition, this syndrome or pattern must not be merely an expectable and culturally sanctioned response to a particular event, for example, the death of a loved one. Whatever its original cause, it must currently be considered a manifestation of a behavioral, psychological, or biological dysfunction in the individual (American Psychiatric Association, 2000, p. xxxi)*

the idea of people with mental illness living too close. Lobbying legislatures and community leaders about the importance of adequate housing is a critically important step toward providing housing and reducing stigma.

**Personal Contact** Including greater housing opportunities for people with mental illness will likely mean that people with mental illness will shop and dine in local establishments alongside people without mental illness. Research suggests that this type of contact—where status is relatively equal—can reduce stigma. Informal settings, such as local parks and churches, can also help bridge the personal contact gap between people with and without mental illness.

**Education** Educating people about mental illness (one of the goals of this book!) is an important step toward reducing stigma. Education alone won't completely eradicate stigma, however. By learning about mental illness, people may be less hesitant to interact with people who have different disorders. Many of you know already know someone with a mental disorder. Sadly, though, stigma often prevents people from disclosing their history with mental illness. Education may help lessen the hesitancy of people to talk about their illnesses.

### Mental Health and Health Profession Strategies

**Mental Health Evaluations** Many children see their pediatricians for well-baby or well-child exams. The goal of these is to prevent illness before it occurs. Hinshaw (2007) makes a strong case for the inclusion of similar preventive efforts for mental illness among children and adolescents by, for example, including rating scale assessments from parents and teachers in order to help identify problems before they become more serious.

**Education and Training** Mental health professionals should receive training in stigma issues. This type of training will undoubtedly help professionals recognize the pernicious signs of stigma, even within the very profession that is charged with helping people with mental illness. In addition, mental health professionals need to keep current in their knowledge of the descriptions, causes, and empirically supported treatments for mental illness. This will certainly lead to better interactions with patients and

may also help to educate the public about the important work that is done by mental health professionals.

### Individual and Family Strategies

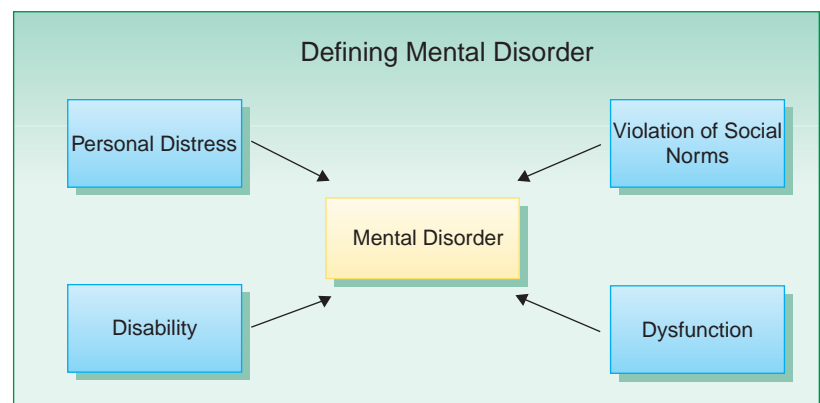
**Education for Individuals and Families** It can be frightening and disorienting for families who learn that a loved one has been diagnosed with an illness, and this may be particularly true for mental illness. Receiving current information about the causes and treatments of mental illness is crucial because it will help to alleviate blame and stereotypes families may hold about mental illness. Educating people with mental illness is also extremely important. Sometimes termed psychoeducation, this type of information is built into many types of treatments, whether they are pharmacological or psychosocial. In order for people to understand why they should adhere to certain treatment regimens, it is important for them to know the nature of their illness and the treatment alternatives available.

**Support and Advocacy Groups** Participating in support or advocacy groups can be a helpful adjunct to treatment for people with mental illness and their families. Recent websites, such as the Freedom Center (<http://www.freedom-center.org>) or Mind Freedom International (<http://www.mindfreedom.org>) are designed to provide a forum for people with mental illness to find support. Some such groups also encourage people not to hide their mental illness, but rather to consider it a point of pride—"Mad Pride" events are scheduled all over the world. Many people with mental illness have created their own blogs to discuss their illness and help to demystify and therefore destigmatize it. For example, Liz Spikol, a reporter for the *Philadelphia Weekly*, keeps a blog called "The Trouble with Spikol" (<http://trouble.philadelphiaweekly.com>) where she writes about her own bipolar disorder and other mental health issues. These sites and events are developed and run by people with mental illness, and the sites contains useful links, blogs, and other helpful resources. In-person support groups are also helpful, and many communities have groups supported by the National Alliance on Mental Illness ([www.nami.org](http://www.nami.org)). Finding peers in the context of support groups can be beneficial, especially for emotional support and empowerment.

In the following sections, we consider in more detail some of the key characteristics that are highlighted by the DSM-IV-TR definition, including disability, distress, violation of social norms, and dysfunction. We will see that no single characteristic can fully define the concept, although each has merit and each captures some part of what might be a full definition. Consequently, mental disorder is usually determined based on the presence of several characteristics at one time, as the DSM-IV-TR definition exemplifies. Figure 1.2 shows the different characteristics of the definition of mental disorder.

### Personal Distress

One characteristic used to define mental disorder is personal distress—that is, a person's behavior may be classified as disordered if it causes him or her great distress. Felicia felt distress about her difficulty with paying attention and the social



**Figure 1.2** Key characteristics in the definition of mental disorder.

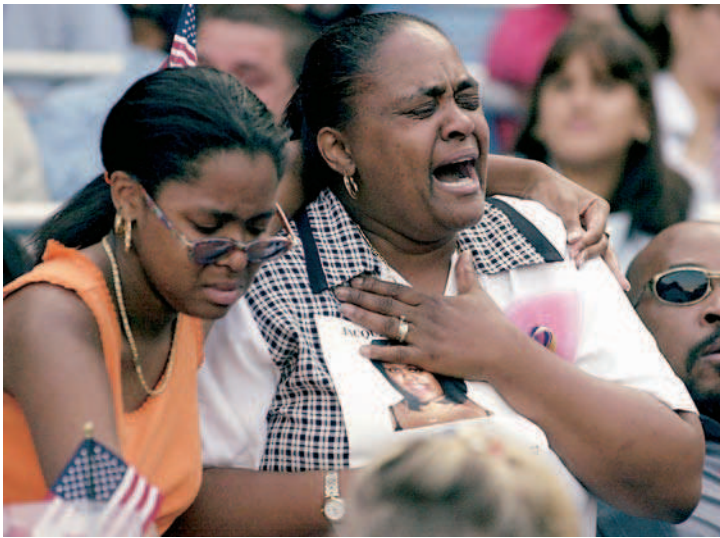


## Clinical Case: José

José didn't know what to think about his nightmares. Ever since he returned from the war, he couldn't get the bloody images out of his head. He woke up nearly every night with nightmares about the carnage he witnessed as a soldier stationed in Falluja. Even during the day, he would have flashbacks to the moment his Humvee was nearly sliced in half by a rocket-propelled grenade. Watching his friend die sitting next to him was the worst part; even the occasional pain from shrapnel still embedded in his shoulder was not as bad as the recurring dreams and flashbacks. He seemed to be sweating all the time now, and whenever he heard a loud noise, he jumped out of his chair. Just the other day, his grandmother stepped on a balloon left over from his "welcome home" party. To José,

it sounded like a gunshot, and he immediately dropped to the ground.

His grandmother was worried about him. She thought he must have *ataque de nervios*, just like her father had back home in Puerto Rico. She said her father was afraid all the time and felt like he was going crazy. She kept going to Mass and praying for José, which he appreciated. The army doctor said he had posttraumatic stress disorder (PTSD). José was supposed to go to the Veterans Administration (VA) hospital for an evaluation, but he didn't really think there was anything wrong with him. Yet his buddy Jorge had been to a group session at the VA, and he said it made him feel better. Maybe he would check it out. He wanted these images to get out of his head.



Personal distress can be part of the definition of mental disorder. (AFP/Corbis Images.)

consequences of this difficulty—that is, being called names by other schoolgirls. Personal distress also characterizes many of the forms of mental disorder considered in this book—people experiencing anxiety disorders and depression suffer greatly. But not all mental disorders cause distress. For example, an individual with antisocial personality disorder may treat others coldheartedly and violate the law without experiencing any guilt, remorse, anxiety, or other type of distress. And not all behavior that causes distress is disordered—for example, the distress of hunger due to religious fasting or the pain of childbirth.

## Disability

Disability—that is, impairment in some important area of life (e.g., work or personal relationships)—can also be used to characterize mental disorder. For example, substance-related disorders are defined in part by the social or occupational disability (e.g., serious arguments with one's spouse or poor work performance)

created by substance abuse. Being rejected by peers, as Felicia was, is also an example of this characteristic. Phobias can produce both distress and disability—for example, if a severe fear of flying prevents someone living in California from taking a job in New York. Like distress, however, disability alone cannot be used to define mental disorder, because some, but not all, disorders involve disability. For example, the disorder bulimia nervosa involves binge eating and compensatory purging (e.g., vomiting) in an attempt to control weight gain but does not necessarily involve disability. Many people with bulimia lead lives without impairment, while bingeing and purging in private. Other characteristics that might, in some circumstances, be considered disabilities—such as being blind and wanting to become a professional race car driver—do not fall within the domain of psychopathology. We do not have a rule that tells us which disabilities belong in our domain of study and which do not.

## Violation of Social Norms

In the realm of behavior, social norms are widely held standards (beliefs and attitudes) that people use consciously or intuitively to make judgments about where behaviors are situated



on such scales as good–bad, right–wrong, justified–unjustified, and acceptable–unacceptable. Behavior that violates social norms might be classified as disorder. For example, the repetitive rituals performed by people with obsessive-compulsive disorder (see Chapter 5) and the conversations with imaginary voices that some people with schizophrenia engage in (see Chapter 11) are behaviors that violate social norms. José’s dropping to the floor at the sound of a popping balloon does not fit within most social norms. Yet this way of defining mental disorder is both too broad and too narrow. For example, it is too broad in that criminals violate social norms but are not usually studied within the domain of psychopathology; it is too narrow in that highly anxious people typically do not violate social norms.

Also, of course, social norms vary a great deal across cultures and ethnic groups, so behavior that clearly violates a social norm in one group may not do so at all in another. For example, in some cultures but not in others it violates a social norm to directly disagree with someone. In Puerto Rico, José’s behavior would not likely have been interpreted in the same way as it would be in the United States. Throughout this book, we will address this important issue of cultural and ethnic diversity as it applies to the descriptions, causes, and treatments of mental disorders.

## Dysfunction

In an influential and widely discussed paper, Wakefield (1992) proposed that mental disorders could be defined as **harmful dysfunction**. This definition has two parts: a value judgment (“harmful”) and an objective, scientific component—the “dysfunction.” A judgment that a behavior is harmful requires some standard, and this standard is likely to depend on social norms and values, the characteristic just described. Dysfunctions are said to occur when an internal mechanism is unable to perform its natural function—that is, the function that it evolved to perform. By grounding this part of the definition of mental disorder in evolutionary theory, Wakefield hoped to give the definition scientific objectivity.

Numerous critics have argued that the dysfunction component of Wakefield’s definition is not so easily and objectively identifiable in relation to mental disorders (e.g., Houts, 2001; Lilienfeld & Marino, 1999). One difficulty is that the internal mechanisms involved in mental disorders are largely unknown; thus, we cannot say exactly what may not be functioning properly. Wakefield (1999) has tried to meet this objection by, in part, referring to plausible dysfunctions rather than proven ones. In the case of Jack, for example, hallucinations (hearing voices) could be construed as a failure of the mind to “turn off” unwanted sounds. Nevertheless, we have a situation in which we judge a behavior or set of behaviors to be harmful and then decide that the behavior represents a mental disorder because we believe it is caused by a dysfunction of some unknown internal mechanism. Clearly, like the other definitions of mental disorder, Wakefield’s concept of harmful dysfunction has its limitations.

The broader concept of dysfunction as indicated in the DSM-IV-TR definition of mental disorder refers to behavioral, psychological, or biological dysfunctions that are supported by our current body of evidence. This broadening does not entirely avoid the problems that Wakefield’s definition suffers from, but it is an attempt that formally recognizes the limits of our current understanding.

Indeed, it is crucial to keep in mind that our book presents human problems that are currently considered mental disorders. Over time, because the field is continually evolving, the disorders discussed in books like this will undoubtedly change, and so will the definition of mental disorder. It is also quite possible that we will never be able to arrive at a definition that captures mental disorder in its entirety and for all time. Nevertheless, at the current time, the characteristics that are included in the DSM-IV-TR definition constitute a useful partial definition, but keep in mind that they are not equally or invariably applicable to every diagnosis.

## Quick Summary

The focus of this book will be on the description, causes, and treatments of a number of different mental disorders. It is important to note at the outset that the personal impact of our subject matter requires us to make a conscious, determined effort to remain objective. Stigma remains a central problem in the field of psychopathology. Stigma has four components that involve the labels for mental illness and their uses. Even the use of everyday language terms such as *crazy* or *schizo* can contribute to the stigmatization of people with mental illness.

Defining mental disorder remains difficult. A number of different definitions have been offered, but none can entirely account for the full range of disorders. Whether or not a behavior causes personal distress can be a characteristic of mental disorder. But not all behav-

ior that we consider to be part of mental disorders causes distress. Behaviors that cause a disability or are unexpected can be considered part of a mental disorder. But again, some behaviors do not cause disability, nor are they unexpected. Behavior that violates social norms can also be considered part of a mental disorder. However, not all such behavior is considered part of a mental disorder, and some behaviors that are characteristic of mental disorders do not necessarily violate social norms. Harmful dysfunction involves both a value component and a scientific component. Like the other definitions, however, it cannot fully account for what we study in psychopathology. Taken together, each definition of mental disorder has something helpful to offer in the study of psychopathology.

## Check Your Knowledge 1.1 (Answers are at the end of the chapter.)

1. Characteristics of stigma include all of the following *except*:
  - a. a label reflecting desirable characteristics
  - b. discrimination against those with the label
  - c. focus on differences between those with and without the label
  - d. labeling a group of people who are different
2. Which of the following definitions of mental disorder is currently thought best?
  - a. personal distress
  - b. harmful dysfunction
  - c. norm violation
  - d. none of the above
3. The DSM-IV-TR definition of mental disorder is perhaps the best current definition because:
  - a. It includes information about both violation of social norms and dysfunction.
  - b. It includes many components, none of which can alone account for mental disorder.
  - c. It is part of the current diagnostic system.
  - d. It recognizes the limits of our current understanding.

## History of Psychopathology

Many textbooks begin with a chapter on the history of the field. Why? It is important to consider how concepts and approaches have changed (or not) over time, because we can learn not to make the same mistakes made in the past and because we can see that our current concepts and approaches are likely to change in the future. As we consider the history of psychopathology, we will see that many new approaches to the treatment of mental illness throughout time appear to go well at first and are heralded with much excitement and fanfare. But these treatments eventually fall into disrepute. These are lessons that should not be forgotten as we consider more contemporary approaches to treatment and their attendant excitement and fanfare.

The search for causes of mental disorders has gone on for a considerable period of time. At different periods in history, explanations for mental disorders have been supernatural, biological, and psychological. As we quickly travel through these different periods, ask yourself what level of explanation was operating at different times.

### Early Demonology

Before the age of scientific inquiry, all good and bad manifestations of power beyond human control—eclipses, earthquakes, storms, fire, diseases, the changing seasons—were regarded as supernatural. Behavior seemingly outside individual control was also ascribed to supernatural causes. Many early philosophers, theologians, and physicians who studied the troubled mind





believed that disturbed behavior reflected the displeasure of the gods or possession by demons.

The doctrine that an evil being or spirit can dwell within a person and control his or her mind and body is called **demonology**. Examples of demonological thinking are found in the records of the early Chinese, Egyptians, Babylonians, and Greeks. Among the Hebrews, odd behavior was attributed to possession of the person by bad spirits, after God in his wrath had withdrawn protection. The New Testament includes the story of Christ curing a man with an unclean spirit by casting out the devils from within him and hurling them onto a herd of swine (Mark 5:8–13).

The belief that odd behavior was caused by possession led to treating it by **exorcism**, the ritualistic casting out of evil spirits. Exorcism typically took the form of elaborate rites of prayer, noise-making, forcing the afflicted to drink terrible-tasting brews, and on occasion more extreme measures, such as flogging and starvation, to render the body uninhabitable to devils.



Christ driving the evil spirits out of a possessed man. (Archivo Iconografico, S.A./Corbis Images.)

## Early Biological Explanations

In the fifth century B.C., Hippocrates (460?–377? B.C.), often called the father of modern medicine, separated medicine from religion, magic, and superstition. He rejected the prevailing Greek belief that the gods sent mental disturbances as punishment and insisted instead that such illnesses had natural causes and hence should be treated like other, more common maladies, such as colds and constipation. Hippocrates regarded the brain as the organ of consciousness, intellectual life, and emotion; thus, he thought that disordered thinking and behavior were indications of some kind of brain pathology. Hippocrates is often considered one of the earliest proponents of the notion that something wrong with the brain disturbs thought and action.

Hippocrates classified mental disorders into three categories: mania, melancholia, and phrenitis, or brain fever. Further, Hippocrates believed that normal brain functioning, and therefore mental health, depended on a delicate balance among four humors, or fluids of the body, namely, blood, black bile, yellow bile, and phlegm. An imbalance produced disorders. If a person was sluggish and dull, for example, the body supposedly contained a preponderance of phlegm. A preponderance of black bile was the explanation for melancholia; too much yellow bile explained irritability and anxiousness; and too much blood, changeable temperament.

Through his teachings, the phenomena associated with mental disorders became more clearly the province of physicians than of priests. The treatments Hippocrates suggested were quite different from exorcism. For melancholia, for example, he prescribed tranquility, sobriety, care in choosing food and drink, and abstinence from sexual activity. Because Hippocrates believed in natural rather than supernatural causes, he depended on his own keen observations and made valuable contributions as a clinician. He also left behind remarkably detailed records clearly describing many of the symptoms now recognized in seizure disorders, alcohol dependence, stroke, and paranoia.

Hippocrates' ideas, of course, did not withstand later scientific scrutiny. However, his basic premise—that human behavior is markedly affected by bodily structures or substances and that odd behavior is produced by some kind of physical imbalance or even damage—did foreshadow aspects of contemporary thought. In the next seven centuries, Hippocrates' naturalistic approach to disease and disorder was generally accepted by other Greeks as well as by the Romans, who adopted the medicine of the Greeks after their empire became the major power in the ancient European world.



The Greek physician Hippocrates held a biological view of mental illness, considering mental disorders to be diseases of the brain. (Archivo Iconografico, S.A./Corbis Images.)

## The Dark Ages and Demonology

Historians have often pointed to the death of Galen (A.D. 130–200), the second-century Greek who is regarded as the last great physician of the classical era, as the beginning of the so-called Dark Ages in western European medicine and in the treatment and investigation of mental disorders. Over several centuries of decay, Greek and Roman civilization ceased to be. The churches



gained in influence, and the papacy was declared independent of the state. Christian monasteries, through their missionary and educational work, replaced physicians as healers and as authorities on mental disorder.<sup>1</sup>

The monks in the monasteries cared for and nursed the sick, and a few of the monasteries were repositories for the classic Greek medical manuscripts, even though the monks may not have made use of the knowledge within these works. Monks cared for people with mental disorders by praying over them and touching them with relics; they also concocted fantastic potions for them to drink in the waning phase of the moon. Many people with mental illness roamed the countryside, destitute and progressively becoming worse. During this period, there was a return to a belief in supernatural causes of mental disorders.

**The Persecution of Witches** Beginning in the thirteenth century, in response to widespread social unrest and recurrent famines and plagues, people in Europe turned to demonology to explain these disasters. Witchcraft, now viewed as instigated by Satan, was seen as a heresy and a denial of God. Then, as today, when faced with inexplicable and frightening occurrences, people tended to seize on whatever explanation seemed most plausible. The times conspired to heap enormous blame on those regarded as witches, who were persecuted with great zeal.

In 1484, Pope Innocent VIII exhorted the clergy of Europe to leave no stone unturned in the search for witches. He sent two Dominican monks to northern Germany as inquisitors. Two years later they issued a comprehensive and explicit manual, *Malleus Maleficarum* (“the witches’ hammer”), to guide the witch hunts. This legal and theological document came

to be regarded by Catholics and Protestants alike as a textbook on witchcraft. Those accused of witchcraft should be tortured if they did not confess; those convicted and penitent were to be imprisoned for life; and those convicted and unrepentant were to be handed over to the law for execution. The manual specified that a person’s sudden loss of reason was a symptom of demonic possession and that burning was the usual method of driving out the supposed demon. Records of the period are not considered reliable, but it is thought that over the next several centuries hundreds of thousands of people, particularly women and children, were accused, tortured, and put to death.

Investigators initially believed that many of the people accused of being witches during the later Middle Ages were mentally ill (Zilboorg & Henry, 1941). The basis for this belief was the confessions of the accused that investigators interpreted as delusional beliefs or hallucinations.

More detailed research into this historical period, however, indicates that many of the accused were not mentally ill. Careful analyses of the witch hunts reveal that more healthy than ill people were tried. Confessions were typically obtained during brutal torture, having been suggested to the accused witches both by their accusers and

by the prevailing beliefs of the times. Indeed, in England, where torture was not allowed, the confessions did not usually contain descriptions resembling delusions or hallucinations (Schoeneman, 1977).

**Lunacy Trials** Evaluations of other sources of information also indicate that mental illness was not primarily ascribed to witchcraft. From the thirteenth century on, as the cities of Europe grew larger, hospitals began to come under secular jurisdiction. Municipal authorities, gaining in power, tended to supplement or take over some of the activities of the church, one of these being the care of people who were mentally ill. The foundation deed for the Holy Trinity Hospital in Salisbury, England, dating from the mid-fourteenth century, specified the purposes of the hospital, among them that the “mad are kept safe until they are restored of reason.” English laws



In the dunking test, if the woman did not drown, she was considered to be in league with the devil (and punished accordingly); this is the ultimate no-win situation. (Corbis-Bettmann.)

<sup>1</sup>The teachings of Galen continued to be influential in the Islamic world. For example, the Persian physician al-Razi (865–925) established a facility for the treatment of people with mental illness in Baghdad and was an early practitioner of psychotherapy.



during this period allowed people with mental illness to be hospitalized. Notably, the people who were hospitalized were not described as being possessed (Allderidge, 1979).

Beginning in the thirteenth century, lunacy trials to determine a person's mental health were held in England. The trials were conducted under the Crown's right to protect the people with mental illness, and a judgment of insanity allowed the Crown to become guardian of the lunatic's estate (Neugebauer, 1979). The defendant's orientation, memory, intellect, daily life, and habits were at issue in the trial. Usually, strange behavior was attributed to physical illness or injury or to some emotional shock. In all the cases that Neugebauer examined, only one referred to demonic possession. Interestingly, the term *lunacy* comes from a theory espoused by the Swiss physician Paracelsus (1493–1541), who attributed odd behavior to a misalignment of the moon and stars (the Latin word for “moon” is *luna*). This lunar explanation, even if unsubstantiated, was a welcome alternative to explanations involving demons or witches. Even today, many people believe that a full moon is linked to odd behavior; however, there is no scientific evidence to support this belief.

## Development of Asylums

Until the fifteenth century, there were very few hospitals for people with mental illness in Europe. However, there were many hospitals for people with leprosy—for example, in the twelfth century, England and Scotland had 220 leprosy hospitals serving a total population of a million and a half. Leprosy gradually disappeared from Europe, probably because with the end of the wars came a break with the eastern sources of the infection. With hospitals now underused, attention seems to have turned to people with mental illness. Leprosariums were converted to **asylums**, refuges for the confinement and care of people with mental illness.

**Bethlehem and Other Early Asylums** The Priory of St. Mary of Bethlehem was founded in 1243. Records indicate that in 1403 it housed six men with mental illness. In 1547, Henry VIII handed it over to the city of London, thereafter to be a hospital devoted solely to the confinement of people with mental illness. The conditions in Bethlehem were deplorable. Over the years the word *bedlam*, the popular name for this hospital, came to mean a place or scene of wild uproar and confusion. Bethlehem eventually became one of London's great tourist attractions, by the eighteenth century rivaling both Westminster Abbey and the Tower of London. Even as late as the nineteenth century, viewing the patients was considered entertainment, and people bought tickets to see them. Similarly, in the Lunatics Tower, which was constructed in Vienna in 1784, patients were confined in the spaces between inner square rooms and the outer walls, where they could be viewed by passersby.

Obviously, confining people with mental illness in hospitals and placing their care in the domain of medicine did not necessarily lead to more humane and effective treatment. Medical treatments were often crude and painful. Benjamin Rush (1745–1813), for example, began practicing medicine in Philadelphia in 1769 and is considered the father of American psychiatry. Yet he believed that mental disorder was caused by an excess of blood in the brain, for which his favored treatment was to draw great quantities of blood from disordered individuals (Farina, 1976). Rush also believed that many people with mental illness could be cured by being frightened. Thus, one of his recommended procedures was for the physician to convince the patient that death was near!



In this eighteenth-century painting by Hogarth, two upper-class women find amusement in touring St. Mary's of Bethlehem (Bedlam). (Corbis-Bettmann.)





The freeing of the patients at La Bicêtre (supposedly by Pinel, as pictured here) is often considered to mark the beginning of more humanitarian treatment of people with mental illness. (Stock Montage, Inc.)

**Pinel's Reforms** Philippe Pinel (1745–1826) has often been considered a primary figure in the movement for humanitarian treatment of people with mental illness in asylums. In 1793, while the French Revolution raged, he was put in charge of a large asylum in Paris known as La Bicêtre. A historian described the conditions at this particular hospital:

*[The patients were] shackled to the walls of their cells, by iron collars which held them flat against the wall and permitted little movement. They could not lie down at night, as a rule. Oftentimes there was a hoop of iron around the waist of the patient and in addition chains on both the hands and the feet. These chains [were] sufficiently long so that the patient could feed himself out of a bowl, the food usually being a mushy gruel—bread soaked in a weak soup. Since little was known about dietetics, [no attention] was paid to the type of diet given the patients. They were presumed to be animals and not to care whether the food was good or bad. (Selling, 1940, p. 54)*

Many texts assert that Pinel removed the chains of the people imprisoned in La Bicêtre, an event that was memorialized in well-known paintings. Pinel is said to have begun to treat the patients as sick human beings rather than as beasts. Light and airy rooms replaced dungeons. Many who had been completely unmanageable became calm. Patients formerly considered dangerous now strolled through the hospital and grounds without creating disturbances or harming anyone. Some patients who had been incarcerated for years were apparently restored to health and eventually discharged from the hospital.

Historical research, however, indicates that it was not Pinel who released the patients from their chains. Rather, it was a former patient, Jean-Baptiste Pussin, who had become an orderly at the hospital. In fact, Pinel was not even present when the patients were released (Weiner, 1994). Several years later, though, Pinel did praise Pussin's efforts and began to follow the same practices.

Consistent with the egalitarianism of the new French Republic, Pinel came to believe that patients in his care were first and foremost human beings, and thus, these people should be approached with compassion and understanding and treated with dignity as. He surmised that if their reason had left them because of severe personal and social problems, it might be restored to them through comforting counsel and purposeful activity.

Pinel did much good for people with mental illness, but he was no paragon of enlightenment and egalitarianism. He reserved the more humanitarian treatment for the upper classes; patients of the lower classes were still subjected to terror and coercion as a means of control, with straitjackets replacing chains.

**Moral Treatment** For a time, mental hospitals established in Europe and the United States were relatively small, privately supported, and operated along the lines of the humanitarian changes at La Bicêtre. In the United States, the Friends' Asylum, founded in 1817 in Pennsylvania, and the Hartford Retreat, established in 1824 in Connecticut, were established to provide humane treatment. In accordance with this approach, which became known as **moral treatment**, patients had close contact with attendants, who talked and read to them and encouraged them to engage in purposeful activity; residents led lives as close to normal as possible and in general took responsibility for themselves within the constraints of their disorders. Further, there were to be no more than 250 patients in a given hospital (Whitaker, 2002).

Moral treatment was largely abandoned in the latter part of the nineteenth century. Ironically, the efforts of Dorothea Dix (1802–1887), a crusader for improved conditions for people with mental illness who fought to have hospitals created for their care, helped effect this change. Dix, a Boston schoolteacher, taught a Sunday school class at the local prison and



In the nineteenth century, Dorothea Dix played a major role in establishing more mental hospitals in the United States. (Corbis Images.)



was shocked at the deplorable conditions in which the inmates lived. Her interest spread to the conditions at mental hospitals and to people with mental illness who had nowhere to go for treatment. She campaigned vigorously to improve the lives of people with mental illness and personally helped see that 32 state hospitals were built. These large, public hospitals took in many of the patients whom the private hospitals could not accommodate. Unfortunately, the small staffs of these new hospitals were unable to provide the individual attention that was a hallmark of moral treatment (Bockhoven, 1963). Moreover, the hospitals came to be administered by physicians, most of whom were interested in the biological aspects of illness and in the physical, rather than the psychological well-being of patients with mental illness. The money that had once paid the salaries of personal attendants now paid for equipment and laboratories. (See Focus on Discovery 1.2 for an examination of whether the conditions in today's mental hospitals have improved.)

## FOCUS ON DISCOVERY 1.2

### The Mental Hospital Today

In the late 1960s and early 1970s, concerns about the restrictive nature of confinement in a mental hospital led to the so-called deinstitutionalization of a large number of people with mental illness. Budget cuts beginning in the 1980s and continuing today have caused this trend to continue. But the problems of the chronically ill patient, who needs treatment in a hospital setting, have yet to be handled adequately (as we will discuss in more detail in Chapter 17). Treatment in public mental hospitals today is primarily custodial in nature. Patients live in a protected environment, but they may receive little treatment beyond medication; their existence is monotonous and sedentary for the most part.

Today, public mental hospitals in the United States are usually funded either by the federal government or by the state where they are located. Many Veterans Administration hospitals and general medical hospitals also contain units for people with mental illness. Since 1970, the number of public mental hospitals has decreased substantially. In 1969, there were 310 state or county hospitals; by 1998, there were just 229 (Geller, 2006).

With the decreasing numbers of state and county hospitals, private mental hospitals began to expand in numbers in the 1970s. In 1969, there were 150 private hospitals, but in 1998, there were 348 (Geller, 2006). This trend toward increasing private hospitals nonetheless peaked in 1992. Since then, private hospitals have also declined in number. The physical facilities and professional care in private hospitals tend to be superior to those of public hospitals for one reason: the private hospitals have more money. The costs to patients in these private institutions can exceed \$1,000 per day, and reimbursement from private insurance, Medicaid, and Medicare continues to decline.

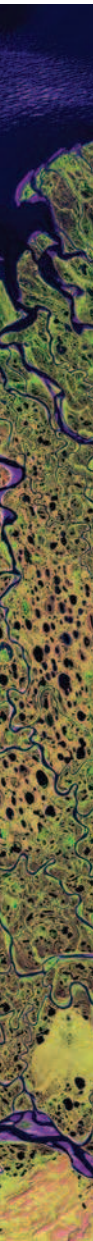
A somewhat specialized mental hospital, sometimes called a forensic hospital, is reserved for people who have been arrested and judged unable to stand trial and for those who have been acquitted of a crime by reason of insanity (see Chapter 17). Although these patients have

not been sent to prison, security staff and tight security regiment their lives. Treatment of some kind is supposed to take place during their stay.

Many hospitals require patients to attend group therapy—here, a general term indicating only that at least two patients are supposed to relate to each other and to a group leader in a room for a specific period of time. Some patients in public hospitals have a few sessions alone with a professional therapist; many more patients in private hospitals receive individual therapy. For the most part, however, traditional hospital treatment over the past 50 years has been oriented toward dispensing drugs rather than offering psychotherapy. The institutional setting itself is used as a way to provide supportive care, to try to ensure that patients take their medication, and to protect and look after patients whose conditions make it difficult for them to care for themselves or that render them a threat to others.



Most dormitory rooms at state mental hospitals are bleak and unstimulating. (Eric Roth/Index Stock.)





## Quick Summary

Early concepts of mental illness included demonology (possession by demons) but also biological approaches as evidenced by the ideas of Hippocrates. During the Dark Ages, some people with mental illness were cared for in monasteries, but many simply roamed the countryside. Some were persecuted as witches, but this was relatively rare (later analyses indicated that many of the people accused of being witches

were not mentally ill). Treatments for people with mental illness have changed over time, though not always for the better. Exorcisms did not do much good. Treatments in asylums could also be cruel and unhelpful, but pioneering work by Pinel, Dix, and others made asylums more humane places for treatment. Unfortunately, their good ideas did not last, as the mental hospitals became overcrowded and understaffed.

## Check Your Knowledge 1.2

True or false?

1. Benjamin Rush is credited with beginning moral treatment in the United States.
2. The most recent historical research has found that nearly all of the people persecuted as witches were mentally ill.
3. Hippocrates was one of the first to propose that mental illness had a biological cause.
4. The term *lunatic* is derived from the ideas of Paracelsus.

## The Evolution of Contemporary Thought

**Table 1.1 Causes of Maladies Observed among Patients in Bethlehem in the Year 1810**

Cause	Number of Patients
Childbed*	79
Contusions/fractures of skull	12
Drink/intoxication	58
Family/hereditary	115
Fevers	110
Fright	31
Grief	206
Jealousy	9
Love	90
Obstruction	10
Pride	8
Religion/Methodism	90
Smallpox	7
Study	15
Venereal	14
Ulcers/scabs dried up	5

Sources: Adapted from Appignanesi (2008); Hunter & Macalpine (1963).

\*Childbed refers to childbirth—perhaps akin to what we now call postpartum depression.

As horrific as the conditions in Bethlehem hospital were, the physicians at the time were nonetheless interested in what caused the maladies of their patients. Table 1.1 lists the hypothesized causes of the illnesses exhibited by patients in 1810 that were recorded by a physician working at Bethlehem at the time named William Black (Appignanesi, 2008). It is interesting to observe that about half of the presumed causes were biological (e.g., fever, hereditary, venereal) and half were psychological (e.g., grief, love, jealousy). Only around 10 percent of the causes were spiritual.

Contemporary developments in biological and psychological approaches to the causes and treatments of mental disorders were heavily influenced by theorists and scientists working in the late nineteenth and early twentieth centuries. We will discuss, compare, and evaluate these approaches more fully in Chapter 2. In this section, we review the historical antecedents of these more contemporary approaches.

Recall that in the West, the death of Galen and the decline of Greco-Roman civilization temporarily ended inquiries into the nature of both physical and mental illness. Not until the late Middle Ages did any new facts begin to emerge, thanks to an emerging empirical approach to medical science, which emphasized gathering knowledge by direct observation.

### Biological Approaches

**Discovering Biological Origins in General Paresis and Syphilis** The anatomy and workings of the nervous system were partially understood by the mid-1800s, but not enough was known to let investigators conclude whether the structural brain abnormalities presumed to cause various mental disorders were present or not. Perhaps the most striking medical success was the elucidation of the nature and origin of syphilis, a venereal disease that had been recognized for several centuries.

The story of this discovery provides a good illustration of how an empirical approach, the basis for contemporary science, works. Since the late 1700s it had been known that a number of people with mental illness manifested a syndrome characterized by a steady deterioration of both mental and physical abilities, including symptoms such as delusions of grandeur and



progressive paralysis; the presumed disease associated with this syndrome was given the name **general paresis**. Soon after these symptoms were recognized, investigators realized that these people never recovered. By the mid-1800s, it had been established that some patients with general paresis also had syphilis, but a connection between the two conditions was not yet made.

In the 1860s and 1870s, Louis Pasteur established the germ theory of disease, which set forth the view that disease is caused by infection of the body by minute organisms. This theory laid the groundwork for demonstrating the relation between syphilis and general paresis. Finally, in 1905, the specific microorganism that causes syphilis was discovered. For the first time, a causal link had been established between infection, destruction of certain areas of the brain, and a form of psychopathology (general paresis). If one type of psychopathology had a biological cause, so could others. Biological approaches gained credibility, and the searches for more biological causes were off and running.

**Genetics** Francis Galton (1822–1911) is often considered the originator of genetic research with twins, based on his study of twins in the late 1800s in England, where he attributed many behavioral characteristics to heredity. In the early twentieth century, investigators became intrigued by the idea that mental illness may run in families, and beginning at that time, a number of studies documented the heritability of mental illnesses such as schizophrenia, bipolar disorder, and depression. These studies would set the stage for later theories about the causes of mental illness.

Unfortunately, many of the early efforts in the United States to determine whether mental illness could be inherited were associated with the eugenics movement, whose advocates sought to eliminate undesirable characteristics from the population by restricting the ability of certain people to have children (e.g., by enforced sterilization). Among such “undesirable characteristics” was mental illness, and in a sad page from U.S. history, state laws were written in the late 1800s and early 1900s to prohibit marriage and force sterilization for people with mental illness in order to prevent them from “passing on” their illness. Such laws were upheld by the United States Supreme Court in 1927 (Chase, 1980), and it wasn’t until the middle of the twentieth century that these abhorrent practices were halted. Nevertheless, much damage had been done: by 1945, over 45,000 people with mental illness in the United States had been forcibly sterilized (Whitaker, 2002).

**Biological Treatments** The general warehousing of patients in mental hospitals earlier in the twentieth century, coupled with the shortage of professional staff, created a climate that allowed, perhaps even subtly encouraged, experimentation with radical interventions. In the early 1930s, the practice of inducing a coma with large dosages of insulin was introduced by Sakel (1938), who claimed that up to three-quarters of the people with schizophrenia whom he treated showed significant improvement. Later findings by others were less encouraging, and insulin-coma therapy—which presented serious risks to health, including irreversible coma and death—was gradually abandoned.

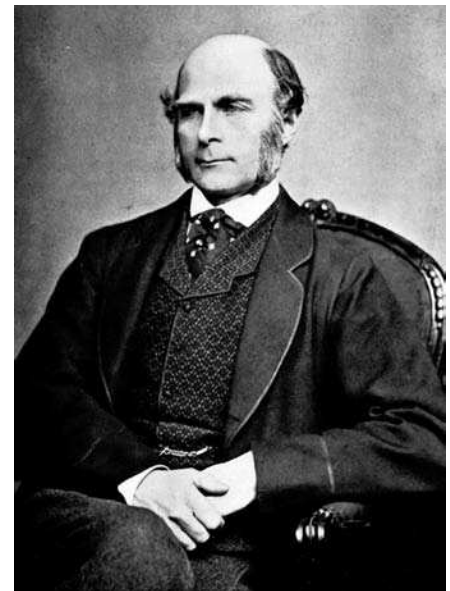
In the early twentieth century, **electroconvulsive therapy (ECT)** was originated by two Italian physicians, Ugo Cerletti and Lucino Bini. Cerletti was interested in epilepsy and was seeking a way to induce seizures experimentally. Shortly thereafter he found that by applying electric shocks to the sides of the human head, he could produce full epileptic seizures. Then, in Rome in 1938, he used the technique on a patient with schizophrenia.

In the decades that followed, ECT was administered to people with schizophrenia and severe depression, usually in hospital settings. As we will discuss in Chapter 8, it is still used today for people with severe depression. Fortunately, important refinements in the ECT procedures have made it less problematic, and it remains an effective treatment.

In 1935, Egas Moniz, a Portuguese psychiatrist, introduced the *prefrontal lobotomy*, a surgical procedure that destroys the tracts connecting the frontal lobes to other areas of the brain. His initial reports claimed high rates of success (Moniz, 1936), and for 20 years thereafter thousands of people with mental illness underwent variations of this psychosurgery. The procedure was used especially for those whose behavior was violent. Many people did indeed quiet down and could even be discharged from hospitals, largely because the brain



Galen was a Greek physician who followed Hippocrates’s ideas and is regarded as the last great physician of the classical era. (Corbis Images.)



Francis Galton is considered the originator of genetics research. (Public Domain image from Wikipedia)





Scene from *One Flew over the Cuckoo's Nest*. The character portrayed by Jack Nicholson was lobotomized in the film. (Photofest.)



Mesmer's procedure for manipulating magnetism was generally considered a form of hypnosis. (Jean-Loup Charnet/Photo Researchers.)



In this famous painting, the French psychiatrist Jean Charcot lectures on hysteria (note the woman suffering hysterical symptoms). Charcot was an important figure in reviving interest in psychological approaches. (Corbis-Bettmann.)

was damaged. During the 1950s, this intervention fell into disrepute for several reasons. After surgery, many people became dull and listless and suffered serious losses in their cognitive capacities—for example, becoming unable to carry on a coherent conversation with another person—which is not surprising given the destruction of parts of their brains that support thought and language.

## Psychological Approaches

The search for biological causes dominated the field of psychopathology until well into the twentieth century, no doubt partly because of the exciting discoveries made about general paresis and genetics. But beginning in the late eighteenth century, various psychological points of view emerged that attributed mental disorders to psychological malfunctions. These theories were fashionable first in France and Austria, and later in the United States, leading to the development of psychotherapeutic interventions based on the tenets of the individual theories.

**Mesmer and Charcot** During the eighteenth century in western Europe, many people were observed to be subject to *hysteria*, which referred to physical incapacities, such as blindness or paralysis, for which no physical cause could be found. Franz Anton Mesmer (1734–1815), an Austrian physician practicing in Vienna and Paris in the late eighteenth century, believed that hysteria was caused by a particular distribution of a universal magnetic fluid in the body. Moreover, he felt that one person could influence the fluid of another to bring about a change in the other's behavior.

Mesmer conducted meetings cloaked in mystery and mysticism, at which afflicted patients sat around a covered wooden tub, with iron rods protruding through the cover from bottles underneath that contained various chemicals. Mesmer would enter the room, take various rods from the tub, and touch afflicted parts of his patients' bodies. The rods were believed to transmit animal magnetism and adjust the distribution of the universal magnetic fluid, thereby removing the hysterical disorder. Later, Mesmer perfected his routines by simply looking at patients rather than using rods. Whatever we may think of this questionable explanation and strange procedure, Mesmer apparently helped many people overcome their hysterical problems.

Although Mesmer regarded hysteria as having strictly biological causes, we discuss his work here because he is generally considered one of the earlier practitioners of modern-day hypnosis (the word *mesmerism* is a synonym for *hypnotism*; the phenomenon itself was known to the ancients of many cultures, as part of the sorcery and magic of conjurers, fakirs, and faith healers).

Mesmer came to be regarded as a quack by his contemporaries, which is ironic, since Mesmer had earlier contributed to the discrediting of an exorcist, Father Johann Gassner, who was performing similar rituals (Harrington, 2008). Nevertheless, hypnosis gradually became respectable. The great Parisian neurologist Jean Martin Charcot (1825–1893) also studied hysterical states. Charcot initially espoused a biological point of view. One day, however, some of his enterprising students hypnotized a healthy woman and, by suggestion, induced her to display certain hysterical symptoms. Charcot was deceived into believing that she was an actual patient with hysteria. When the students showed him how readily they could remove the symptoms by waking the woman, Charcot changed his mind about hysteria and became interested in psychological interpretations of these very puzzling phenomena.



Given Charcot's prominence in Parisian society, his support of hypnosis as a worthy treatment for hysteria helped to legitimize this form of treatment among medical professionals of the time (Harrington, 2008).

**Breuer and the Cathartic Method** In the nineteenth century, a Viennese physician, Josef Breuer (1842–1925), treated a young woman, whose identity was disguised under the pseudonym Anna O., with a number of hysterical symptoms, including partial paralysis, impairment of sight and hearing, and, often, difficulty speaking. She also sometimes went into a dreamlike state, or “absence,” during which she mumbled to herself, seemingly preoccupied with troubling thoughts. During one treatment session, Breuer hypnotized her and repeated some of her mumbled words back to her. Hypnosis led to her talking more freely and, ultimately, with considerable emotion about upsetting events from her past. Frequently, on awakening from a hypnotic session she felt much better. Breuer found that the relief of a particular symptom seemed to last longer if, under hypnosis, she was able to recall the event associated with the first appearance of that symptom and if she was able to express the emotion she had felt at the time. Reliving an earlier emotional trauma and releasing emotional tension by expressing previously forgotten thoughts about the event were called catharsis, and Breuer's method became known as the **cathartic method**. In 1895, Breuer and a younger colleague, Sigmund Freud (1856–1939), jointly published *Studies in Hysteria*, partly based on the case of Anna O.

The case of Anna O. became one of the best-known clinical cases in the psychoanalytic literature. Ironically, later investigation revealed that Breuer and Freud reported the case incorrectly. Historical study by Henri Ellenberger (1972) indicates that the young woman was helped only temporarily by Breuer's talking cure. This is supported by Carl Jung, a renowned colleague of Freud's, who is quoted as saying that during a conference in 1925, Freud told him that Anna O. had never been cured. Hospital records discovered by Ellenberger confirmed that Anna O. continued to rely on morphine to ease the “hysterical” problems that Breuer is reputed to have removed by catharsis.

**Freud and Psychoanalysis** The apparently powerful role played by factors of which patients seemed unaware led Freud to postulate that much of human behavior is determined by forces that are inaccessible to awareness. The central assumption of Freud's theorizing, often referred to as **psychoanalytic theory**, is that psychopathology results from unconscious conflicts in the individual. In the next sections, we take a look at Freud's theory. See Focus on Discovery 1.3 for a look at Freud's theory of personality development.

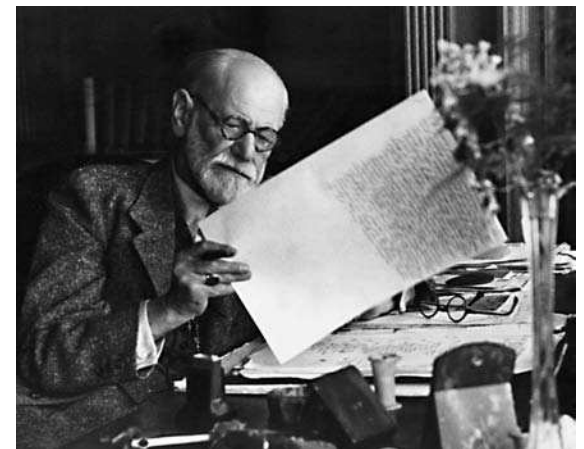
**Structure of the Mind** Freud divided the mind, or the **psyche**, into three principal parts: id, ego, and superego. According to Freud, the **id** is present at birth and is the repository of all of the energy needed to run the psyche, including the basic urges for food, water, elimination, warmth, affection, and sex. Trained as a neurologist, Freud saw the source of the id's energy as biological, and he called this energy **libido**. The individual cannot consciously perceive this energy—it is **unconscious**, below the level of awareness.

The id seeks immediate gratification of its urges, operating on what Freud called the **pleasure principle**. When the id is not satisfied, tension is produced, and the id impels a person to eliminate this tension as quickly as possible. For example, a baby feels hunger and is impelled to move about, sucking, in an attempt to reduce the tension arising from the unsatisfied drive. A person may also attempt to obtain gratification by generating images—in essence, fantasies—of what is desired. For instance, the hungry baby imagines sucking at the mother's breast and thereby obtains some substitute, short-term satisfaction. Of course, fantasizing cannot really satisfy such urges. This is where the ego comes in.

According to Freud, the **ego** begins to develop from the id during the second 6 months of life. Unlike the contents of the id, those of the ego are primarily conscious. The id may resort to fantasy when seeking satisfaction, but the task



Josef Breuer, an Austrian physician and physiologist, collaborated with Freud in the early development of psychoanalysis. (Corbis-Bettmann.)



Sigmund Freud developed psychoanalytic theory, both as a theory of the structure and functions of the mind (including explanations of the causes of mental disorders) and as a new method of therapy. (Corbis-Images.)





of the ego is to deal with reality. The ego thus operates on what Freud termed the **reality principle** as it mediates between the demands of reality and the id's demands for immediate gratification.

The **superego**—the third part of the psyche in Freud's theory—can be roughly conceived of as a person's conscience. Freud believed that the superego develops throughout childhood, arising from the ego much as the ego arises from the id. As children discover that many of their impulses—for example, biting and bed-wetting—are not acceptable to their parents, they begin to incorporate parental values as their own in order to receive the pleasure of parental approval and avoid the pain of disapproval.

**Defense Mechanisms** According to Freud, and as elaborated by his daughter Anna (A. Freud, 1946/1966), herself an influential psychoanalyst, discomforts experienced by the ego as it attempts to resolve conflicts and satisfy the demands of the id and superego can be reduced in several ways. A **defense mechanism** is a strategy used by the ego to protect itself from anxiety. Perhaps the most important defense mechanism is **repression**, the process of pushing impulses and thoughts unacceptable to the ego into the unconscious. Of course, for the strategy to work—that is, for a person to remain unaware of the existence of these unacceptable things—repression must itself take place unconsciously, out of a person's awareness (see Focus on Discovery 6.1 for a current debates about repression). Examples of other defense mechanisms are presented in Table 1.2.

**Psychoanalytic Therapy** Psychotherapy based on Freud's theory is called **psychoanalysis** or psychoanalytic therapy. It is still practiced today, although not as commonly as it once was. In Chapter 2, we will present more recent therapies derived from classical psychoanalysis. Here, we present some of the basic concepts of psychoanalysis as it was originally conceived (see Table 1.3 for a summary of psychoanalysis techniques).

Psychoanalysis attempts to help people face childhood conflicts, gain insight into them, and resolve them in the light of adult reality. Early repressions may prevent the ego from developing in an adult fashion; facing and resolving the repressed conflicts is supposed to undo such repression and enable adult development to continue.

Freud developed a number of techniques in his efforts to help people resolve repressed conflicts. With **free association**, a patient reclines on a couch, facing away from the analyst, and is encouraged to give free rein to his or her thoughts, verbalizing whatever comes to mind,

Table 1.2 Selected Defense Mechanisms

Defense Mechanism	Definition	Example
Repression	Keeping unacceptable impulses one has or wishes from conscious awareness	A professor starting a lecture she dreaded giving says, "In conclusion."
Denial	Not accepting a painful reality into conscious awareness	A victim of childhood abuse does not acknowledge it as an adult.
Projection	Attributing to someone else one's own unacceptable thoughts or feelings	A man who hates members of a racial group believes that it is they who dislike him.
Displacement	Redirecting emotional responses from their real target to someone else	A child gets mad at her brother but instead acts angrily toward her friend.
Reaction formation	Converting an unacceptable feeling into its opposite	A person with sexual feelings toward children leads a campaign against child sexual abuse.
Regression	Retreating to the behavioral patterns of an earlier stage of development	An adolescent dealing with unacceptable feelings of social inadequacy might attempt to mask those feelings by seeking oral gratification.
Rationalization	Offering acceptable reasons for an unacceptable action or attitude	A parent berates a child out of impatience, then indicates that she did so to "build character."
Sublimation	Converting unacceptable aggressive or sexual impulses into socially valued behaviors	Someone who has aggressive feelings toward his father becomes a surgeon.

Table 1.3 Major Techniques of Psychoanalysis

Technique	Description
Free association	The patient tries to say whatever comes to mind without censoring anything.
Interpretation	The analyst points out to the patient the meaning of certain of the patient's behaviors.
Analysis of transference	The patient responds to the analyst in ways that the patient has previously responded to other important figures in his or her life, and the analyst helps the patient understand and interpret these responses.

FOCUS ON DISCOVERY 1.3

Stages of Psychosexual Development

Freud conceived of the personality as developing through a series of four distinct psychosexual stages. He used the term *psychosexual* because, at each stage, a different part of the body is the most sensitive to sexual excitation and, therefore, the most capable of satisfying the id.



In Freud's theory, the first stage of psychosexual development is the oral stage, during which pleasure is obtained from feeding. (Banana Stock/Superstock.)



According to Freud, too much or too little gratification during one of the psychosexual stages may lead to regression to this stage during stress. (Jennie Woodcock; Reflections Photolibrary/Corbis Images.)

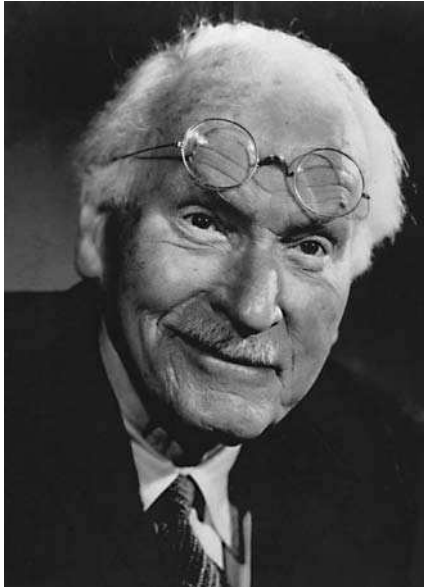
The **oral stage** is the first stage. From birth to about 18 months, the demands of an infant's id are satisfied primarily by feeding and the sucking and biting associated with it. The body parts through which the infant receives gratification at this stage are the lips, mouth, gums, and tongue. During the **anal stage**, from about 18 months to 3 years of age, a child mainly receives pleasure via the anus, by passing and retaining feces. The **phallic stage** extends from age 3 to age 5 or 6; during this stage, maximum gratification of the id is obtained through genital stimulation. Between the ages of 6 and 12, the child is in a **latency period**; during these years the id impulses do not play a major role in motivating behavior. The final and adult stage is the **genital stage**, during which heterosexual interests predominate.

During each stage, the developing person must resolve the conflicts between what the id wants and what the environment will provide. How this is accomplished is believed, in Freud's view, to determine basic personality traits that last throughout the person's life. A person who experiences either excessive or deficient amounts of gratification at a particular stage develops a **fixation** and is likely to regress to that stage when stressed.

without censoring anything. As the patient gradually masters this skill, defenses built up over many years are eventually bypassed. The patient's verbalizations more and more directly relate to the repressed material, and the patient learns to use those relationships to develop insight into the material.

Another key component of psychoanalytic therapy is the analysis of **transference**. Transference refers to the patient's responses to his or her analyst that seem to reflect attitudes and ways of behaving toward important people in the patient's past, rather than reflecting actual aspects of the analyst–patient relationship. For example, a patient might feel that the analyst is generally bored by what he or she is saying and as a result might struggle to be entertaining, and this pattern of response might reflect the patient's childhood relationship with a parent rather than what's actually going on between the patient and the analyst. Through careful observation and analysis of these transferred attitudes, Freud believed the analyst could gain insight into the childhood origins of the patient's repressed conflicts. In the example above, the analyst might find that the patient was made to feel boring and unimportant as a child and could only gain parental attention through humor.

As previously repressed material begins to appear in therapy, the technique of **interpretation** comes into play—the analyst points out to the patient the meanings of certain of the patient's behaviors. Defense mechanisms are a principal focus of interpretation. For instance, a man who appears to have trouble with intimacy may look out the window and change the subject whenever anything touches on closeness during the course of a session. The analyst will attempt at some point to interpret the patient's behavior, pointing out its defensive nature in the hope of stimulating the patient to acknowledge that he is in fact avoiding the topic.



Carl Jung was the founder of analytical psychology. (Topham/The Image Works.)

**Neo-Freudian Psychodynamic Perspectives** Several of Freud's contemporaries met with him periodically to discuss psychoanalytic theory and therapy. As often happens when a brilliant leader attracts brilliant followers and colleagues, disagreements arose about many general issues, such as the relative importance of id versus ego, of biological versus socio-cultural forces on psychological development, of unconscious versus conscious processes, and of childhood versus adult experiences; whether sexual urges drive behaviors that are not obviously sexual; and the role of reflexlike id impulses versus that of purposive behavior governed primarily by conscious ego deliberations. We discuss two influential historical figures here: Carl Jung and Alfred Adler, as well as the later development of the school of thought called ego analysis.

**Jung and Analytical Psychology** Carl Gustav Jung (1875–1961), a Swiss psychiatrist originally considered Freud's heir apparent, broke with Freud in 1914 on many issues, after a 7-year period of intense correspondence about their disagreements. Jung proposed ideas radically different from Freud's, ultimately establishing **analytical psychology**.

Jung hypothesized that in addition to the personal unconscious postulated by Freud, there is a **collective unconscious**, the part of the unconscious that is common to all human beings and that consists primarily of what Jung called *archetypes*, or basic categories that all human beings use in conceptualizing about the world. In addition, Jung asserted that each of us has masculine and feminine traits that are blended and that people's spiritual and religious urges are as basic as their id urges. Jung also catalogued various personality characteristics; perhaps most important among them are extraversion (an orientation toward the external world) versus introversion (an orientation toward the inner, subjective world). This personality dimension continues to be regarded as very important, and we will encounter it again in our discussion of personality disorders in Chapter 12.

**Adler and Individual Psychology** Alfred Adler (1870–1937), also an early adherent of Freud's theories, came to be even less dependent on Freud's views than was Jung, and Freud remained quite bitter toward Adler after their relationship ended. Adler's theory, which came to be known as **individual psychology**, regarded people as inextricably tied to their society because he



Alfred Adler was the founder of individual psychology. (Corbis-Bettmann.)





believed that fulfillment was found in doing things for the social good. Like Jung, he stressed the importance of working toward goals (Adler, 1930).

A central element in Adler's work was his focus on helping individual patients change their illogical and mistaken ideas and expectations; Adler believed that feeling and behaving better depend on thinking more rationally, an approach that anticipated contemporary developments in cognitive behavior therapy (discussed in Chapter 2).

**Ego Analysis** After Freud's death, a group of practitioners generally referred to as ego analysts introduced some important modifications to psychoanalytic theory. The major figures in this loosely formed movement included Karen Horney (1942), Anna Freud (1946/1966), Erik Erikson (1950), David Rapaport (1951), and Heinz Hartmann (1958).

Those who subscribed to ego analysis placed greater emphasis on a person's ability to control the environment and to select the time and the means for satisfying basic drives. Their fundamental contention was that the individual is as much ego as id. That is, they contended that ego functions, which are assumed to be present at birth and then develop through experience, have energies and gratifications of their own, usually separate from the gratification of id impulses. In addition, they focused more on the individual's current living conditions than did Freud, although they sometimes advocated delving deeply into the historical causes of an individual's behavior. Also, whereas Freud viewed the relationship of the individual to society as a struggle to overcome social inhibitions and achieve unfettered gratification of id urges, the ego analysts held that an individual's social interactions can provide their own special kind of gratification.

## Quick Summary

The nineteenth and twentieth centuries saw a return to biological explanations for mental illness. Developments outside the field of psychopathology, such as the germ theory of disease and the discovery of the cause of syphilis, illustrated how the brain and behavior were linked. Early investigations into the genetics of mental illness led to a tragic emphasis on eugenics and the enforced sterilization of many thousands of people with mental illness. Such biological approaches to treatment as induced insulin coma, electroconvulsive therapy, and lobotomy eventually gave way to drug treatments. Psychological approaches to psychopathology

evolved from Mesmer's manipulation of "magnetism" to treat hysteria (late eighteenth century) through Breuer's conceptualization of the cathartic method in his treatment of Anna O. (late nineteenth century) and culminated in Freud's psychoanalytic theories and treatment techniques (early twentieth century). Jung and Adler took Freud's basic ideas in a variety of different directions. Those who developed ego analysis maintained that the ego has energies of its own that are just as important as id energies and that it is important to focus on a person's current living situation as well as his or her social interactions.



## Check Your Knowledge 1.3

Fill in the blanks.

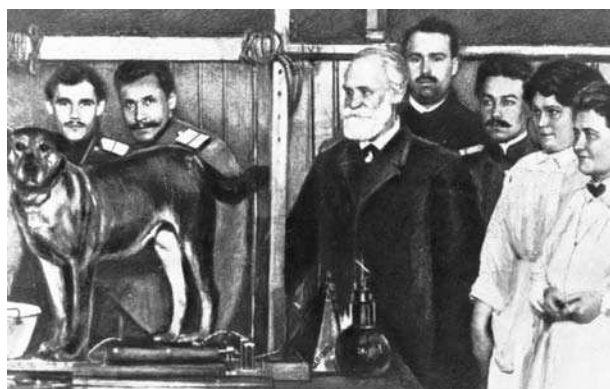
1. \_\_\_\_\_ was a French neurologist who was influenced by the work of \_\_\_\_\_.
2. \_\_\_\_\_ developed the cathartic method, which \_\_\_\_\_ later built on in the development of psychoanalysis.
3. The \_\_\_\_\_ is driven by the pleasure principle, but the \_\_\_\_\_ is driven by the reality principle.
4. In psychoanalysis, \_\_\_\_\_ refers to interpreting the relationship between therapist and client as indicative of the client's relationship to others.
5. \_\_\_\_\_ developed the concept of the collective unconscious; \_\_\_\_\_ developed the technique of free association; \_\_\_\_\_ is associated with individual psychology.
6. Ego analysis emphasized the importance of the \_\_\_\_\_ more than the \_\_\_\_\_.







John B. Watson, an American psychologist, was the major figure in establishing behaviorism. (Underwood & Underwood/Corbis Images.)



Ivan P. Pavlov, a Russian physiologist and Nobel laureate, made important contributions to the research and theory of classical conditioning. (Culver Pictures, Inc.)

**The Rise of Behaviorism** After some years, many in the field began to lose faith in Freud's approach. This dissatisfaction was brought to a head by John B. Watson (1878–1958), who in 1913 revolutionized psychology with his views.

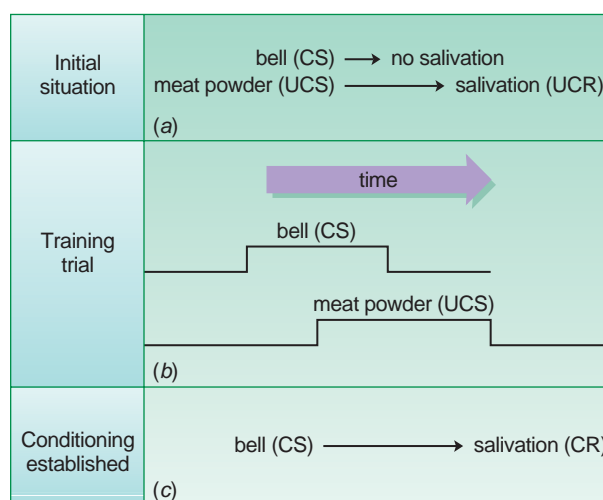
Watson looked to the experimental procedures of the psychologists who were investigating learning in animals, and because of his efforts, the dominant focus of psychology switched from thinking to learning. **Behaviorism** focuses on observable behavior rather than on consciousness or mental functioning. We will look at three types of learning that influenced the behaviorist approach in the early and middle parts of the twentieth century and that continue to be influential today: classical conditioning, operant conditioning, and modeling.

**Classical Conditioning** Around the turn of the twentieth century, the Russian physiologist and Nobel laureate Ivan Pavlov (1849–1936) discovered **classical conditioning**, quite by accident. As part of his study of the digestive system, Pavlov gave a dog meat powder to make it salivate. Before long, Pavlov's laboratory assistants became aware that the dog began salivating when it saw the person who fed it. As the experiment continued, the dog began to salivate even earlier, when it heard the footsteps of its feeder. Pavlov was intrigued by these findings and decided to study the dog's reactions systematically. In the first of many experiments, a bell was rung behind the dog and then the meat powder was placed in its mouth. After this procedure had been repeated a number of times, the dog began salivating as soon as it heard the bell and before it received the meat powder.

In this experiment, because the meat powder automatically elicits salivation with no prior learning, the powder is termed an **unconditioned stimulus (UCS)** and the response of salivation an **unconditioned response (UCR)**. When the offering of meat powder is preceded several times by a neutral stimulus, the ringing of a bell, the sound of the bell alone (the **conditioned stimulus**, or **CS**) is able to elicit the salivary response (the **conditioned response**, or **CR**) (see Figure 1.3). As the number of paired presentations of the bell and the meat powder increases, the number of salivations elicited by the bell alone increases. What happens to an established CR if the CS is no longer followed by the UCS—for example, if repeated soundings of the bell are not followed by meat powder? The answer is that fewer and fewer CRs (salivations) are elicited, and the CR gradually disappears. This is termed **extinction**.

Classical conditioning can even instill pathological fear. A famous but ethically questionable experiment conducted by John Watson and Rosalie Rayner (1920) involved introducing a white rat to an 11-month-old boy, Little Albert. The boy showed no fear of the animal and appeared to want to play with it. But whenever the boy reached for the rat, the experimenter

**Figure 1.3** The process of classical conditioning. (a) Before learning, the meat powder (UCS) elicits salivation (UCR), but the bell (CS) does not. (b) A training or learning trial consists of presentations of the CS, followed closely by the UCS. (c) Classical conditioning has been accomplished when the previously neutral bell elicits salivation (CR).





made a loud noise (the UCS) by striking a steel bar behind Albert's head. This caused Little Albert great fright (the UCR). After five such experiences, Albert became very frightened (the CR) by the sight of the white rat, even when the steel bar was not struck. The fear initially associated with the loud noise had come to be elicited by the previously neutral stimulus, the white rat (now the CS). This study suggests a possible relationship between classical conditioning and the development of certain emotional disorders, in this instance a phobia. It is important to note that this type of study could never be done today because it breaches ethical standards.

**Operant Conditioning** In the 1890s, Edward Thorndike (1874–1949) began work that led to the discovery of another type of learning. Rather than investigate the association between stimuli, as Pavlov did, Thorndike studied the effects of consequences on behavior. Thorndike formulated what was to become an extremely important principle, the **law of effect**: behavior that is followed by consequences satisfying to the organism will be repeated, and behavior that is followed by noxious or unpleasant consequences will be discouraged.

B. F. Skinner (1904–1990) introduced the concept of **operant conditioning**, so called because it applies to behavior that operates on the environment. Renaming Thorndike's "law of effect" the "principle of reinforcement," Skinner distinguished two types of reinforcement. **Positive reinforcement** refers to the strengthening of a tendency to respond by virtue of the presentation of a pleasant event, called a positive reinforcer. For example, a water-deprived pigeon will tend to repeat behaviors (operants) that are followed by the availability of water. **Negative reinforcement** also strengthens a response, but it does so via the removal of an aversive event, such as the cessation of electric shock. Extrapolating his extensive work with pigeons to complex human behavior (his book *Walden Two* is one of the better-known utopian novels, describing an ideal society governed by his principles of reinforcement), Skinner argued that freedom of choice is a myth and that all behavior is determined by the reinforcers provided by the environment.

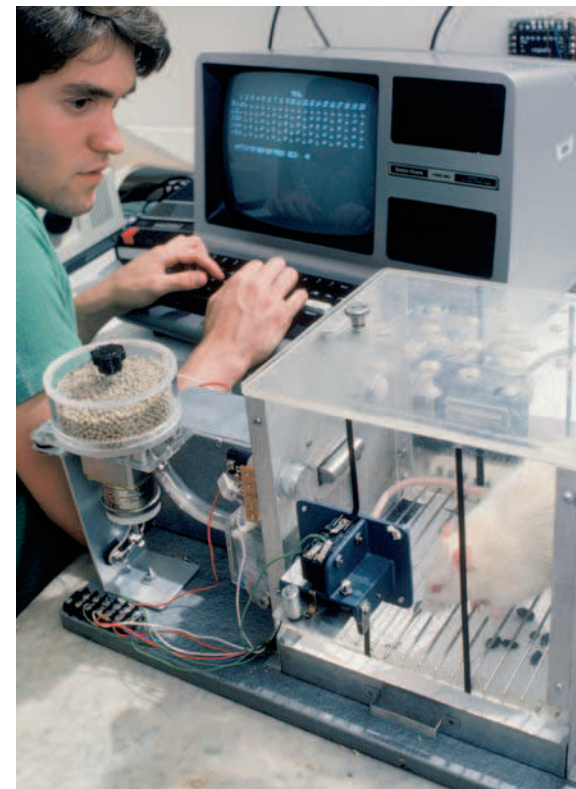
In a prototypical operant conditioning experiment, a hungry rat might be placed in a box, known as a Skinner box, which has a lever located at one end. The rat will explore its new environment and by chance come close to the lever. The experimenter may then drop a food pellet into the receptacle located near the lever. After a few such rewards, the animal will come to spend more and more time in the area around the lever. But now the experimenter may drop a pellet into the receptacle only when the rat happens to touch the lever. After capitalizing on a few chance touches, the rat begins to touch the lever frequently. With lever touching well established, the experimenter can make the criterion for reward more stringent—the animal must now actually press the lever. Thus the desired operant behavior, lever pressing, is gradually achieved by **shaping**, that is, by rewarding a series of responses, called successive approximations, that more and more closely resemble the desired response. The number of lever presses increases as soon as they become the criterion for the release of pellets and decreases, or extinguishes, when the pellet is no longer dropped into the receptacle after a lever press.

Operant conditioning principles may contribute to the persistence of aggressive behavior, a key feature of conduct disorder (see Chapter 14). Aggression is often rewarded, as when one child hits another to secure the possession of a toy (getting the toy is the reinforcer). Parents may also unwittingly reinforce aggression by giving in when their child becomes angry or threatens violence to achieve some goal, such as staying up late to watch TV.

**Modeling** Learning often goes on even in the absence of reinforcers. We all learn by watching and imitating others, a process called **modeling**. In the 1960s, experimental work demonstrated that witnessing someone perform certain activities can increase or decrease diverse kinds of behavior, such as sharing, aggression, and fear. For example, Bandura and Menlove (1968) used



B. F. Skinner originated the study of operant conditioning and the extension of this approach to education, psychotherapy, and society as a whole. (Kathy Bendo for John Wiley & Sons.)



Skinner boxes are often used in studies of operant conditioning to demonstrate how behavior can be shaped by reinforcing it. (Index Stock.)





Aggressive responses in children are often rewarded, which makes them more likely to occur in the future. In this photo, the more aggressive child gets to keep the toy. (Ken Cavanagh/ Photo Researchers.)

a modeling treatment to reduce fear of dogs in children. After witnessing a fearless model engage in various activities with a dog, initially fearful children showed an increase in their willingness to approach and handle a dog. Children of parents with phobias or substance abuse problems may acquire similar behavior patterns, in part through observation.

**Behavior Therapy** Behavior therapy emerged in the 1950s. In its initial form, this therapy applied procedures based on classical and operant conditioning to alter clinical problems. Sometimes the term *behavior modification* is used as well, and therapists who employ operant conditioning as a means of treatment often prefer that term. Behavior therapy was an attempt to change behavior, thoughts, and feelings by applying in a clinical context the methods used and the discoveries made by experimental psychologists.

One technique, **aversive conditioning**, played an important historical role in the development of behavior therapy. In aversive conditioning, a stimulus attractive to a person is paired with an unpleasant event, such as a drug that produces nausea or a painful electric shock applied to the hand, in the hope of endowing it with negative properties. For example, a person who wishes to stop drinking might be asked to smell alcohol while he or she is being made nauseous by a drug. Aversive techniques have been employed to reduce smoking, drug use, and socially inappropriate attractions such as the sexual arousal that children produce in people with pedophilia.

Aversion therapy has been controversial for ethical reasons because it involves inflicting pain and discomfort on people. Currently, it is rarely used as the only treatment for a particular problem. For example, in treating a person dependent on alcohol, the aversion treatment may help to temporarily reduce the problem behavior while the person is taught new ways of coping with stress.

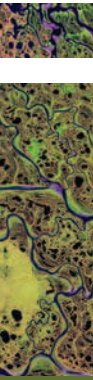
One important behavior therapy technique that is still used to treat phobias and anxiety today is called **systematic desensitization**. This technique was developed by Joseph Wolpe in 1958, and it includes two components: (1) deep muscle relaxation and (2) gradual exposure to a list of feared situations, starting with those that arouse minimal anxiety and progressing to those that are the most frightening. Wolpe hypothesized that a state or response opposite to anxiety is substituted for anxiety as the person is exposed gradually to stronger and stronger doses of what he or she fears. We will cover this technique in more detail in Chapter 2, as it remains an important part of current forms of cognitive behavior therapy.

Modeling was also included in behavior therapy starting in the 1960s. For example, people reduced their fear of snakes by viewing both live and filmed encounters in which other people gradually approached and successfully handled snakes (Bandura, Blanchard, & Ritter, 1969). Fears of surgery and dental work have also been treated in a similar manner (Melamed & Siegel, 1975).

## Quick Summary

Behaviorism began its ascendancy in the 1920s and continues to be an important part of various psychotherapies. John Watson built on the work of Ivan Pavlov in showing how some behaviors can be conditioned. B. F. Skinner, building on the work of Edward Thorndike, emphasized the contingencies associated with behavior, showing

how positive and negative reinforcement could shape behavior. Research on modeling helped to explain how people can learn even when no obvious reinforcers are present. Early behavior therapy techniques included systematic desensitization, aversion therapy, and modeling.



## Check Your Knowledge 1.4

True or false?

1. Positive reinforcement refers to increasing a desired behavior, while negative reinforcement refers to eliminating an undesirable behavior.
2. Among the different techniques in behavior therapy, aversion therapy has been criticized on ethical grounds.
3. A cat comes running at the sound of a treat jar rattling, and his human friend then gives him a treat. The conditioned stimulus in this example is the sound of the jar rattling.

## The Mental Health Professions

As views of mental disorders have evolved, so, too, have the professions associated with the field. Professionals authorized to provide psychological services include clinical psychologists, psychiatrists, psychiatric nurses, counseling psychologists, social workers, and marriage and family therapists. The need for such professions has never been greater. For example, a recent study found that the cost of mental disorders in the United States is nearly \$200 billion a year in lost earnings (Kessler et al., 2008). People with serious mental illness are often not able to work due to their illness, and as a result their yearly earnings are substantially less than those of people without mental illness (by as much as \$16,000 a year!). In this section, we discuss the different types of mental health professionals that seek to treat people with mental disorders, the different types of training they receive, and a few related issues.

**Clinical psychologists** (such as the authors of this textbook) must have a Ph.D. or Psy.D. degree, which entails 4 to 8 years of graduate study. Training for the Ph.D. in clinical psychology is similar to that in other psychological specialties, such as developmental or cognitive neuroscience. It requires a heavy emphasis on research, statistics, neuroscience, and the empirically based study of human and animal behavior. As in other fields of psychology, the Ph.D. is basically a research degree, and candidates are required to write a dissertation on a specialized topic. But candidates in clinical psychology learn skills in two additional areas, which distinguish them from other Ph.D. candidates in psychology. First, they learn techniques of assessment and diagnosis of psychopathology; that is, they learn the skills necessary to determine whether a person's symptoms or problems indicate a particular disorder. Second, they learn how to practice **psychotherapy**, a primarily verbal means of helping people change their thoughts, feelings, and behavior to reduce distress and to achieve greater life satisfaction. Students take courses in which they master specific techniques and treat patients under close professional supervision; then, during an intensive internship, they assume increasing responsibility for the care of patients.

Another degree option for clinical psychologists is the Psy.D. (doctor of psychology), for which the curriculum is similar to that required of Ph.D. students, but with less emphasis on research and more on clinical training. The thinking behind this approach is that clinical psychology has advanced to a level of knowledge and certainty that justifies intensive training in specific techniques of assessment and therapeutic intervention rather than combining practice with research. On the other hand, conducting assessment or therapy without a sufficient empirical basis is professionally dubious. As of 2002, there were nearly 90,000 clinical psychologists in the United States (Duffy et al., 2004). By 2003, estimates suggested that there were more clinical psychologists than needed to adequately deliver services, and this was negatively impacting clinical psychologists' salaries (Robiner, 2006).

**Psychiatrists** hold an M.D. degree and have had postgraduate training, called a residency, in which they have received supervision in the practice of diagnosis and pharmacotherapy (administering medications). By virtue of the medical degree, and in contrast with psychologists, psychiatrists can function as physicians—giving physical examinations, diagnosing medical problems, and the like. Most often, however, the only aspect of medical practice in which



psychiatrists engage in prescribing **psychoactive medications**, chemical compounds that can influence how people feel and think. Psychiatrists may receive some training in psychotherapy as well, though this is not a strong focus of training. In contrast to clinical psychologists, there is a shortage of psychiatrists, largely due to budget cuts in residency training programs. In 2000, there were over 40,000 psychiatrists in the United States. (Robiner, 2006).

Over the past 15 years, there has been a lively and sometimes acrimonious debate about whether to allow clinical psychologists with suitable training to prescribe psychoactive medications. Such a move is opposed not only by psychiatrists, whose turf would be invaded, but also by many psychologists, who view it as an ill-advised dilution of the basic behavioral science focus of psychology. Also at issue is the question of whether a non-M.D. can learn enough about neurobiology and neurochemistry to monitor the effects of drugs and protect patients from adverse side effects and drug interactions. Currently two states (New Mexico and Louisiana) allow psychologists to prescribe medication following the receipt of additional training; several other states are considering similar legislation.

A **psychiatric nurse** typically receives bachelor's or master's level training. Nurses can also receive more specialized training as a nurse practitioner that will allow them to prescribe psychoactive medications. There are currently over 18,000 psychiatric nurses in the United States, but the trend appears to be more toward emphasizing training as a nurse practitioner in order to secure prescription privileges (Robiner, 2006).

Other graduate programs are more focused on clinical practice than are the traditional Ph.D. programs. One of these is counseling psychology. **Counseling psychologists** originally dealt mostly with vocational issues; their focus today may be quite similar to that in clinical psychology, though still with less of an emphasis on mental disorders and more of an emphasis on prevention, education, and general life problems. Counseling psychologists work in a variety of settings, including schools, mental health agencies, industry, and community health centers. In 2002, there were 85,000 counseling psychologists working in mental health (Robiner, 2006).

**Social workers** have an M.S.W. (master of social work) degree. Training programs are shorter than Ph.D. programs, typically requiring 2 years of graduate study. The focus of training is on psychotherapy. Those in social work graduate programs do not receive training in psychological assessment. In 2002, there were close to 100,000 social workers in the United States who provided direct mental health services that were also part of the National Association of Social Workers (Duffy et al., 2004).

**Marriage and family therapists** (MFTs) treat families or couples, focusing on the ways in which these relationships impact a variety of mental health issues. Specialized programs in marriage and family therapy can be at the master's or doctoral levels. Some M.S.W. programs offer specialized training and certification in marriage and family therapy. In 2002, there were just over 47,000 marriage and family therapists in the United States, the majority having master's level training.

## Summary

- The study of psychopathology is a search for the reasons why people behave, think, and feel in unexpected, sometimes odd, and possibly self-defeating ways. Unfortunately, people who have a mental illness are often stigmatized. Reducing the stigma associated with mental illness remains a great challenge for the field.

- In evaluating whether a behavior is part of a mental disorder, psychologists consider several different characteristics, including personal distress, disability, violation of social norms, and dysfunction. Each characteristic tells us something about what can be considered mental disorder, but no one by itself provides a fully satisfactory definition. The DSM-IV-TR definition includes all of these characteristics.

- Since the beginning of scientific inquiry into mental disorders, supernatural, biological, and psychological points of view have vied for attention. More supernatural viewpoints included early demonology, which posited that people with mental illness are possessed by demons or evil spirits, leading to treatments such as exorcism. Early biological viewpoints originated in the writings of Hippocrates. After the fall of Greco-Roman civilization, the biological perspective became less prominent in western Europe, and demonological thinking gained ascendancy, as evidenced by the persecution of so-called witches. Beginning in the fifteenth century, people with mental illness were often confined in asylums, such as Bethlehem; treatment in asylums was generally poor or nonexistent until various humanitarian reforms

were instituted. In the twentieth century, genetics and mental illness became an important area of inquiry, though the findings from genetic studies were used to the detriment of people with mental illness during the eugenics movement.

- Psychological viewpoints emerged in the nineteenth century from the work of Charcot and the writings of Breuer and Freud. Freud's theory emphasized stages of psychosexual development and the importance of unconscious processes, such as repression and defense mechanisms that are traceable to early-childhood conflicts. Therapeutic interventions based on psychoanalytic theory make use of techniques such as free association and the analysis of transference in attempting to overcome repressions so that patients can confront and understand their conflicts and find healthier ways of dealing with them. Later theorists such as Jung and Adler made various modifications in Freud's basic ideas and emphasized different factors in their

perspectives on therapy. A later school of thought, ego analysis, emphasized the ego more than the id, current living conditions, and gratification from social interactions.

- Behaviorism suggested that behavior develops through classical conditioning, operant conditioning, or modeling. B. F. Skinner introduced the ideas of positive and negative reinforcement and showed that operant conditioning can shape behavior. Behavior therapists try to apply these ideas to change undesired behavior, thoughts, and feelings.

- There are a number of different mental health professions, including clinical psychologist, psychiatrist, counseling psychologist, psychiatric nurse, social worker, and marriage and family therapist. Each involves different training programs of different lengths and with different emphases on research, psychological assessment, psychotherapy, and psychopharmacology.

## Answers to Check Your Knowledge Questions

**1.1** 1. a; 2. d; 3. b

**1.2** 1. F; 2. F; 3. T; 4. T

**1.3** 1. Charcot, Mesmer; 2. Breuer, Freud; 3. id, ego; 4. transference; 5. Jung, Freud, Adler; 6. ego, id.

**1.4** 1. F; 2. T; 3. T

## Key Terms

anal stage  
analytical psychology  
asylums  
aversive conditioning  
behaviorism  
behavior therapy  
cathartic method  
classical conditioning  
clinical psychologist  
collective unconscious  
conditioned response (CR)  
conditioned stimulus (CS)  
counseling psychologist  
defense mechanism  
demonology

ego  
ego analysis  
electroconvulsive therapy (ECT)  
exorcism  
extinction  
fixation  
free association  
general paresis  
genital stage  
harmful dysfunction  
id  
individual psychology  
interpretation  
latency period  
law of effect

libido  
marriage and family therapist  
mental disorder  
modeling  
moral treatment  
negative reinforcement  
operant conditioning  
oral stage  
phallic stage  
pleasure principle  
positive reinforcement  
psyche  
psychiatric nurse  
psychiatrist  
psychoactive medications

psychoanalysis  
psychoanalytic theory  
psychopathology  
psychotherapy  
reality principle  
repression  
shaping  
social worker  
stigma  
superego  
systematic desensitization  
transference  
unconditioned response (UCR)  
unconditioned stimulus (UCS)  
unconscious

# 2

## Current Paradigms in Psychopathology

### LEARNING GOALS

1. Be able to describe the essentials of the genetic, neuroscience, psychodynamic, and cognitive behavioral paradigms.
2. Be able to describe the concept of emotion and how it may be relevant to psychopathology.
3. Be able to explain how culture, ethnicity, and social factors figure into the study and treatment of psychopathology.
4. Be able to recognize the limits of adopting any one paradigm and the importance of integration across multiple levels of analysis, as in the diathesis-stress integrative paradigm.

**A**S WE NOTED IN Chapter 1, we face an enormous challenge to remain objective when trying to understand and study psychopathology scientifically. Science is a human enterprise that is bound by scientists' human limitations; it is also bound by the current state of scientific knowledge. We cannot ask questions or investigate phenomena that go beyond what human beings can understand, and it is very difficult even to go beyond what we currently understand. Our view is that every effort should be made to study psychopathology according to scientific principles. But science is not a completely objective and certain enterprise. Rather, as suggested by philosopher of science Thomas Kuhn (1962/1970), subjective factors as well as our human limitations enter into the conduct of scientific inquiry.

Central to scientific activity, in Kuhn's view, is the notion of a **paradigm**, a conceptual framework or approach within which a scientist works—that is, a set of basic assumptions, a general perspective, that defines how to conceptualize and study a subject, how to gather and interpret relevant data, even how to think about a particular subject.<sup>1</sup> A paradigm has profound implications for how scientists operate at any given time. Paradigms specify what problems scientists will investigate and how they will go about the investigation.

In this chapter we consider current paradigms of psychopathology and treatment. We present four paradigms that guide the study and treatment of psychopathology: genetic, neuroscience, psychodynamic, and cognitive behavioral. We also consider the important role of emotion and sociocultural factors in psychopathology. These factors cut across all the paradigms and are significant in terms of the description, causes, and treatments of all the disorders we will discuss in this book.

<sup>1</sup>William O'Donohue (1993) has criticized Kuhn's use of the concept of paradigm, noting that he was inconsistent in its definition. The complexities of this argument are beyond the scope of this book. Suffice to say that we find it useful to organize our thinking about mental disorders around the paradigm concept. We use the term to refer to the general perspectives that constrain the way scientists collect and interpret information in their efforts to understand the world.



Current thinking about psychopathology is multifaceted. The work of clinicians and researchers is informed by an awareness of the strengths and limitations of all the paradigms. For this reason, current views of psychopathology and its treatment typically integrate several paradigms. At the end of this chapter we describe another paradigm—diathesis–stress—that provides the basis for an integrative approach.

For researchers and clinicians, the choice of a paradigm has important consequences for the way in which they define, investigate, and treat psychopathology. Our discussion of paradigms will lay the groundwork for the topics covered in the rest of the book. We note at the outset that no one paradigm offers the “complete” conceptualization of psychopathology. Rather, for most disorders, each paradigm offers some important information with respect to etiology and treatment, but only part of the picture.

## The Genetic Paradigm

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*... the more we lift the lid on the genome, the more vulnerable to experience genes appear to be.*  
(Ridley, 2003, p. 4).

In 2003, we celebrated the fiftieth anniversary of the discovery of human DNA's double-helix structure. That has been coupled with the virtual explosion of information regarding human genetics in just the past 8 or 9 years. The **genetic paradigm** has guided a number of discoveries regarding human behavior since the early part of the twentieth century. However, the changes that have occurred recently have transformed the way we think about genes and behavior. We no longer have to wonder, “Is nature or nurture responsible for human behavior?” We now know (1) almost all behavior is heritable to some degree (i.e., involves genes), and (2) despite this, genes do not operate in isolation from the environment. Instead, throughout the life span, the environment shapes how our genes are expressed, and our genes also shape our environments (Plomin et al., 2003; Rutter & Silberg, 2002; Turkheimer, 2000).

The more contemporary way to think about genes and the environment is cast as “nature via nurture” (Ridley, 2003). In other words, researchers are learning how environmental influences, such as stress, relationships, and culture (the nurture part), shape which of our genes are turned on or off and how our genes (the nature part) influence our bodies and brain. We know that without genes, a behavior might not be possible. But without the environment, genes could not express themselves and thus contribute to the behavior.

When the ovum, the female reproductive cell, is joined by the male's sperm, a zygote, or fertilized egg, is produced. It has 46 chromosomes, the number characteristic of a human being. Each chromosome is made up of many **genes**, the carriers of the genetic information (DNA) passed from parents to child.

In the year 2001, two different groups of researchers announced that the human genome consisted of around 30,000 genes. At first, this news was surprising, since researchers had been thinking the human genome consisted of closer to 100,000 genes. After all, the mere fruit fly has around 14,000 genes—researchers had thought that surely human beings were several times more complex than that! As it turns out, however, one of the exciting things about this discovery was the revelation from dozens of other genetic labs that the number of genes was not all that important. Instead, it is the sequencing, or ordering, of these genes as well as the expression of these genes that make us unique. Genes are essentially responsible for making proteins that in turn make the body and brain work. Some of these proteins switch, or turn, on and off other genes, a process called **gene expression**. Learning about the flexibility of genes and how they switch on or off has closed the door on beliefs about the inevitability of the effects of genes, good or bad. As we will illustrate throughout this book, the data do not often support the supposition that if you have the genes for x, you will necessarily get x. With respect to most mental illnesses, there will likely not be just one gene that contributes vulnerability. Instead, psychopathology will be **polygenic**, meaning several genes, perhaps operating at different times during the course of development, will be the essence of genetic vulnerability.





Shared environment refers to things families have in common, like marital quality. (Blend Images/SuperStock, Inc.)

An important term that will be used throughout the book is **heritability**. Heritability refers to the extent to which variability in a particular behavior (or disorder) in a population can be accounted for by genetic factors. This term can be easily misused or misunderstood. There are two important points about heritability to keep in mind.

1. Heritability estimates range from 0.0 to 1.0: the higher the number, the greater the heritability.
2. Heritability is relevant only for a large population of people, not a particular individual. Thus, it is incorrect to talk about any one person's heritability for a particular behavior or disorder. Knowing that the heritability of attention-deficit/hyperactivity disorder (ADHD) is around 0.70 does not mean that 70 percent of Jane's ADHD is because of her genes and 30 percent is due to other factors. It means that in a population (e.g., a large sample in a study), the variation in ADHD is understood as being attributed to 70 percent genes and 30 percent environment.

Other terms that are important in genetic research involve environmental factors. **Shared environment** factors include those things that members of a family have in common, such as family income level, child-rearing practices, and parents' marital status and quality. **Nonshared environment** factors are those things believed to be distinct among members of family, such as relationships with friends or specific events unique to a person (e.g., being in a car accident or on the swim team), and these are believed to be important in understanding why two siblings from the same family can be so different. Consider an example. Jason is a 34-year-old man who is dependent on alcohol and struggling to keep his job. His sister Joan is a 32-year-old executive in a computer company in San Jose and has no alcohol or drug problems. Jason did not have many friends as a child; Joan was one of the most popular girls in high school. Jason and Joan shared several influences, including their family atmosphere growing up. They also had nonshared experiences, such as differences in peer relationships. Behavior genetics research suggests that the nonshared experiences have much more to do with the development of mental illness than the shared experiences.

We now turn to review two broad approaches in the genetic paradigm, including behavior genetics and molecular genetics. We then discuss the exciting evidence on the ways in which genes and environments interact. This sets the stage for our discussion of an integrative paradigm later in this chapter.



Nonshared environment refers to factors that are distinct among family members, such as having different groups of friends. (Pixland/SuperStock, Inc.)

## Behavior Genetics

**Behavior genetics** is the study of the degree to which genes and environmental factors influence behavior. To be clear, behavior genetics is not the study of *how* genes or the environment determine behavior. Many behavior genetics studies estimate the heritability of a mental illness, without providing any information about how the genes might work. The total genetic makeup of an individual, consisting of inherited genes, is referred to as the **genotype** (physical sequence of DNA); the genotype cannot be observed outwardly. In contrast, the totality of observable, behavioral characteristics, such as level of anxiety, is referred to as the **phenotype**.

We defined gene expression earlier: the genotype should not be viewed as a static entity. Genes switch off and on at specific times, for example, to control various aspects of development. Indeed, genetic programs are quite flexible—they respond in remarkable ways to things that happen to us.

The phenotype changes over time and is the product of an interaction between the genotype and the environment. For example, a person may be born with the capacity for high intellectual achievement, but whether he or she develops this genetically given potential depends on



environmental factors such as upbringing and education. Hence intelligence is an index of the phenotype.

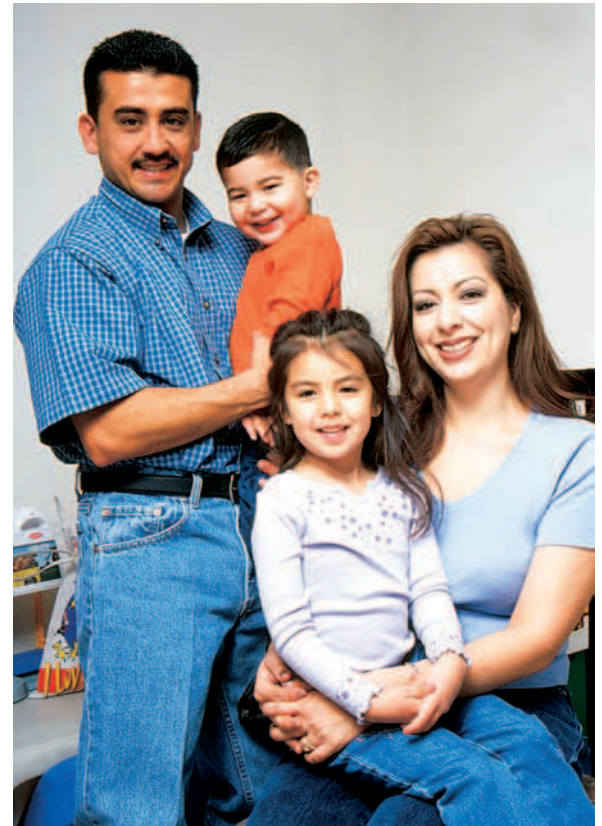
A study by Turkheimer and colleagues shows how genes and environment may interact to influence IQ (Turkheimer et al., 2003). A number of studies have demonstrated high heritability for IQ (e.g., Plomin, 1999). What Turkheimer and colleagues found, though, was that heritability depended on environment. The study included 319 twin pairs of 7-year-olds (114 identical, 205 fraternal). Many of the children were living in families either below the poverty line or with a low family income. Among the families of lower socioeconomic status (SES), 60 percent of the variability in children's IQ was attributable to the environment. Among the higher-SES families, the opposite was found. That is, variability in IQ was more attributable to genes than environment. Thus, being in an impoverished environment may have deleterious effects on IQ, whereas being in a more affluent environment may not help out all that much. It is important to point out that these interesting findings deal with IQ scores, a measure of what psychologists consider to be intelligence, not achievement (we discuss this more in Chapters 3 and 14). Such interactions between genes and environments are the “new look” to behavior genetics research (Moffitt, 2005), and we discuss additional studies illustrating how genes and environments work together below. In Chapter 4, we will discuss the major research designs used in behavior genetics research—including family, twin, and adoption studies—to estimate the heritability of different disorders.

## Molecular Genetics

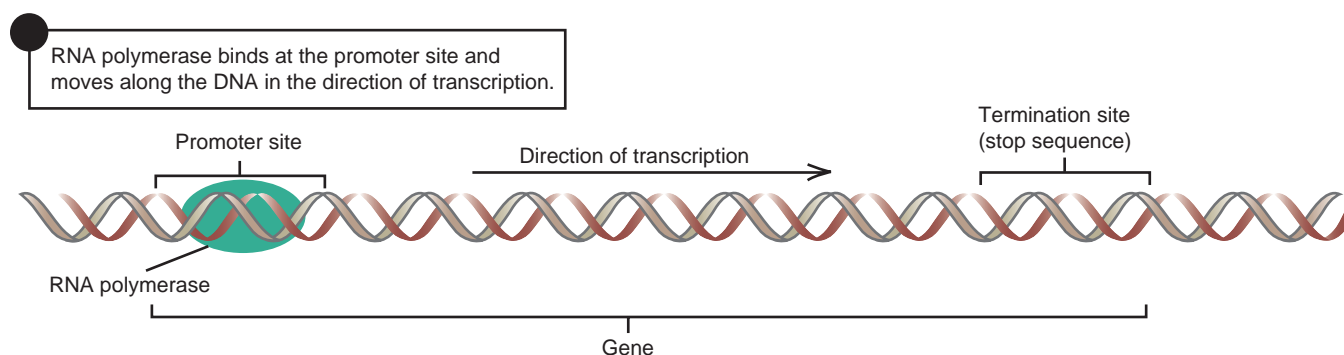
**Molecular genetics** studies seek to find out what exactly is heritable by identifying particular genes and their functions. Recall that a human being has 46 chromosomes and that each chromosome is made up of thousands of genes that contain DNA. Different forms of the same gene are called **alleles**. The alleles of a gene are found at the same location, or locus, of a chromosome pair. A genetic **polymorphism** refers to a difference in DNA sequence on a gene that has occurred in a population.

The DNA in genes is transcribed to RNA. In some cases, the RNA is then translated into amino acids, which then form proteins, and proteins make cells (see Figure 2.1). Gene expression involves particular types of DNA called *promoters*. These promoters are recognized by particular proteins called *transcription factors*. Promoters and transcription factors are the focus of much new research in molecular genetics and psychopathology. All of this is a remarkably complex system, and variations along the way, such as different combinations or sequences of events, lead to different outcomes.

Researchers studying animals can actually manipulate specific genes and then observe the effects on behavior. Specific genes can be taken out of mice DNA—these studies are called “knockout studies.” For example, the gene that is responsible for a specific receptor



Behavior genetics studies the degree to which characteristics, such as physical resemblance or psychopathology, are shared by family members because of shared genes. (Tony Freeman/ PhotoEdit.)



**Figure 2.1** This figure shows the process by which DNA is transcribed to RNA. In some cases, the RNA is then translated into amino acids, which then form proteins, and proteins make cells.



for the neurotransmitter serotonin called 5-HT<sub>1A</sub> has been knocked out in mice before their birth. As adults, they show what could be described as an anxious phenotype. Interestingly, one study that employed a novel technique to only temporarily knock out this gene found that the restoration of it early in development prevented the development of anxious behavior in the adult mice (Gross et al., 2002). This is a major area of molecular genetic work. Linking the findings from these animal studies to humans remains a challenge for the field, however.

## Gene–Environment Interactions

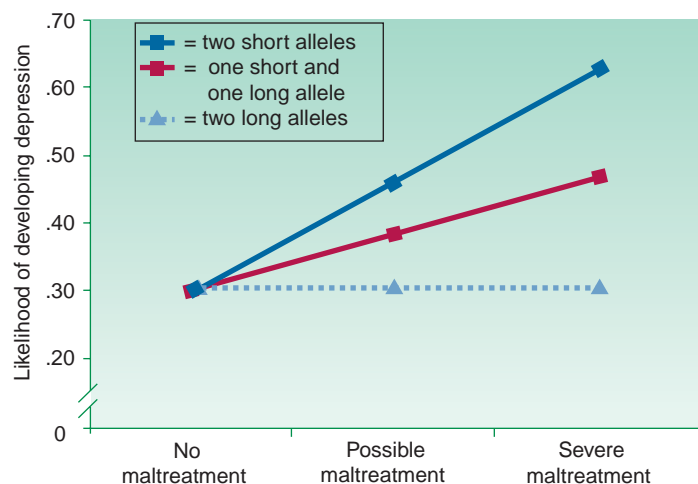
As we noted earlier, we know now that genes and environments work together. Life experience shapes how our genes are expressed, and our genes guide us in behaviors that lead to the selection of different experiences. A **gene–environment interaction** means that a given person's sensitivity to an environmental event is influenced by genes.

Take a simple (and made-up) example. If a person has gene XYZ, he or she might respond to a snakebite by developing a fear of snakes. A person without the XYZ gene would not develop a fear of snakes after being bitten. This simple relationship involves both genes (the XYZ gene) and an environmental event (snakebite).

A different (and true) example of a gene–environment interaction involves depression. In one longitudinal study, a large sample of children in New Zealand was followed across time from the age of five until their mid-twenties (Caspi et al., 2003). Across this time, the researchers assessed a number of variables, including early childhood maltreatment (abuse) and depression as an adult. They also measured a particular gene called the **serotonin transporter gene** (5-HTT). This gene has a polymorphism such that some people have two short alleles (short-short), some have two long alleles (long-long), and some have one short and one long allele (short-long). They found that those individuals who had either the short-short allele or the short-long allele combinations of the 5-HTT gene and were maltreated as children were more likely to have major depressive disorder as adults than either those people who had the same gene combination but no childhood maltreatment or those people who were maltreated as children but had the long-long allele combination of the gene (see Figure 2.2). Thus, having the gene was not enough to predict an episode of depression, nor was the presence of childhood maltreatment. Rather, it was the specific combination of the gene configuration and environmental events that predicted depression. They found the same gene–environment interaction for having at least one short allele of the gene and reports of stressful life events. That is, those people who reported more severe stressful life events and had at least one short allele of the 5-HTT gene were at greater risk of developing depression.

Other exciting developments in this area have emerged in animal research. In these studies, different environments are manipulated and then changes in behavior and gene expression are measured. The study of how the environment can alter gene expression or function is called *epigenetics*.

In a series of fascinating studies with rats, Darlene Francis has shown that parenting behaviors can be passed on to offspring in a non-genetic way. Good parenting among rats consists of a lot of licking and grooming (LG) and what is called arched-back nursing (ABN). Mothers differ in the extent to which they do these LG-ABN behaviors, but mothers who do it more tend to have pups that grow up to be less reactive to stress. Francis and colleagues (1999) found that



**Figure 2.2** A gene–environment interaction is illustrated here. Having both the short allele of the 5-HTT gene and childhood maltreatment were associated with the greatest probability of developing depression as an adult. Adapted from Caspi et al. (2003).



Baby rats who are raised by a mother who does a lot of licking are more likely to do this when they grow up to be mothers, even if they were raised by an adoptive mother. (Courtesy Darlene Francis.)



pups born to mothers who were low in this LG-ABN behavior but raised by mothers high in LG-ABN (called a cross-fostering adoptee method, discussed in more detail in Chapter 4) grew up to be low in stress reactivity and as mothers themselves exhibited the high LG-ABN style. And, when they had their own pups, these “grandpups” were also low in stress reactivity and became high LG-ABN mothers. Thus, this parenting style was transmitted across two generations after an adoption. Does this suggest that genes are not important? The adoptive parent’s behavior was what was transmitted across generations, not the biological parent’s behavior, which would suggest that this is an environmental effect.

However, a later study showed that this transmission of good mothering was due in part to the fact that it triggered an increase in the expression of a certain gene among the adopted offspring (Weaver et al., 2004). Using cross-fostering again, pups with a low LG-ABN biological mother who were raised by a high LG-ABN mother had increases in expression of a certain gene (glucocorticoid receptor) in the same way that pups with a biological high LG-ABN mother do (but pups with a biological low LG-ABN mother do not). The environment (mothering) was responsible for turning on (or turning up) the expression of a particular gene. Once it was on, the mothering style seemed to continue across generations.

We will continue to see these types of studies in animals and humans. Understanding how environments influence the expression of genes will be important for understanding the causes of psychopathology.

## Reciprocal Gene–Environment Interactions

Another important way in which genes are important in psychopathology is in how they may promote certain types of environments. This is called a **reciprocal gene–environment interaction** (Plomin et al., 2003; Rutter & Silberg, 2002). The basic idea is that genes may predispose us to seek out certain environments that then increase our risk for developing a particular disorder. For example, studies suggest that a genetic risk for alcohol dependence may predispose persons to life events that put them in high risk situations for alcohol abuse, such as being in trouble with the law (Kendler & Karkowski-Shuman, 1997). Another study found that genetic vulnerability to depression may promote certain life events, such as breaking up with a boyfriend or difficulties with parents, that can trigger depression among adolescent girls (Silberg et al., 1999). More broadly, one type of stressful life events, called dependent life events, appears to be influenced by genes more than by random bad luck. That is, people seem to select environments that increase the likelihood of certain kinds of stressful life events, at least in part, based on their genes (Kendler & Baker, 2007). Researchers now try to distinguish between these dependent life events and those that are outside of an individual’s control, a topic we return to in Chapter 3 when we discuss life event assessment.

## Evaluating the Genetic Paradigm

Our discussion of each paradigm will conclude with an evaluation section. Genetics is an important part of the study of psychopathology, and there are many ways in which genes might be involved in psychopathology. The models that will help us understand how genes are implicated in psychopathology are the ones that take the contemporary view that genes do their work *via* the environment. Perhaps the biggest challenge facing scientists working within the genetic paradigm is to specify exactly how genes and environments reciprocally influence one another. This is more easily done in tightly controlled laboratory studies with animals. Making the leap to understanding how genes interact with complex human environments throughout the course of development is of course a greater challenge. Nevertheless, this is an exciting time for genetics research, and important discoveries about genes, environments, and psychopathology are being made at a rapid rate. In addition, some of the most exciting breakthroughs in genetics have involved a combination of methods from genetics and neuroscience. For example, findings from neuroscience have illuminated the ways in which genes and environments exert their influence *via* the brain (Caspi & Moffitt, 2006). Although we present the genetic and neuroscience paradigms separately, they go hand in hand when it comes to understanding the possible causes of psychopathology.



## Quick Summary

The genetic paradigm focuses on questions such as whether certain disorders are heritable and, if so, what is actually inherited. Heritability is a population statistic, not a metric of the likelihood a particular person will inherit a disorder. Environmental effects can be classified as shared and nonshared. Molecular genetics studies isolate particular genes and gene polymorphisms that may be involved in psychopathology. Research has emphasized the importance of

gene–environment interactions. Genes do their work via the environment in most cases. Recent examples of genetic influence being manifested only under certain environmental conditions (e.g., poverty and IQ; early maltreatment and depression) make clear that we must not look just for the genes associated with mental illness, but also for the conditions under which these genes may be expressed.

## Check Your Knowledge 2.1 (Answers are at the end of the chapter.)

Answer the questions.

- The process by which genes are turned on or off is referred to as:
  - heritability
  - gene expression
  - polygenic
  - gene switching
- Sam and Sally are twins raised by their biological parents. Sam excelled in music and was in the high school band; Sally was the star basketball player on the team. They both received top-notch grades, and they both had part-time jobs at the bagel store. An example of a shared environment variable would be \_\_\_\_\_; an example of a nonshared environment variable would be \_\_\_\_\_.
  - school activities; their parent's relationship
  - band for Sam; basketball for Sally
  - their parent's relationship; work
  - their parent's relationship; school activities
- \_\_\_\_\_ refers to different forms of the same gene; \_\_\_\_\_ refers to different genes contributing to a disorder.
  - Allele; polygenic
  - Polygenic; allele
  - Allele; polymorphism
  - Polymorphism; allele
- In the Caspi and colleagues (2003) gene–environment interaction study of depression, those who were at highest risk for developing depression were
  - those who were maltreated as children and had a biological parent with depression
  - those who were maltreated as children and had at least one long allele of the 5-HTT gene
  - those who were maltreated as children and had at least one short allele of the 5-HTT gene
  - those who were not maltreated as children but had at least one short allele of the 5-HTT gene

## The Neuroscience Paradigm

The **neuroscience paradigm** holds that mental disorders are linked to aberrant processes in the brain. Considerable literature deals with the brain and psychopathology. For example, some depressions are associated with neurotransmitter problems within the brain; anxiety disorders may be related to a defect within the autonomic nervous system that causes a person to be too easily aroused; dementia can be traced to impairments in structures of the brain. In this section, we look at four components of this paradigm in which the data are particularly interesting: neurons and neurotransmitters, brain structure and function, the neuroendocrine system, and the autonomic nervous system. We then consider some of the key treatments that follow from the paradigm.

### Neurons and Neurotransmitters

The cells in the nervous system are called neurons, and the nervous system is comprised of billions of neurons. Although neurons differ in some respects, each **neuron** has four major parts: (1) the cell body; (2) several dendrites, the short and thick extensions; (3) one or more axons of varying lengths, but usually only one long and thin axon that extends a considerable distance from the cell body; and (4) terminal buttons on the many end branches of the axon (Figure 2.3). When a neuron is appropriately stimulated at its cell body or through its dendrites, a **nerve impulse** travels down the axon to the terminal endings. Between the terminal endings of the sending axon and the cell membrane of the receiving neuron there is a small gap, called the **synapse** (Figure 2.4).

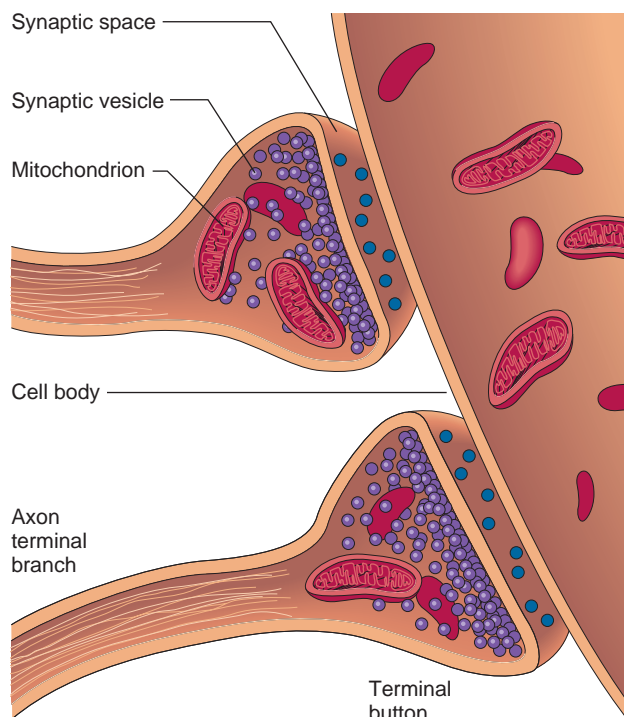


For neurons to send a signal to the next neuron so that communication can occur, the nerve impulse must have a way of bridging the synaptic space. The terminal buttons of each axon contain synaptic vesicles, small structures that are filled with **neurotransmitters**. Neurotransmitters are chemicals that allow neurons to send a signal across the synapse to another neuron. As the neurotransmitter flows into the synapse, some of the molecules reach the receiving, or postsynaptic, neuron. The cell membrane of the postsynaptic neuron contains receptors. Receptors are configured so that only specific neurotransmitters can fit into them. When a neurotransmitter fits into a receptor site, a message can be sent to the postsynaptic cell. What actually happens to the postsynaptic neuron depends on integrating thousands of similar messages. Sometimes these messages are excitatory, leading to the creation of a nerve impulse in the postsynaptic cell; at other times the messages are inhibitory, making the postsynaptic cell less likely to create a nerve impulse.

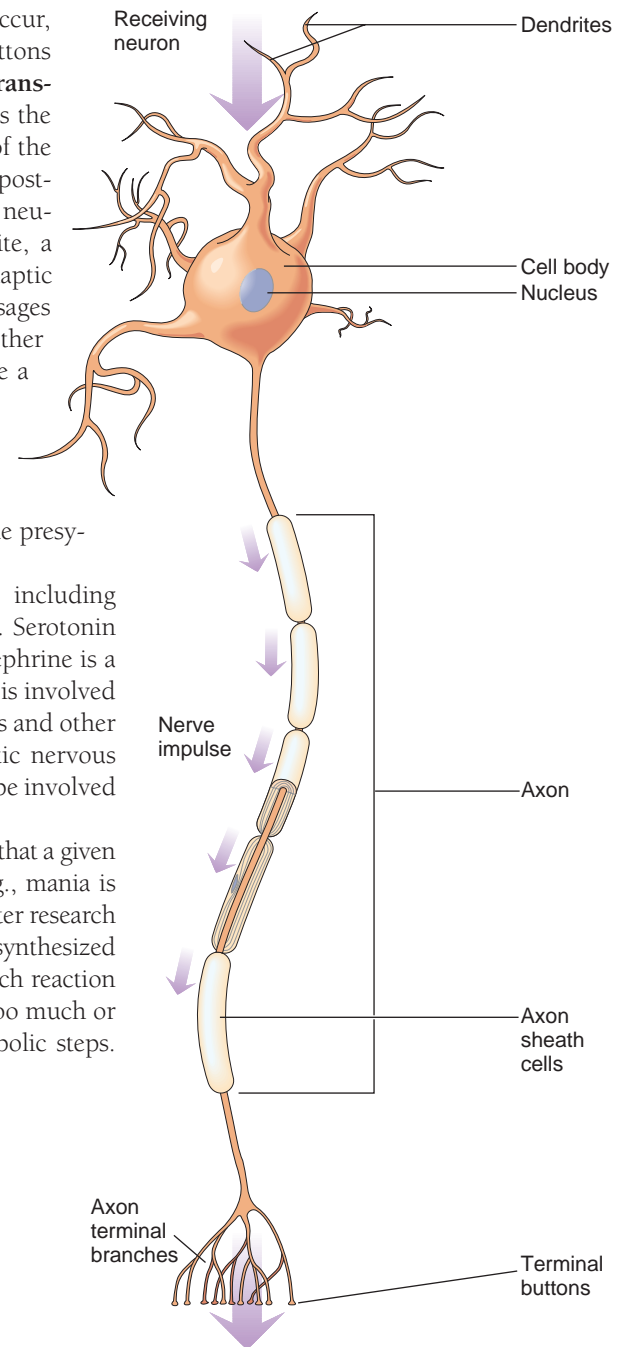
Once a presynaptic neuron (the sending neuron) has released its neurotransmitter, the last step is for the synapse to return to its normal state. Not all of the released neurotransmitter has found its way to postsynaptic receptors. Some of what remains in the synapse is broken down by enzymes, and some is taken back into the presynaptic cell through a process called **reuptake**.

Several key neurotransmitters have been implicated in psychopathology, including **dopamine**, **serotonin**, **norepinephrine**, and **gamma-aminobutyric acid (GABA)**. Serotonin and dopamine may be involved in depression, mania, and schizophrenia. Norepinephrine is a neurotransmitter that communicates with the sympathetic nervous system, where it is involved in producing states of high arousal and thus may be involved in the anxiety disorders and other stress-related conditions (see Focus on Discovery 2.1 for more on the sympathetic nervous system). GABA inhibits nerve impulses throughout most areas of the brain and may be involved in the anxiety disorders.

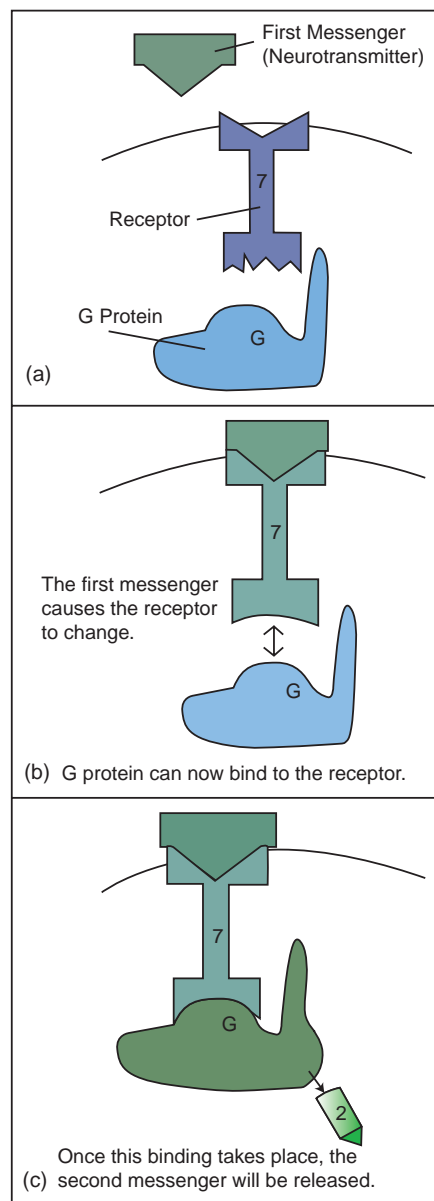
Early theories linking neurotransmitters to psychopathology sometimes proposed that a given disorder was caused by either too much or too little of a particular transmitter (e.g., mania is associated with too much norepinephrine, anxiety disorders with too little GABA). Later research has uncovered the details behind these overly simple ideas. Neurotransmitters are synthesized in the neuron through a series of metabolic steps, beginning with an amino acid. Each reaction along the way to producing an actual neurotransmitter is catalyzed by an enzyme. Too much or too little of a particular neurotransmitter could result from an error in these metabolic steps.



**Figure 2.4** A synapse, showing the terminal buttons of two axon branches in close contact with a very small portion of the cell body of another neuron.



**Figure 2.3** The neuron, the basic unit of the nervous system.



**Figure 2.5** The process by which a second messenger is released.

Similar disturbances in the amounts of specific transmitters could result from alterations in the usual processes by which transmitters are deactivated after being released into the synapse. For example, a failure to pump leftover neurotransmitter back into the presynaptic cell (reuptake) would leave excess transmitter in the synapse. Then, if a new nerve impulse causes more neurotransmitter to be released into the synapse, the postsynaptic neuron would, in a sense, get a double dose of neurotransmitter, making it more likely for a new nerve impulse to be created.

Other research has focused on the possibility that the neurotransmitter receptors are at fault in some disorders. If the receptors on the postsynaptic neuron were too numerous or too easily excited, the result would be akin to having too much transmitter released. There would simply be more sites available with which the neurotransmitter could interact, increasing the chances that the postsynaptic neuron would be stimulated. The delusions and hallucinations of schizophrenia, for example, may result from an overabundance of dopamine receptors.

Many mechanisms control the sensitivity of postsynaptic neurons. For example, if a receptor has been activated extensively over time, the cell may retune the sensitivity of the receptors so that it becomes more difficult to create a nerve impulse. When a cell has been firing more frequently, this receptor releases **second messengers** (see Figure 2.5). Once second messengers are released, they play a role in adjusting the sensitivity of postsynaptic receptors to dopamine, norepinephrine, or serotonin (Duman, Heninger, & Nestler, 1997; Shelton, 2000; Shelton, Mainer, & Sulser, 1996). One can think of second messengers as helping a neuron adjust receptor sensitivity when it has been overly active. Current research on depression suggests that antidepressant medications may be effective in part due to their ability to impact second messengers (see p. 226 in Chapter 8).

One method that investigators use to study how neurotransmitters are working in the brain is to have people take a drug that stimulates a particular neurotransmitter's receptors. This kind of drug is referred to as an **agonist**. A serotonin agonist, for example, is a drug that stimulates serotonin receptors to produce the same effects as serotonin does naturally. By contrast, an **antagonist** is a drug that works on a neurotransmitter's receptors to dampen the activity of that neurotransmitter. For example, many drugs used to treat schizophrenia are dopamine antagonists that work by blocking dopamine receptors (see p. 332 in Chapter 11).

## Structure and Function of the Human Brain

The brain is located within the protective coating of the skull and is enveloped with three protective layers of membranes referred to as meninges. Viewed from the top, the brain is divided by a midline fissure into two mirror-image cerebral hemispheres; together they constitute most of the cerebrum. The major connection between the two hemispheres is a band of nerve fibers, called the **corpus callosum**, that allows the two hemispheres to communicate. Figure 2.6 shows the surface of one of the cerebral hemispheres. The cortex is comprised of the neurons that form the thin outer covering of the brain, the so-called **gray matter** of the brain. The cortex consists of six layers of tightly packed neurons, estimated to number 10 to 15 billion. The cortex is vastly convoluted; the ridges are called gyri, and the depressions between them sulci, or fissures. If unfolded, the cortex would be about the size of a formal dinner napkin. The sulci are used to define different regions of the brain, much like guide points on a map. Deep fissures divide the cerebral hemispheres into four distinct areas called lobes. The **frontal lobe** lies in front of the central sulcus; the **parietal lobe** is behind it and above the lateral sulcus; the **temporal lobe** is located below the lateral sulcus; and the **occipital lobe** lies behind the parietal and temporal lobes (see Figure 2.6). Different functions tend to be associated with particular brain areas: vision with the occipital lobe; discrimination of sounds with the temporal lobe; reasoning, problem solving, working memory, and other executive processes plus the regulation of fine voluntary movement with the frontal lobe. One important area of the cortex is called the **prefrontal cortex**. This region, in the very front of the cortex, helps to regulate the amygdala (discussed below) and is important in many different disorders.

If the brain is sliced in half, separating the two cerebral hemispheres, additional important structures can be seen. The gray matter of the cerebral cortex does not extend throughout the interior of the brain (see Figure 2.7). Much of the interior is **white matter**, made up of large tracts of myelinated (sheathed) fibers that connect cell bodies in the cortex with those in the spinal cord and in other centers lower in the brain. In certain areas, called *nuclei*, sets of nerves converge and messages are integrated from different centers.

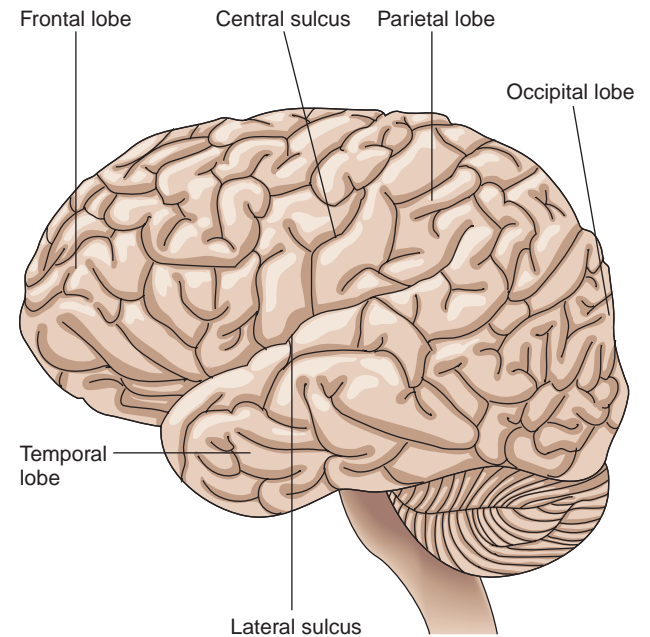


One important set of areas, collectively referred to as the *basal ganglia*, is located deep within each hemisphere. The basal ganglia help regulate starting and stopping both motor and cognitive activity. Also deep within the brain are cavities called **ventricles**. These ventricles are filled with cerebrospinal fluid. Cerebrospinal fluid circulates through the brain through these ventricles, which are connected with the spinal cord.

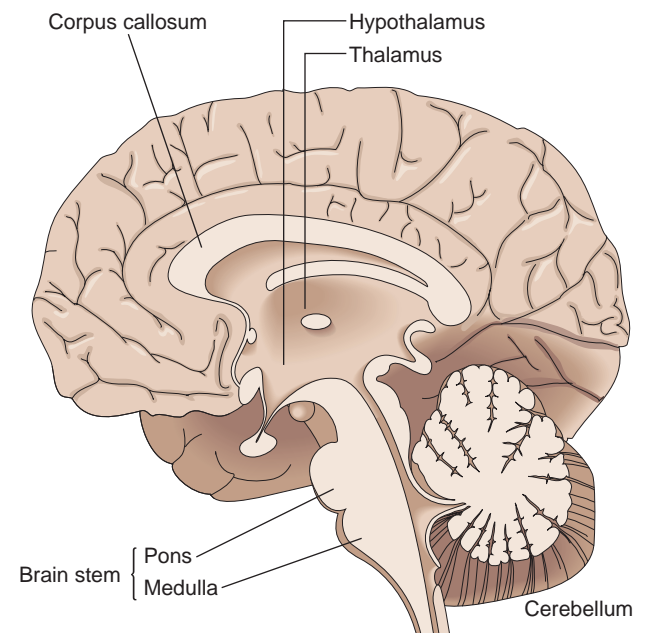
The **thalamus** is a relay station for all sensory pathways except the olfactory. The nuclei making up the thalamus receive nearly all impulses arriving from the different sensory areas of the body before passing them on to the cortex, where they are interpreted as conscious sensations. The **brain stem**, comprised the *pons* and the *medulla oblongata*, functions primarily as a neural relay station. The pons contains tracts that connect the cerebellum with the spinal cord and with motor areas of the cerebrum. The medulla oblongata serves as the main line of traffic for tracts ascending from the spinal cord and descending from the higher centers of the brain. The **cerebellum** receives sensory nerves from the vestibular apparatus of the ear and from muscles, tendons, and joints. The information received and integrated relates to balance and posture and equilibrium and to the smooth coordination of the body when in motion.

A set of deeper, mostly subcortical, structures are often implicated in different forms of psychopathology. There is a long history of referring to different groupings of these structures as the *limbic system*, a term that most contemporary neuroscientists consider outdated. These structures, shown in Figure 2.8, support the visceral and physical expressions of emotion—quickened heartbeat and respiration, trembling, sweating, and alterations in facial expressions—and the expression of appetitive and other primary drives, namely, hunger, thirst, mating, defense, attack, and flight. Important structures are the **anterior cingulate**, which is an area just above the corpus callosum; the **septal area**, which is anterior to the thalamus; the **hippocampus**, which stretches from the septal area into the temporal lobe; the **hypothalamus**, which regulates metabolism, temperature, perspiration, blood pressure, sleeping, and appetite; and the **amygdala**, which is embedded in the tip of the temporal lobe. The amygdala is also an important area for attention to emotionally salient stimuli and memory for emotionally relevant memories. This is one of the key brain structures for psychopathology researchers, given the ubiquity of emotion problems in the psychological disorders. For example, people with depression show more activity in the amygdala when watching pictures of emotional faces than do people without depression (Sheline et al., 2001).

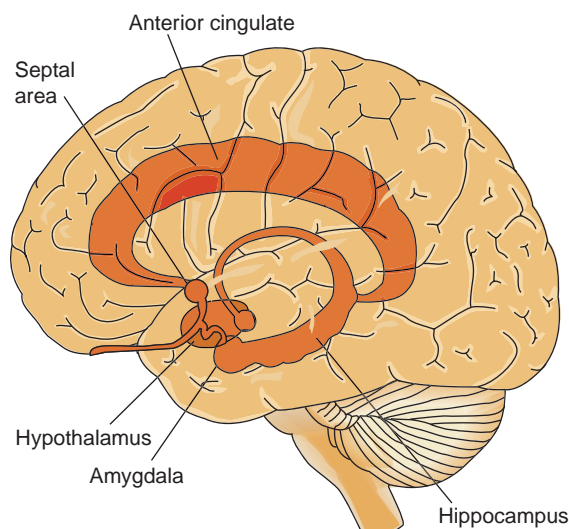
The development of the human brain is a complex process that begins early in the first trimester of pregnancy and continues into early adulthood. It has been estimated that about a third of our genes are expressed in the brain,



**Figure 2.6** Surface of the left cerebral hemisphere, showing the four lobes and the central and lateral sulci.



**Figure 2.7** Slice of brain showing some of the internal structures.



**Figure 2.8** Subcortical structures of the brain.



and many of these genes are responsible for laying out the structure of the brain. The development of the cells and migration of these cells to the appropriate layers of cortex are an intricate dance. Unfortunately, missteps can happen, and current thinking about a number of disorders, such as schizophrenia, places the beginnings of the problem in these early developmental stages. Brain development continues throughout childhood, adolescence, and even into adulthood. What is happening during this time is cell development and a honing of the connections between cells and brain areas. The gray matter of the brain continues to develop, filling with cells, until early adolescence. Then, somewhat surprisingly, a number of synaptic connections begin to be eliminated—a process called **pruning**. Throughout early adulthood, the connections in the brain may become fewer, but they also become faster. The areas that develop the quickest are areas linked to sensory processes, like the cerebellum and occipital lobe. The area that develops last is the frontal lobe.

We will discuss a number of these brain areas throughout the book. For example, patients with schizophrenia, have been found to have enlarged ventricles of the brain (Chapter 11); the size of the hippocampus is reduced among some patients with posttraumatic stress disorder, depression, and schizophrenia, perhaps due to overactivity of their stress response systems (Chapters 5, 8, and 11); brain size among some children with autism expands at a much greater rate than it should in typical development (Chapter 14).

## The Neuroendocrine System

The neuroendocrine system has been implicated in psychopathology as well, and we will consider this evidence throughout this book. One of the systems we will return to again and again is the **HPA axis** (shown in Figure 2.9). The HPA axis is central to the body's response to stress, and stress figures prominently in many of the disorders we discuss in this book.

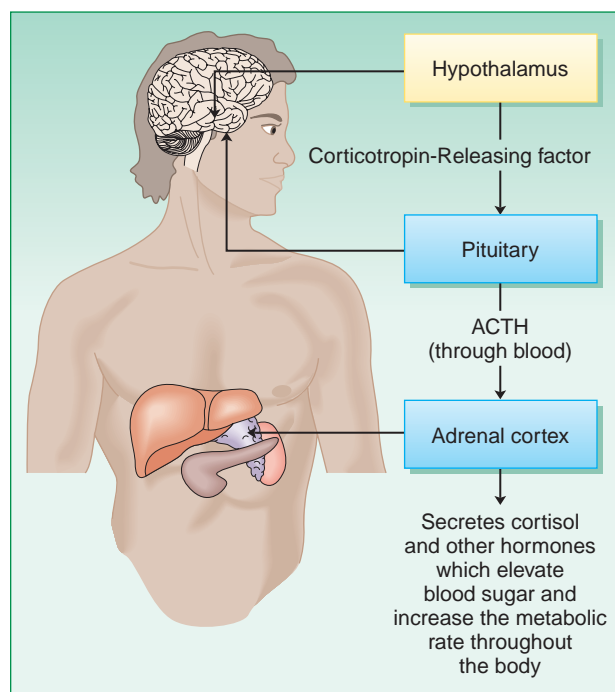
When people are faced with threat, the hypothalamus releases corticotropin-releasing factor (CRF), which then communicates with the *pituitary gland*. The pituitary then releases adrenocorticotrophic hormone, which travels via the blood to the adrenal glands. The outer layers of the adrenal glands are referred to as the *adrenal cortex*, and this area promotes the release of the hormone cortisol. **Cortisol** is often referred to as the stress hormone. This is not a fast-moving system, like the autonomic nervous system to be reviewed shortly. Rather, it takes about 20 to 40 minutes for cortisol release to peak. After the stress or threat has remitted, it can take up to an hour for cortisol to return to baseline (i.e., before the stress) levels (Dickerson & Kemeny, 2004).

Studies of stress and the HPA axis are uniquely integrative. That is, they begin with a psychological concept, stress, and examine how stress is manifested in the body, the HPA axis. For example, in a series of animal studies, researchers have shown that rats and primates that are exposed to early trauma, such as being separated from their mothers, show elevated activity in the HPA axis when they are exposed to stressors later in life (Gutman & Nemeroff, 2003). Like our discussion of gene–environment interactions above, it is hard to consider biology and environment separately—biology may create increased reactivity to the environment, and early experiences may influence biology. As we will see, chronic stress and its effects on the HPA axis are linked to disorders as diverse as schizophrenia, depression, and posttraumatic stress disorder.

Another important system, the **autonomic nervous system (ANS)**, is discussed in Focus on Discovery 2.1. Much of our behavior is dependent on a nervous system that operates very quickly, generally without our awareness, and that has traditionally been viewed as beyond voluntary control; hence the term *autonomic*.

## Neuroscience Approaches to Treatment

The use of psychoactive drugs has been increasing dramatically. For example, between 1988 and 2000 antidepressant use among adults nearly tripled (National Center for Health Statistics, 2004). Spending on antipsychotic drugs increased from \$1.3 billion in 1997 to \$5.6 billion in 2006 (Barber, 2008). Antidepressants, such as Prozac, increase neural transmission in neurons that use serotonin as a neurotransmitter by inhibiting the reuptake of serotonin. Benzodiazepines, such as Xanax, can be effective in reducing the tension



**Figure 2.9** The HPA axis.

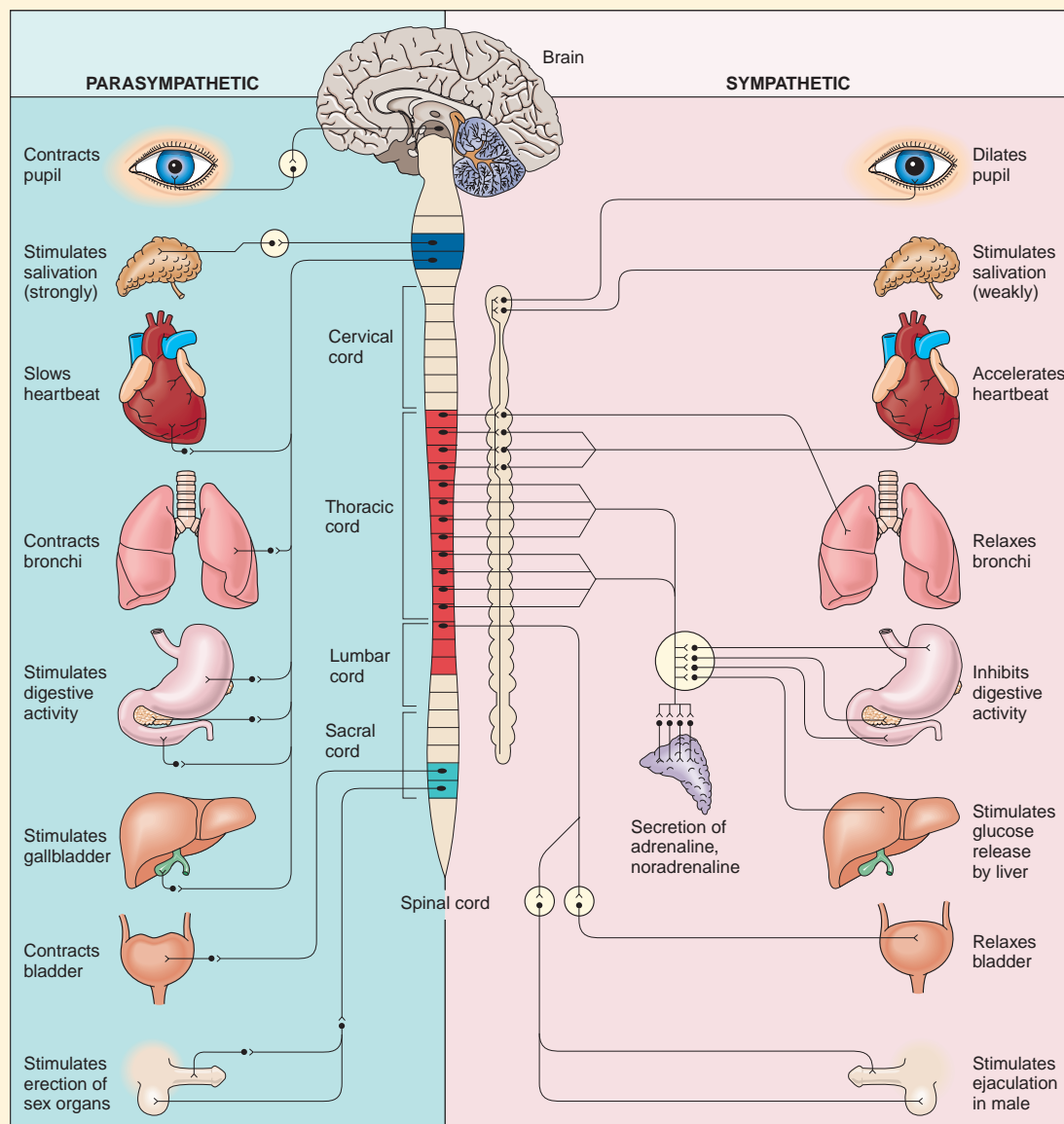
## FOCUS ON DISCOVERY 2.1

### The Autonomic Nervous System

The autonomic nervous system (ANS) innervates the endocrine glands, the heart, and the smooth muscles that are found in the walls of the blood vessels, stomach, intestines, kidneys, and other organs. This nervous system is itself divided into two parts, the **sympathetic nervous system** and the **parasympathetic nervous system** (Figure 2.10). A simple way to think about these two components of the ANS is that the sympathetic nervous system prepares the body for “fight or flight” and the parasympathetic nervous system helps “calm down” the body. Things are not actually that simple, though. The sympathetic portion of the ANS, when energized, accelerates the heartbeat, dilates the pupils, inhibits intestinal activity, increases electrodermal activity (i.e., sweat on the skin), and initiates

other smooth muscle and glandular responses that prepare the organism for sudden activity and stress. Division of activities is not quite so clear-cut, however, for it is the parasympathetic system that increases blood flow to the genitals during sexual excitement.

The autonomic nervous system figures prominently in many of the anxiety disorders, such as panic disorder and posttraumatic stress disorder. For example, people with panic disorder tend to misinterpret normal changes in their nervous system, such as shortness of breath after running up a flight of stairs. Instead of attributing this to being out of shape, people with panic disorder may think they are about to have another panic attack. In essence, they come to fear the sensations of their own autonomic nervous system.



**Figure 2.10** The autonomic nervous system.

associated with some anxiety disorders, perhaps by stimulating GABA neurons to inhibit other neural systems that create the physical symptoms of anxiety. Antipsychotic drugs, such as Olanzapine, used in the treatment of schizophrenia, reduce the activity of neurons that use dopamine as a neurotransmitter by blocking their receptors and also impact serotonin. Stimulants, such as Adderall, are often used to treat children with attention-deficit/hyperactivity disorder; they operate on several neurotransmitters that help children pay attention.

Although you might assume that we have learned which neurotransmitters are involved in a disorder and then used that to define pharmacological treatments, this is often not the case. Rather, the reverse has often happened, a drug is found that influences symptoms, and then researchers are inspired to study the neurotransmitters influenced by that drug.

It should be noted that a person could hold a neuroscience view about the nature of a disorder and yet recommend psychological intervention. Contemporary scientists and clinicians also appreciate that nonbiological interventions can influence brain functioning. For example, psychotherapy that teaches a person how to stop performing compulsive rituals, which is an effective and widely used behavioral treatment for obsessive-compulsive disorder, has measurable effects on brain activity (Baxter et al., 2000).

### Evaluating the Neuroscience Paradigm

Over the past three decades neuroscientists have made great progress in elucidating brain–behavior relationships. Neuroscience research on both causes and treatment of psychopathology is proceeding at a rapid rate, as we will see when we discuss specific disorders in later chapters. Although we view these developments in a positive light, we also want to caution against reductionism.

Reductionism refers to the view that whatever is being studied can and should be reduced to its most basic elements or constituents. In the case of mental disorders, reductionism happens when scientists try to reduce complex mental and emotional responses to biology. In its extreme form, reductionism asserts that psychology and psychopathology will ultimately be nothing more than biology.

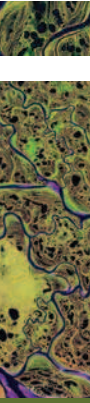
Basic elements, such as individual nerve cells, are organized into more complex structures or systems, such as neural networks or circuits. The properties of these neural circuits cannot be deduced from the properties of the individual nerve cells. The whole is greater than the sum of its parts. A good example is provided by computers. Students writing papers for their courses use word-processing programs like Word or Google Docs. These software programs consist of many levels of code that communicate with the computer. The word-processing program necessarily involves low-level communication with the computer, involving a series of 0's and 1's and even electronics. Yet we don't conceptualize the program in terms of binary digits or electrical impulses. If the spell-checker stopped working, our first place to begin repairs would not be with the computer chips. Instead, we would want the programmer to fix the bug in the program. To be sure, the program could not run without the computer, but the program is more than just the impulses sent by the chips. In the same way, although a complex behavior like a hallucination necessarily involves the brain and nerve impulses, it is not likely that we can fully capture this by knowing specific nerve impulses.

Certain phenomena emerge only at certain levels of analysis and will be missed by investigators who focus only at the molecular level. In the field of psychopathology, problems such as delusional beliefs, dysfunctional attitudes, and catastrophizing cognitions may well be impossible to explain neurobiologically, even with a detailed understanding of the behavior of individual neurons (Turkheimer, 1998).

### Quick Summary

The neuroscience paradigm is concerned with the ways in which the brain contributes to psychopathology. Neurotransmitters such as serotonin, norepinephrine, dopamine, and GABA have been implicated in a number of disorders. A number of different brain areas are also a focus of research. The autonomic nervous system, which includes the sympathetic and parasympathetic nervous systems, is also implicated in the manifestations of some disorders. The HPA axis

is responsible for the body's response to stress and thus is relevant for several stress-related disorders. Biological treatments, primarily medications, are effective treatments for different disorders, but these treatments are not necessarily treating the cause of the problems. Although the brain plays an important role in our understanding of the causes of psychopathology, we must be careful to avoid reductionism.



## Check Your Knowledge 2.2

Fill in the blanks.

1. The so-called limbic system of the brain includes the following brain areas: \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_.
2. The \_\_\_\_\_ matter of the brain consists of the tracts of myelinated fibers that connect cells; the \_\_\_\_\_ matter of the brain refers to the brain's cells or neurons.
3. Neurotransmitters that are studied in psychopathology include: \_\_\_\_\_, which can produce states of high arousal, and \_\_\_\_\_, which inhibits nerve impulses.
4. The HPA axis consists of the \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_.

## The Psychodynamic Paradigm

The central assumption of the psychoanalytic theory that Sigmund Freud developed (see Chapter 1) was that psychopathology resulted from unconscious conflicts in the individual. More specifically, Freud believed that the various forms of psychopathology resulted from the presence of strong drives or id instincts, which set the stage for the development of unconscious conflicts linked to a particular psychosexual stage. The interplay of these forces is referred to as the psychodynamics of the personality. Theorists who follow Freud's ideas (many different versions of Freudian theory have evolved over time) are therefore referred to as psychodynamic theorists. The **psychodynamic paradigm** includes psychoanalysis and its later variants.

Although the psychodynamic paradigm provides a theory about the causes of psychopathology, little research has been conducted to support the theory. Freud believed that the information obtained from therapy sessions was enough to validate his theory and demonstrate the effectiveness of the therapy. Beyond this, Freud and many of his followers were not as concerned with conducting research on the theory as they were with treating patients. Thus, many of the contributions of this paradigm are in treatment, not in understanding the causes of psychopathology.

Although traditional psychoanalysis is still practiced today, it is less common than other forms of psychotherapy. As discussed in Chapter 1, many of Freud's followers altered psychoanalysis and developed variants on this treatment, and these variants are collectively referred to as psychodynamic therapies. Even though Freud and his followers did not conduct much research, researchers in other fields, such as cognitive neuroscience and social psychology, have conducted studies to examine some of the concepts originating in psychodynamic theories. Cognitive psychologists, for example, have studied how unconscious biases can influence the way people attend to and interpret information. In the next sections we review two contemporary views of concepts that evolved from the work of psychodynamic theorists: the unconscious and interpersonal relationships. In addition, we examine two contemporary psychodynamic therapies.

### The Role of the Unconscious

The behavior of human beings, as conceptualized by Freud, is a complex interplay of the three parts of the psyche (id, ego, superego), all vying for the achievement of sometimes irreconcilable goals. Much of this activity was presumed to be unconscious, or outside the awareness of the individual. Later followers of Freud continued to emphasize the role of the unconscious in human behavior and psychopathology, but the way in which the unconscious has been discussed and even empirically studied has changed throughout the years (see also Focus on Discovery 6.3).

Followers of Freud, including more contemporary ego analysts (see Chapter 1 for the historical underpinnings of this approach) have refined the theorizing about the unconscious so that it is more amenable to empirical scrutiny. For example, the concept of *pathogenic beliefs* refers to beliefs that are maladaptive and contribute to psychopathology (Weiss & Sampson, 1986). Pathogenic beliefs are believed to be nearly entirely outside of an individual's awareness (i.e., they are unconscious) and responsible for other maladaptive thoughts and emotions. For example, survivor guilt is hypothesized to flow from the (unconscious) pathogenic belief that achieving one's own success will cause others to suffer (O'Connor et al., 2000), and survivor guilt has been linked with depression (O'Connor et al., 2002).



The unconscious has been a “hot topic” of study among cognitive psychologists for over 30 years, and cognitive neuroscientists have more recently explored how the brain supports behavior that is outside conscious awareness. For example, the concept of *implicit memory* refers to the idea that a person can, without being aware of it, be influenced by prior learning. For example, a person may be shown a list of words so quickly that he or she cannot identify the words. Later, the person will be able to recall those words even though the words were not consciously perceived during the rapid, initial presentation. Thus, a memory is formed implicitly (i.e., without conscious awareness). Implicit memory paradigms have been adopted by psychopathology researchers who have found, for example, that people with social anxiety and depression have trouble with these tasks (Amir, Foa, & Coles, 1998; Watkins, 2002).

Contemporary studies of the unconscious, such as studies of implicit memory, are a long way from Freud’s original theorizing about the unconscious. Even contemporary psychodynamic theorists posit different explanations for why material may be kept out of conscious awareness than do cognitive neuroscientists. For a psychodynamic theorist, the unconscious may be a “safe place” to keep unwanted thoughts or feelings in check. By contrast, for cognitive neuroscientists, the unconscious reflects the incredible efficiency and automaticity of the brain. That is, there are simply too many things going on around us all the time for us to be aware of everything. Thus, our brains have developed the capacity to register information for later use even if we are not aware of it. Despite these differences in conceptualizations of the unconscious, it is fair to say that Freud and his followers have certainly contributed to the contemporary study of the unconscious.

### The Importance of Interpersonal Relationships

Recall from Chapter 1 that one of the central features of psychoanalysis is transference, which refers to a patient’s responses to his or her analyst that seem to reflect attitudes and ways of behaving toward important people in the patient’s past, rather than reflecting actual aspects of the analyst–patient relationship. Contemporary psychodynamic theorists have built on the concept of transference to emphasize the importance of a person’s interpersonal relationships for psychological well-being. One example is **object relations theory**, which stresses the importance of long-standing patterns in close relationships, particularly within the family, that are shaped by the ways in which people think and feel. The “object” refers to another person in most versions of this theory. This theory goes beyond transference to emphasize that the way in which a person comes to understand, whether consciously or unconsciously, how the self is situated in relation to other people. For example, a woman may come to understand herself as a worthless person based on her cold and critical relationship with her mother.

Another influential theory, **attachment theory**, grew out of object relations theory. John Bowlby (1907–1990) first proposed this theory in 1969, and Mary Ainsworth (1913–1999) and colleagues (1978) developed a method to measure attachment styles in infants. The essence of the theory is that the type or style of an infant’s attachment to his or her caregivers can set the stage for psychological health or problems later in life. For example, infants who are securely attached to their caregivers are more likely to grow up to be psychologically healthy adults, whereas infants who are anxiously attached to their caregivers are more likely to experience psychological difficulties. Attachment theory has been extended to adults (Main, Kaplan, & Cassidy, 1985; Pietromonaco & Barrett, 1997) and couples (e.g. Fraley & Shaver, 2000), and therapies based on attachment theory have been developed for children and adults, though these have not yet been empirically scrutinized.

Social psychologists have integrated these theories into the concept of the *relational self*, which refers to the self in relation to others (Anderson & Chen, 2002; Chen, Boucher, & Parker Tapias, 2006). The concept of the relational self has garnered a tremendous amount of empirical support. For example, people will describe themselves differently depending on what other close relationships they have been asked to think about (Chen et al., 2006). Other studies show that describing a stranger in terms that are similar to a close significant other will trigger positive feel-



Children who are securely attached to parents are more likely to be psychologically healthy adults. (Blend Images/SuperStock, Inc.)



ings and facial expressions, presumably linked to the view of the self in relation to the close other person (Anderson et al., 1996). Thus, if you are given a description of a stranger you must interact with that resembles a close friend from high school, you will be more likely to smile, perhaps as a result of thinking about yourself and your interactions with your high school friend. The idea of the relational self has not yet been fully extended to the study of psychopathology, but given its theoretical basis and empirical support, it is ripe for translation to the study of interpersonal difficulties across many different psychological disorders.

In summary, contemporary psychodynamic theorizing has become more amenable to empirical research, though most research on these concepts has been done by researchers working outside the paradigm. Nevertheless, concepts such as the unconscious and interpersonal relationships have influenced the development of psychodynamic therapies, two of which we briefly review here.

## Contemporary Psychodynamic Psychotherapies

**Brief Psychodynamic Therapy** Although many laypeople assume that patients usually spend many months, even years, in psychodynamic **psychotherapy**, most courses of therapy last fewer than 10 sessions (Garfield, 1978). Among the many reasons for the short duration of therapy is that people today are less likely to consider the ambitious examination of the past as the best way to deal with today's realities—the essence of classical psychoanalytic therapy. Indeed, most patients expect therapy to be fairly short term and targeted to specific problems in their everyday lives. These expectations contributed to the design of briefer forms of dynamic therapy.

These factors, combined with the greater acceptability of psychotherapy in the population at large, set the stage for the development of **brief therapy**. Time-limited psychodynamic therapies share several common elements (Koss & Shiang, 1994). First, the therapist takes a more active role than a traditional psychoanalyst. Second, it is made clear right away that therapy will be limited and that improvement is expected within a small number of sessions, from 6 to 25. Third, interpretations are directed more toward present life circumstances and patient behavior than toward the historical significance of feelings. Finally, the development of transference is not encouraged, but some positive transference to the therapist is fostered to encourage the patient to follow the therapist's suggestions and advice.



Unresolved grief is one of the issues discussed in interpersonal therapy. (PhotoDisc/SuperStock, Inc.)

**Interpersonal Therapy** Although also a brief therapy, we discuss **interpersonal therapy (IPT)** separately because it has been shown to be an effective treatment for depression (a topic we turn to in more detail in Chapter 8). IPT has also been used to treat eating disorders, anxiety disorders, and personality disorders.

IPT emphasizes the importance of current relationships in a person's life and how problems in these relationships can contribute to psychological symptoms. The therapist encourages the patient to identify feelings about his or her relationships and to express these feelings, and helps the patient generate solutions to interpersonal problems. In IPT, four interpersonal issues are assessed to examine whether one or more might be impacting symptoms:

- *Unresolved grief*—for example, experiencing delayed or incomplete grieving following a loss
- *Role transitions*—for example, transitioning from child to parent or from worker to retired person
- *Role disputes*—for example, resolving different relationship expectations between romantic partners
- *Interpersonal or social deficits*—for example, not being able to begin a conversation with an unfamiliar person or finding it difficult to negotiate with a boss at work

Discussions in therapy also focus on longstanding patterns in relationships that may contribute to negative feelings that the patient can now identify. Some of these patterns may emerge in the relationship between therapist and patient (i.e., transference), and this becomes a topic of discussion in the therapy. In sum, the therapist helps the patient understand that psychopathology occurs in a social or relationship context, and that getting a better handle on relationship patterns is needed to reduce symptoms of psychopathology.

### Evaluating the Psychodynamic Paradigm

Many of the criticisms leveled at the psychodynamic paradigm are criticisms of Freud's original ideas and methods. For example, Freud conducted no formal research on the causes and treatments of mental illness. This remains one of the main criticisms today: because they are based on anecdotal evidence gathered during therapy sessions, some contemporary psychodynamic theories are not grounded in objectivity and therefore are not scientific. However, other contemporary psychodynamic theories, such as object relations theory, have built a limited base of research in support of the theory. Offshoots of object relations theory, such as attachment theory and the relational self, have accumulated a good bit of empirical support, both in children and adults. Moreover, some therapies, such as IPT, have also garnered empirical support.

Though perhaps not as influential as it once was, the psychodynamic paradigm continues to have an impact on the field of psychopathology (Westen, 1998). This influence is most evident in the following three commonly held assumptions:

1. *Childhood experiences help shape adult personality.* Contemporary clinicians and researchers still view childhood experiences and other environmental events as crucial. They seldom focus on the psychosexual stages about which Freud wrote, but some emphasize problematic parent–child relationships in general and how they can influence later adult relationships in negative ways.
2. *There are unconscious influences on behavior.* As discussed earlier, the unconscious is a focus of contemporary research in cognitive neuroscience and psychopathology (see also Focus on Discovery 6.3). This research shows that people can be unaware of the causes of their behavior. However, most current researchers and clinicians do not think of the unconscious as a repository of id instincts.
3. *The causes and purposes of human behavior are not always obvious.* Freud and his followers sensitized generations of clinicians and researchers to the nonobviousness of the causes and purposes of human behavior. Contemporary psychodynamic theorists continue to caution us against taking everything at face value. A person expressing disdain for another, for example, may actually like the other person very much yet be fearful of admitting positive feelings. This tendency to look under the surface, to find hidden meanings in behavior, is perhaps the best known legacy of Freud.

## The Cognitive Behavioral Paradigm

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The **cognitive behavioral paradigm** traces its roots to learning principles and to cognitive science. As we will see, the basic principles from classical and operant conditioning as well as cognitive science have shaped the development of many cognitive behavioral therapies.

### Influences from Behavior Therapy

One of the key influences from behaviorism is the notion that problem behavior is likely to continue if it is reinforced. Generally, problem behavior is thought to be reinforced by four possible consequences: getting attention, escaping from tasks, generating sensory feedback (such as results from the hand flapping often seen in children with autistic disorder), and gaining access to desirable things or situations (Carr et al., 1994). Once the source of reinforcement has been identified, treatment is then tailored to alter the consequences of the problem behavior. For



example, if it was established that the problem behavior was reinforced by getting attention, the treatment might be to ignore the behavior. Alternatively, the problem behavior could be followed by **time-out**—the person is sent for a period of time to a location where positive reinforcers are not available. Today, time-out is a commonly used parenting technique for children who exhibit a problematic behavior of some sort.

Another technique used to increase the frequency of desirable behavior is making positive reinforcers contingent on behavior. For example, a socially withdrawn child could be reinforced for playing with others. Similarly, positive reinforcement has been used to help children with autistic disorder develop language, to remediate learning disabilities, and to help children with mental retardation develop necessary living skills.

The **token economy** is a procedure in which tokens (such as stickers) are given for desired behavior; the tokens can later be exchanged for desirable items and activities (Staats & Staats, 1963). This procedure is still used today, particularly with children. For example, each time a child completes her homework or remains seated during class, she receives a sticker; the stickers can then be traded in for items or activities, such as a DVD, computer time, or time outside.

We introduced the technique called systematic desensitization in Chapter 1. Recall that this involves two components: (1) deep muscle relaxation and (2) gradual exposure to a list of feared situations, starting with those that arouse minimal anxiety and progressing to those that are the most frightening. The still-influential contribution from this behavioral approach is the **exposure** component of this treatment. The basic idea was that the anxiety will extinguish if the person can face the object or situation for long enough with no actual harm occurring. Sometimes this exposure can be conducted **in vivo**—that is, in real-life situations. For example, if someone has a fear of flying, you might have him or her take an actual flight. At times, exposure cannot be conducted in real life, so *imaginal exposure* will be used to address fears, such as rape, trauma, or contamination. In other situations, both types of exposure are used.

To illustrate exposure and systematic desensitization, consider a person who suffers from a fear of spiders. The person is taught to relax deeply. Next, the person develops a list of situations with spiders that vary in how frightening or anxiety producing they are. Examples of hierarchy items for someone who has a specific phobia of spiders might include the following:

- You hear the word *spider*.
- You look at an illustration of a spider in a children's book.
- You look at a photo of a spider.
- You look at a nature program on DVD about spiders.
- You look at a spider in a glass case at the zoo.
- You look at a live spider from several feet away.
- You look at a live spider up close.

Step-by-step, while relaxed, the person imagines the graded series of situations with spiders. The relaxation tends to inhibit any anxiety that might otherwise be elicited by the imagined scenes of spiders. The fearful person becomes able to tolerate increasingly more difficult imagined situations as he or she climbs the hierarchy over a number of therapy sessions.

Exposure continues to be a centrally important component of many forms of cognitive behavior therapy today. In the years since exposure treatments such as systematic desensitization were first developed, much has been learned about them. For instance, exposure to the real thing (in vivo exposure), when practical, is more effective than imagining situations. Also, even though relaxation training helps people experience less arousal when they first face the feared stimulus, there is no evidence that such training is required for good outcomes; as a result, it has been possible to develop briefer psychological treatments that do not include relaxation training.

As influential as these behavior therapy techniques were (and still are), behaviorism and behavior therapy were often criticized for minimizing the importance of two important factors: thinking and feeling. In other words, the way we think and feel about things undoubtedly influences our behavior. Yet behaviorists did not often take this into account when conceptualizing or treating psychological problems. These limitations of behavioral points of views, plus the



Time-out is a behavioral therapy technique based on operant conditioning; the consequence for misbehavior is removal to an environment with no positive reinforcers. (Jeff Greenberg/PhotoEdit.)



explosion of research in the 1960s and 1970s in cognitive science, led some behavioral researchers and clinicians to include cognitive variables in their conceptualizations of psychopathology and therapy.

## Cognitive Science

**Cognition** is a term that groups together the mental processes of perceiving, recognizing, conceiving, judging, and reasoning. Cognitive science focuses on how people (and animals) structure their experiences, how they make sense of them, and how they relate their current experiences to past ones that have been stored in memory.

At any given moment, we are bombarded by far more stimuli than we can possibly respond to. How do we filter this overwhelming input, put it into words or images, form hypotheses, and arrive at a perception of what is out there?

Cognitive scientists regard people as active interpreters of a situation, with people's past knowledge imposing a perceptual funnel on the experience. A person fits new information into an organized network of already-accumulated knowledge, often referred to as a **schema**, or cognitive set (Neisser, 1976). New information may fit the schema; if not, the person reorganizes the schema to fit the information or construes the information in such a way as to fit the schema. The following situation illustrates how a schema may alter the way in which information is processed and remembered.

*The man stood before the mirror and combed his hair. He checked his face carefully for any places he might have missed shaving and then put on the conservative tie he had decided to wear. At breakfast, he studied the newspaper carefully and, over coffee, discussed the possibility of buying a new washing machine with his wife. Then he made several phone calls. As he was leaving the house he thought about the fact that his children would probably want to go to that private camp again this summer. When the car didn't start, he got out, slammed the door and walked down to the bus stop in a very angry mood. Now he would be late. (Bransford & Johnson, 1973, p. 415)*

Now read the excerpt again, but add the word *unemployed* before the word *man*. Now read it a third time, substituting *neurosurgeon* for *man*. Notice how differently you understand the passage. Ask yourself what parts of the newspaper these men read. If you were asked on a questionnaire to recall this information and you no longer had access to the excerpt, you might answer "the want ads" for the unemployed man and "the financial pages" for the investment banker. Since the passage does not specify which part of the paper was read, these answers are wrong, but in each instance the error would have been a meaningful, predictable one.

Other important contributions from cognitive science include the study of attention. As we shall see, people with disorders as diverse as anxiety disorders, mood disorders, and schizophrenia have problems in attention. For example, individuals with anxiety disorders tend to focus their attention on threatening or anxiety-producing events or situations in the environment. People with schizophrenia have a hard time concentrating their attention for a period of time.

One of the ways in which researchers have studied attention is with the Stroop task. In this task, the participant sees a set of color names printed in inks of *different* colors and must name the ink color of each word as rapidly as possible (see Figure 2.11). To do this, participants have to resist the natural impulse to say the printed word. For example, a participant might see the word *blue* written in the green ink. The participant is instructed to name the ink color (green) as fast as possible without making mistakes (saying the word *blue*). It is difficult to say *green* and "inhibit" the more natural tendency to say *blue*. Interference, measured as a lengthening of response time, occurs because the words are more "attention grabbing" than the ink color.

The Stroop task has been modified to focus on emotion rather than colors. In this emotion Stroop task, participants are still instructed to name the color of the ink rather than saying the word. However, the list of words now contains emotion words instead of color words. So, for example, words such as *threat*, *danger*, *happy*, or *anxious* are written in different ink colors. In such an emotion Stroop task, individuals with anxiety disorders find that some of the emotion words are so attention grabbing that the impulse to say the word is especially strong. As in the original Stroop task, the more attention grabbing the word

Black	Pink
Red	White
Blue	Red
Green	Black
Yellow	Purple
Blue	Green
Red	Blue
White	Yellow

**Figure 2.11** In the Stroop task, participants must name the color of the ink instead of reading the words.



is, the more interference and the slower the response. Research has shown that people with anxiety disorders show more interference for threatening words (i.e., they say these words more slowly) than nonthreatening words, and this is used as evidence of an attention bias toward threatening information (see Chapter 5).

Of course, the concepts of schema and attention are related to each other. If a person has a particular set or schema about the world (e.g., the world is dangerous), that person may be more likely to pay attention to threatening or dangerous things in the environment. Furthermore, this person may be more likely to interpret ambiguous things in the environment as threatening. For example, seeing a stranger standing on a front porch may be interpreted as a sign of danger to someone with such a “danger” schema. For someone without such a schema, this person may be viewed simply as the person who lives in that house.

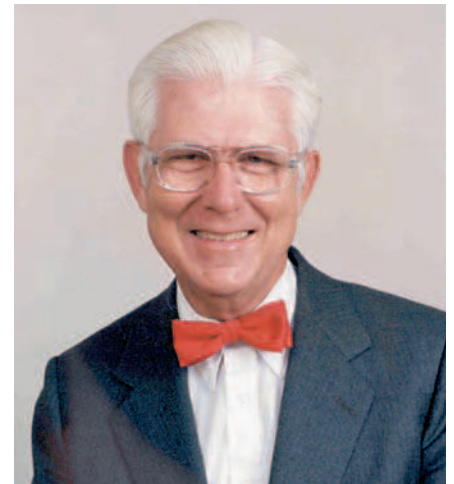
Cognitive explanations are now central in the search for the causes of psychopathology and for new methods of intervention. A widely held view of depression, for example, places the blame on a particular cognitive set, namely, the individual’s overriding sense of hopelessness (see p. 234). Many people who are depressed believe that they have no important effect on their surroundings regardless of what they do. Their destiny seems to them to be out of their hands, and they expect their future to be negative. If depression does develop from a sense of hopelessness, this fact could have implications for how clinicians treat the disorder. Cognitive theorizing will be included in discussions of most of the disorders presented in subsequent chapters.

## Cognitive Behavior Therapy

**Cognitive behavior therapy (CBT)** incorporates theory and research on cognitive processes. Cognitive behavior therapists pay attention to private events—thoughts, perceptions, judgments, self-statements, and even tacit (unconscious) assumptions—and have studied and manipulated these processes in their attempts to understand and modify overt and covert disturbed behavior. **Cognitive restructuring** is a general term for changing a pattern of thought that is presumed to be causing a disturbed emotion or behavior. This restructuring is implemented in several ways by cognitive behavior therapists.

**Beck’s Cognitive Therapy** Psychiatrist Aaron Beck, one of the leading cognitive behavior therapists, developed a cognitive therapy for depression based on the idea that depressed mood is caused by distortions in the way people perceive life experiences (Beck, 1976; Salkovskis, 1996). For example, a person with depression may focus exclusively on negative happenings and ignore positive ones. Imagine that a woman’s romantic partner both praises and criticizes her. If the woman attends to the praise and remembers it the next day, she is likely to feel happy. But if she focuses on the criticism and continues to dwell on it the next day, she is likely to feel unhappy. Beck proposed that the attention, interpretation, and recall of negative and positive information were biased in depression. These effects on attention and memory are called information-processing biases. Beck’s therapy, which has now been adapted for other disorders in addition to depression, addresses these biases by trying to persuade patients to change their opinions of themselves and the way in which they interpret life events. When a depressed person expresses feelings that nothing ever goes right, for example, the therapist offers counterexamples, pointing out how the client has overlooked favorable happenings. The general goal of Beck’s therapy is to provide people with experiences, both inside and outside the consulting room, that will alter their negative schemas, enabling them to have hope rather than despair.

**Ellis’s Rational-Emotive Behavior Therapy** Albert Ellis (1913–2007) developed a different type of cognitive behavior therapy. His principal thesis was that sustained emotional reactions are caused by internal sentences that people repeat to themselves; these self-statements reflect sometimes unspoken assumptions—irrational beliefs—about what is necessary to lead a meaningful life. In Ellis’s **rational-emotive behavior therapy (REBT)** (Ellis, 1993, 1995), the aim is to eliminate self-defeating beliefs. A person with depression, for example, may say



Aaron Beck developed a cognitive theory of depression and a cognitive behavioral therapy for people with depression. (Courtesy Dr. Aaron T. Beck.)



Albert Ellis, a cognitive behavior therapist and founder of rational-emotive behavior therapy, focused on the role of irrational beliefs as causes of psychopathology. (Courtesy Michael A. Fenichel, Ph.D.)



several times a day, “What a worthless jerk I am.” Ellis proposed that people interpret what is happening around them, that sometimes these interpretations can cause emotional turmoil, and that a therapist’s attention should be focused on these beliefs rather than on historical causes or, indeed, on overt behavior.

Ellis used to list a number of irrational beliefs that people can harbor. He later (1991; Kendall et al., 1995) shifted from a cataloguing of specific beliefs to the more general concept of “demandingness,” that is, the musts or shoulds that people impose on themselves and on others. Thus, instead of wanting something to be a certain way, feeling disappointed, and then perhaps engaging in some behavior that might bring about the desired outcome, the person demands that it be so. Ellis hypothesized that it is this unrealistic, unproductive demand that creates the kind of emotional distress and behavioral dysfunction that bring people to therapists.

### Evaluating the Cognitive Behavioral Paradigm

Cognitive behavioral explanations of psychopathology tend to focus more on current determinants of a disorder and less on historical, childhood antecedents. Some cognitive explanations of psychopathology do not appear to explain much. That a person with depression has a negative schema tells us that the person thinks gloomy thoughts. But such a pattern of thinking is actually part of the diagnosis of depression. What is distinctive in the cognitive behavioral paradigm is that the thoughts are given causal status; that is, the thoughts are regarded as causing the other features of the disorder, such as sadness. Left unanswered is the question of where the negative schema came from in the first place. Much of the current research is focused on understanding what types of mechanisms sustain the biased thoughts shown in different psychopathologies.

Table 2.1 compares the basic assumptions of the psychodynamic and cognitive behavioral paradigms.

**Table 2.1 Comparison of Psychodynamic and Cognitive Behavioral Paradigms**

Psychodynamic	Cognitive Behavioral
We don’t always say what we mean.	We usually say what we mean, or at least we are able to quite readily.
We don’t always know what we mean.	We usually know what we mean.
We can have strongly inconsistent feelings about things, desires, and fears.	We do have strongly inconsistent, conflicting feelings, but such conflicts are not emphasized.
What lies on the surface is not (always) the most important aspect of ourselves; in fact, it seldom is.	What lies on the surface is usually the most important aspect of ourselves. Yet looking for controlling variables can take cognitive-behaviorists into the realm of causes.
Our earliest life experiences are pivotal, especially with our parents and parent figures.	Current factors in one’s life are at least as important as past experiences.
We can come to fear our own desires and experience conflict about expressing them.	Fear of our own desires is emphasized less.
We often desire or fear what is unconventional, bizarre, taboo.	People’s wishes and fears are much more prosaic. There is little presumption of taboo concerns.
“The truth shall set you free.” Insight into one’s actual motivations has, in itself, curative properties.	Insight can be helpful, but it is to be found more in current thoughts than the past. It facilitates control over our fears and desires.

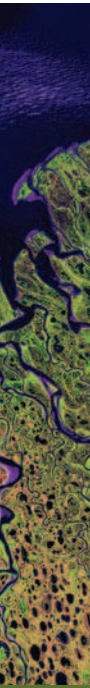


## Quick Summary

The psychodynamic paradigm derives from the work of Freud and his followers. Contemporary psychodynamic theories include ego analysis, which introduced the concept of pathogenic beliefs; object relations, which stresses the importance of relationships; and its offshoot, attachment theory, which emphasizes the role of attachment styles in infancy through adulthood. The theories of Freud and other psychodynamic theorists do not lend themselves to systematic study, which has limited their acceptance by some in the field. However, more contemporary psychodynamic researchers along with researchers in other fields, such as cognitive neuroscience and social psychology, have generated a body of empirical research on concepts such as the unconscious and interpersonal relationships. For example, research on implicit memory and the relational self has promoted acceptance of the ideas of unconscious influences on behavior and the role of the self in relation to others. Brief psychodynamic therapy and interpersonal therapy are two contemporary psychotherapies that are based in psychodynamic theory. Although Freud's early work is often criticized, this paradigm has been influential in the

study of psychopathology in that it has made clear the importance of early experiences, the notion that we can do things without conscious awareness, and the point that the causes of behavior are not always obvious.

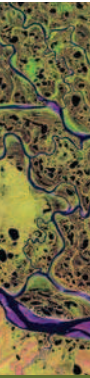
The cognitive behavioral paradigm reflects influences from behavior therapy and cognitive science. Treatment techniques designed to alter the consequences or reinforcers of a behavior, such as in time-out or a token economy, are still used today. Exposure is a key component to cognitive behavioral treatments of anxiety. Cognitive science focuses on concepts such as schemas (a network of accumulated knowledge or set), attention, and memory, and these concepts are part of cognitive behavioral theories and treatments of psychopathology. Cognitive behavior therapy uses behavior therapy techniques and cognitive restructuring. Aaron Beck and Albert Ellis are two influential cognitive behavior therapists. The boundary between what is behavioral and what is cognitive is not always so clear in the cognitive behavioral paradigm.



## Check Your Knowledge 2.3

True or false?

1. One of the current contributions of the psychodynamic paradigm is the recognition that the unconscious is not important.
2. The relational self is a concept from social psychology that incorporates ideas from object relations and attachment theories.
3. Interpersonal therapy may focus on four types of interpersonal problems including unresolved grief, role transitions, role disputes, and social deficits.
4. Beck's theory suggests that emotions are caused by irrational thoughts, whereas Ellis's theory suggests that people have distortions in the way they perceive life's experiences.
5. In the Stroop task, interference is measured by how long it takes to name the color of the ink in a list of words.



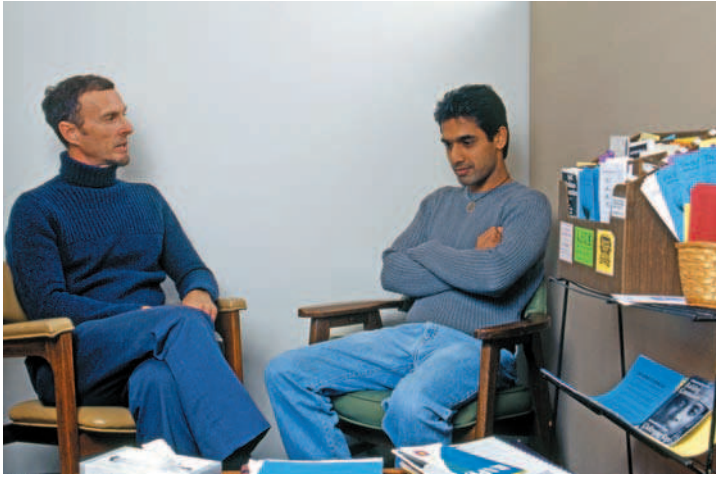
## Factors That Cut across the Paradigms

Two important sets of factors that we will consider throughout this book are emotion and sociocultural factors. Some type of disturbance in emotion can be found in nearly all mental disorders. In addition, we will see that gender, culture, ethnicity, and social relationships bear importantly on the descriptions, causes, and treatments of the different disorders. In the next sections, we introduce these concepts and give some examples of why they are so important in psychopathology, regardless of what paradigm has been adopted.

### Emotion and Psychopathology

**Emotions** influence how we respond to problems and challenges in our environment; they help us organize our thoughts and actions, both explicitly and implicitly, and they guide our behavior. Perhaps because our emotions exert such widespread influence, we spend a good deal of time trying to regulate how we feel and how we present our emotions to others. Given their





Emotion consists of many components, including expression (shown here), experience, and physiology. (Rachel Epstein/PhotoEdit.)

centrality, it is not surprising that emotion disturbances figure prominently in many different forms of psychopathology. By one analysis, as many as 85 percent of psychological disorders include disturbances in emotional processing of some kind (Thoits, 1985).

What is emotion? The answer to that question could fill an entire textbook on its own. Emotions are believed to be fairly short-lived states, lasting for a few seconds, minutes, or at most hours. Sometimes the word *affect* is used to describe short-lasting emotional feelings. Moods, on the other hand, are emotional experiences that endure for a longer period of time.

Most contemporary emotion theorists and researchers suggest that emotions are comprised of a number of components—including (but not limited to) expressive, experiential, and physiological components—that are typically coordinated within the individual. The expressive, or behavioral, component of emotion typically refers to facial expressions of emotion. For example, anger expression is an important variable in studies of heart disease. Many patients with schizophrenia display very few facial expressions. The experience, or subjective feeling, component of

emotion refers to how someone reports he or she feels at any given moment or in response to some event. For example, learning that you received an A on your midterm might elicit feelings of happiness, pride, and relief. Learning you received a C might elicit feelings of anger, concern, or embarrassment. The physiological component of emotion involves changes in the body, such as those due to the autonomic nervous system activity that accompanies emotion. For example, if a car almost runs you down as you are crossing the street, you may show a frightened look on your face, feel fear, and experience an increase in your heart rate, breathing rate, and skin conductance.

When we consider emotional disturbances in psychopathology, it will be important to consider which of the emotion components are affected. In some disorders, all emotion components may be disrupted, whereas in others, just one might be problematic. For example, people with schizophrenia do not readily express their emotions outwardly, but they report feeling emotions very strongly. People with panic disorder experience excessive fear and anxiety when no actual danger is present. People with depression may experience prolonged sadness and other negative feelings. A person with antisocial personality disorder does not feel empathy. We will try to be clear in the book as to what component of emotion is being considered.

Another important consideration in the study of emotion and psychopathology is the concept of *ideal affect*, which simply refers to the kinds of emotional states that a person ideally wants to feel. At first glance, you might presume that happiness is the ideal affect for everyone. After all, who doesn't want to feel happy? However, recent research shows that ideal affects vary depending on cultural factors (Tsai, 2007). Thus, people from Western cultures, such as the United States, do indeed value happiness as their ideal state. However, people from East Asian cultures, like China, value less arousing positive emotions, such as calmness, more than happiness (Tsai, Knutson, & Fung, 2006). Tsai and colleagues have also shown a linkage between people's ideal affect and drug usage; if the ideal affect is a state of low arousal, like calmness, a person is less likely, for example, to use cocaine (Tsai, Knutson, & Rothman, 2007). Cross-nationally, more people in the United States seek treatment for cocaine and amphetamines, drugs that are stimulating and associated with feelings of excitement and happiness; more people in China seek treatment for heroin, a drug that has calming effects (Tsai, 2007; for more on the effects of these drugs see Chapter 10).

The study of emotion figures prominently in the work of neuroscientists who are examining the ways in which the brain contributes to the different emotion components. Geneticists have also begun to examine how tendencies to experience a lot of positive or negative emotion may run in families. Emotions such as anger figured prominently in Freud's views; more contemporary psychodynamic treatments also focus on changing emotion. Even cognitive behavioral therapies consider how emotion influences thinking and behavior. As noted above, emotion is the starting point for Ellis's theory. Emotion thus cuts across the paradigms and can be studied from multiple perspectives, depending on the paradigm that is adopted.



## Sociocultural Factors and Psychopathology

A good deal of research has focused on the ways in which sociocultural factors, such as culture, ethnicity, gender, and social relationships, can contribute to different psychological disorders. Researchers who study such sociocultural factors and psychopathology all share the premise that environmental factors can trigger, exacerbate, or maintain the symptoms that make up the different disorders. But the range of variables considered, and the ways of studying those variables, cover a lot of ground.

An increasing number of such studies look at the role of culture and ethnicity by conducting multinational and multicultural studies. In addition, these studies have shown that some disorders affect men and women differently. For example, depression is nearly twice as common among women as among men. On the other hand, antisocial personality disorder and alcohol dependence are more common among men than women. Childhood disorders, such as attention-deficit/hyperactivity disorder, affect boys more than girls, but some researchers question whether this reflects a true difference between boys and girls or a bias in the diagnostic criteria. Other studies show that poverty is a major influence on psychological disorders. For example, poverty is related to antisocial personality disorder, anxiety disorders, and depression.

Beyond the role of culture, ethnicity, and poverty, thousands of articles have been published on how the quality of relationships influences different disorders. Family and marital relationships, social support, and even the amount of casual social contact all play a role in influencing the course of disorders. Within relationships, researchers have looked for ways to capture the relative closeness and support offered, but also the degree of hostility. In addition, current research is looking beyond whether men and women differ in the prevalence rates of certain disorders to asking questions about risk factors that may differentially impact men and women in the development of certain disorders. For example, father-to-son genetic transmission appears to be an important risk factor in the development of alcohol dependence for men, whereas sociocultural standards of thinness may be a risk factor in the development of eating disorders for women.

One tradition involves examining problem-solving interactions of family members to try to capture key dimensions in relationships. In a typical family interaction task, researchers might ask family members to discuss a topic that has been a source of concern, like whether the family is spending enough time together. An interviewer talks with each family member independently to capture the basics of his or her position. Then, in a family meeting, the interviewer briefly summarizes each person's perspective and asks the family to discuss the topic for 10 to 15 minutes and try to come to some resolution. Researchers then might code various dimensions from watching videotapes, like how family members share power, express positive sentiments, or deal with negative emotions.

Other researchers are interested in understanding the role of trauma, serious life events, and stress in psychopathology. We will describe some of the ways people measure life events in the next chapter. But the influence of stress within the context of social relationships plays a role in just about all the disorders we will consider.

Cultural and ethnic factors in psychopathology must be examined more closely. Some questions, such as whether or not the disorders we diagnose and treat in the United States are observed in other parts of the world, have been fairly well studied. This research has demonstrated that a number of disorders are indeed observed in diverse parts of the world. Indeed, no country or culture is without psychopathology of some sort. For example, Murphy (1976) examined whether schizophrenia symptoms could be observed in cultures as diverse as Eskimo and Yoruba. She found that both cultures have a concept of being "crazy" that is quite similar to the Western definition of schizophrenia. The Eskimo's *nuthkavihak* includes talking to oneself, refusing to talk, delusional beliefs, and bizarre behavior.



Culture and ethnicity play an important role in the descriptions, causes, and treatments of mental disorders. (Betsie Van der Meer/Stone/Getty Images.)



The Yoruba's *were* encompasses similar symptoms. Notably, both cultures also have shamans but draw a clear distinction between their behavior and that of mentally ill people. In Chapter 5, we discuss a number of anxiety conditions across the world that look very similar to the symptoms of panic disorder.

Although some disorders appear to occur in different cultures, other disorders appear to be specific to particular cultures. In Chapter 9, we will consider the evidence that eating disorders are specific to Western culture. The Japanese term *hikikomori* refers to a condition where a person completely withdraws from his social world (although women are affected, it is observed predominantly among men). People with *hikikomori* may completely shut themselves into their room or houses—in some cases, for many years—refusing to interact with other people and leaving only occasionally to buy food. As we discuss in the next chapter, the current diagnostic system includes cultural factors in the discussion of every category of disorder, and this may be an important step toward increasing research in this area.

Even though there are some cross-cultural similarities in the presence of mental illnesses across cultures, there are also a number of profound cultural influences on the symptoms expressed in different disorders, the availability of treatment, and the willingness to seek treatment. We will consider these issues throughout this book.

We must also consider the role of ethnicity in psychopathology. Some disorders, such as schizophrenia, are diagnosed more often among African Americans than Caucasians. Does this mean schizophrenia occurs more often in this group, or does it mean that some type of ethnic bias might be operating in diagnostic assessments? Drug use and abuse and their effects vary by ethnicity. Whites are more likely to use or abuse many drugs, such as nicotine, hallucinogens, methamphetamine, prescription painkillers, and, depending on the age group, alcohol. Yet African American smokers are more likely to die from lung cancer. Eating disturbances and body dissatisfaction are greater among white women than black women, particularly in college, but differences in actual eating disorders, particularly bulimia, do not appear to be as great. The reasons for these differences are not yet well understood and are the focus of current research. Table 2.2 shows recent data on ethnic and racial differences in the lifetime prevalence of DSM-IV-TR disorders.

Sociocultural factors have become more prominent in recent years in genetics and neuroscience. For example, *social neuroscience* seeks to understand what happens in the brain during complex social situations. Gene–environment interaction studies are uncovering the ways in which the social environment in combination with certain genes can increase the risk for disorders, as illustrated by the Caspi and colleagues (2003) study discussed earlier. Psychodynamic and cognitive behavior traditions have tended to focus more on the individual rather than how the individual interacts with the social world. However, this, too, is changing. New efforts are under way, for example, to develop cognitive behavior therapy for people from different cultures and ethnicities.

**Table 2.2 Lifetime Prevalence Rates of DSM-IV-TR Disorders among Different Ethnic Groups**

Disorder	White	Hispanic	Black
ADHD	4.6	4.6	3.4
Alcohol abuse or dependence	13.4	15.0*	9.5
Bipolar disorder	3.2	4.3	4.9*
Depression	17.9*	13.5	10.8
Drug abuse or dependence	7.9	9.1	6.3
Generalized anxiety disorder	8.6*	4.8	5.1
Panic disorder	4.9	5.4	3.1
PTSD	6.8	5.9	7.1

Table values are percentages. \* indicates group with significantly highest prevalence rate.

Source: Adapted from Breslau et al. (2006). Sample came from the National Comorbidity Survey-Replication study, a study including a representative sample of people age 18 or older in the United States.



## Quick Summary

Emotion disturbances figure prominently in psychopathology, but the ways in which emotions can be disrupted varies quite a bit. Emotions guide our behavior and help us to respond to problems or challenges in our environment. It is important to distinguish between components of emotion, including expression, experience, and physiology. In addition, mood can be distinguished from emotion. The concept of ideal affect points to important cultural differences in emotion that may be important for psychopathology. Psychological disorders have different types of emotion disturbances, and thus it is important to consider which of the emotion components are affected. In some disorders, all emotion components may be disrupted, whereas in others, just one might be problematic. Emotion is an important focus in the paradigms.

Sociocultural factors, such as culture, ethnicity, gender, social support, and relationships, are important factors in the study of

psychopathology. Some disorders appear to be universal across cultures, like schizophrenia or anxiety, yet their manifestations may differ somewhat and the ways in which society regards them may also differ. Other disorders, like eating disorders or hikikomori, may be specific to particular cultures. Some disorders are more frequently diagnosed in some ethnic groups compared to others. It is not clear whether this reflects a true difference in the presence of disorder or perhaps a bias on the part of diagnosticians. Social relationships can be important buffers against stress and have benefits for physical and mental health. Current research is also examining whether risk factors associated with various disorders differ for men and women. Sociocultural factors have recently become the focus of people working in the other paradigms, and this trend will continue.

## Diathesis–Stress: An Integrative Paradigm

Psychopathology is much too diverse to be explained or treated adequately by any one of the current paradigms. Most of the disorders we will discuss in this book likely develop through an interaction of neurobiological defects and environmental factors, a view that we turn to next.

The **diathesis–stress** paradigm is an integrative paradigm that links genetic, neurobiological, psychological, and environmental factors. It is not limited to one particular school of thought, such as cognitive behavioral, genetic, or psychodynamic. The diathesis–stress concept was introduced in the 1970s as a way to account for the multiple causes of schizophrenia (Zubin & Spring, 1977). Its appeal continues today for many disorders, however, because, like the gene–environment interaction models reviewed above, it is a model that focuses on the interaction between a predisposition toward disease—the **diathesis**—and environmental, or life, disturbances—the stress. Diathesis refers most precisely to a constitutional predisposition toward illness, but the term may be extended to any characteristic or set of characteristics of a person that increases his or her chance of developing a disorder.

In the realm of neurobiology, for example, a number of disorders considered in later chapters appear to have a genetically transmitted diathesis. Although the precise nature of these genetic diatheses is currently unknown (e.g., we don't know exactly what is inherited that makes one person more likely than another to develop bipolar disorder), it is clear that a genetic predisposition is an important component of many disorders. Other neurobiological diatheses include oxygen deprivation at birth, poor nutrition, and a maternal viral infection or smoking during pregnancy. Each of these conditions may lead to changes in the brain that predispose the individual toward psychopathology.

In the psychological realm, a diathesis for depression may be the cognitive set already mentioned, the chronic feeling of hopelessness sometimes found in people with depression. Other psychological diatheses include the ability to be easily hypnotized, which may be a diathesis for dissociative identity disorder (formerly called multiple personality disorder), and an intense fear of becoming fat, which predisposes an individual toward eating disorders.

These diatheses can arise for a variety of reasons. Some, such as hypnotizability, are personality characteristics that are probably in part genetically influenced. Others, such as a sense of hopelessness, may result from childhood experiences with harshly critical parents. Sexual or physical abuse during childhood produces psychological changes as well as changes in the brain that seem to predispose people to develop a number of different disorders.





Stressors that may activate a diathesis range from minor, such as having car trouble, to major, such as the aftermath of a hurricane. (Left: Creatas/SuperStock, Inc.; Right: AFP/Getty Images.)

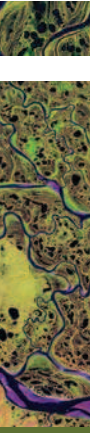
Sociocultural influences also play an important role; for instance, cultural standards of what is beautiful may lead to an intense fear of being fat and thus predispose some people to eating disorders. The diathesis–stress paradigm is integrative because it draws on all these diverse sources of information about the causes of diatheses. In later chapters we will see that concepts from the major paradigms we have already discussed are differentially applicable to different disorders. For example, a genetic diathesis plays a major role in attention-deficit/hyperactivity disorder. Cognitive diatheses, in contrast, are more influential in the anxiety disorders and depression. A diathesis–stress paradigm allows us to draw on concepts from many sources and to make more or less use of them depending on the disorder being considered.

Possessing the diathesis for a disorder increases a person's risk of developing it but does not by any means guarantee that a disorder will develop. The stress part of diathesis–stress is meant to account for how a diathesis may be translated into an actual disorder. In this context stress generally refers to some noxious or unpleasant environmental stimulus that triggers psychopathology. Psychological stressors include major traumatic events (e.g., becoming unemployed, divorce, death of a spouse) as well as more mundane happenings, which many of us experience (e.g., being stuck in traffic). By including these environmental events, the diathesis–stress model goes beyond the major paradigms we have already discussed.

The key point of the diathesis–stress model is that both diathesis and stress are necessary in the development of disorders. Some people, for example, have inherited a predisposition that places them at high risk for mania (see Chapter 8); given a certain amount of stress, they stand a good chance of developing mania. Other people, those at low genetic risk, are not likely to develop mania, regardless of how difficult their lives are.

Another major feature of the diathesis–stress paradigm is that psychopathology is unlikely to result from the impact of any single factor. Like our discussion of the reciprocal relationships between genes and the environment above, a genetically transmitted diathesis may be necessary for some disorders, but it is embedded in a network of other factors that also contribute to the disorder. These factors could include genetically transmitted diatheses for other personality characteristics; childhood experiences that shape personality, the development of behavioral competencies, and coping strategies; stressors encountered in adulthood; cultural influences; and numerous other factors.

Finally, we should note that within this framework, the data gathered by researchers holding different paradigms are not incompatible with one another. For example, stress may be needed to activate a predisposition toward a problem in neurotransmitter systems. Some of the differences between the paradigms also appear to be more linguistic than substantive. A cognitive behavioral theorist may propose that maladaptive cognitions cause depression, whereas a neurobiological theorist may speak of the underactivity of a certain neural pathway. The two positions are not contradictory but merely reflect different levels of description, just as we could describe a table as pieces of wood in a particular configuration or as a collection of atoms.



## Check Your Knowledge 2.4

True or false?

1. Emotion consists of at least three components: expression, experience, and physiology.
2. Sociocultural factors such as gender, culture, ethnicity, and social relationships are less important to consider from the neuroscience paradigm.
3. Examining problem-solving interactions of family members is useful for understanding key dimensions in relationships.
4. In the diathesis–stress model, the diathesis must be biological (e.g., genetic).
5. The diathesis–stress model emphasizes the importance of integrating across paradigms to understand the causes of mental illness.

## Multiple Perspectives on a Clinical Problem

To provide a concrete example of how it is possible to conceptualize a clinical case using multiple paradigms, we present a case and discuss how information provided is open to a number of interpretations, depending on the paradigm adopted.

Depending on the paradigm you adopt, your conceptualization of this case may differ. If you hold a genetic point of view, you are attentive to the family history, noting that Arthur's father had similar difficulties with alcohol. You are probably aware of the research (to be reviewed in Chapter 10) that suggests a genetic factor in substance-related disorders such as alcohol dependence. You do not discount environmental contributions to Arthur's problems, but you hypothesize that some inherited defect predisposes him to react poorly to stress, which may in turn increase the likelihood that he will turn to alcohol to cope. After all, not everyone who experiences a difficult childhood and adolescence develops a drinking problem.

### Clinical Case: Arthur

Arthur's childhood had not been a particularly happy one. His mother died suddenly when he was only 6, and for the next 10 years he lived either with his father or with a maternal aunt. His father drank heavily, seldom managing to get through any day without some alcohol. His father's income was so irregular that he could seldom pay bills on time or afford to live in any but the most run-down neighborhoods. At times Arthur's father was totally incapable of caring for himself, let alone his son. Arthur would then spend weeks, sometimes months, with his aunt in a nearby suburb.

Despite these early life circumstances, Arthur completed high school and entered college. He qualified for student loans and other financial aid, but he also needed to wait tables and tend bar to make ends meet. During these college years, he felt an acute self-consciousness with people he felt had authority over him—his boss, his professors, and even some of his classmates, with whom he compared himself unfavorably.

Like many people in college, Arthur attended his fair share of parties. He pledged a fraternity at the end of his freshman year, and this was the source of most of his socializing. It was also the source of a lot of alcohol. He drank heavily at the weekend parties. By his senior year, however, he was drinking daily, often as a way to deal with the stress of being in school and working at the same time.

Two years after college, Arthur married his college girlfriend. Arthur could never quite believe that his wife, as intelligent as she was beautiful, really cared for him. As the years wore on, his doubts about himself and about her feelings toward him would continue to grow. He felt she was far brighter than he, and he worried that she would make more money than he would.

After college, Arthur began a job at a publishing company, serving as an assistant editor. This job proved to be even more stressful than college. The deadlines and demands of the senior editors were difficult. He constantly questioned whether he had what it took to be an editor. Like his father, he often drank to deal with this stress.

Several years later, when it seemed that life should be getting easier, he found himself in even greater turmoil. Now 32 years old, with a fairly secure job that paid reasonably well, he and his wife were arguing more often. She continually complained about his drinking; he denied that there was a problem. After all, he was only drinking four beers a night. His wife wanted to start a family, but he was not sure if he wanted to have this additional stress in his life. His brooding over his marriage led him to drink even more heavily until finally, one day, he realized he was drinking too much and needed to seek help.

A psychodynamic point of view casts Arthur in yet another light. Believing that events in early childhood are of great importance in later patterns of adjustment, you may hypothesize that Arthur is still grieving for his mother and has blamed his father for her early death. Such strong anger at the father has been repressed, and this plus the death of his mother is negatively impacting his adult relationships with others. For treatment, you may choose interpersonal therapy to work on Arthur's relationships and to deal openly and consciously with his buried anger toward his father.

Now suppose that you are committed to a cognitive behavioral perspective, which encourages you to analyze human behavior in terms of reinforcement patterns as well as cognitive variables. You may focus on Arthur's self-consciousness at college, which seems related to the fact that compared with his fellow students, he grew up with few advantages. Economic insecurity and hardship may have made him unduly sensitive to criticism and rejection. Alcohol has been his escape from such tensions. But heavy drinking, coupled with persistent doubt about his own worth as a human being, has worsened an already deteriorating marital relationship, further undermining his confidence. As a cognitive behavior therapist, you may employ systematic desensitization, in which you teach Arthur to relax deeply as he imagines a hierarchy of situations in which he is being evaluated by others. Or you may decide on cognitive behavior therapy to convince Arthur that he need not obtain universal approval for every undertaking.

If you adopt a diathesis–stress perspective, you might follow more than one of these strategies. You would acknowledge the likely genetic contribution to Arthur's alcohol dependence, but you would also identify key triggers (e.g., job stress) that might lead to greater bouts of drinking. You would likely employ many of the therapeutic techniques noted above.

## Summary

- A paradigm is a conceptual framework or general perspective. Because the paradigm within which scientists and clinicians work helps to shape what they investigate and find, understanding paradigms helps us to appreciate subjective influences that may affect their work.

- Several major paradigms are current in the study of psychopathology and therapy. The choice of a paradigm has important consequences for the way in which psychopathology is defined, investigated, and treated.

- The genetic paradigm holds that psychopathology is caused, or at least influenced, by heritable factors. Recent genetic findings show how genes and the environment interact, and it is this type of interaction that will figure most prominently in psychopathology.

- The neuroscience paradigm emphasizes the role of the brain, neurotransmitters, and other systems, such as the HPA axis. Biological treatments, including medications, attempt to rectify the specific problems in the brain.

- The psychodynamic paradigm derives from the work of Freud. More contemporary research in this paradigm includes research on the unconscious and interpersonal relationships. The psychodynamic paradigm continues to influence the field by highlighting the importance of childhood experiences, the unconscious, and the fact that the causes of behavior are not always obvious.

- The cognitive behavioral paradigm emphasizes schemas, attention, and irrational interpretations and their influence on behavior as major factors in

psychopathology. Cognitive behavior therapists such as Beck and Ellis focus on altering patients' negative schemas and interpretations.

- Emotion plays a prominent role in many disorders. It is important to distinguish among components of emotion that may be disrupted, including expression, experience, and physiology. Emotion disturbances are the focus of study across the paradigms.

- Sociocultural factors, including culture, ethnicity, gender, poverty, social support, and relationships, are also important in conceptions of psychopathology. The prevalence and meaning of disorders may vary by culture and ethnicity; men and women may have different risk factors for different disorders; and social relationships can be an important buffer against stress. Sociocultural factors are included in the work of geneticists, neuroscientists, psychodynamic theorists, and cognitive behaviorists.

- Because each paradigm seems to have something to offer to our understanding of mental disorders, it is important to develop more integrative paradigms. The diathesis–stress paradigm, which integrates several points of view, assumes that people are predisposed to react adversely to environmental stressors. The diathesis may be genetic, neurobiological, or psychological and may be caused by early-childhood experiences, genetically influenced personality traits, or sociocultural influences, among other things.

## Answers to Check Your Knowledge Questions

**2.1** 1. b; 2. d; 3. a; 4. c

**2.2** 1. hypothalamus, anterior cingulate, septal area, hippocampus, amygdala; 2. white, gray; 3. norepinephrine, GABA; 4. hypothalamus, pituitary gland, adrenal cortex

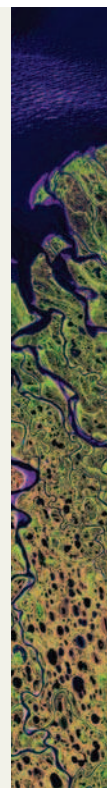
**2.3** 1. F; 2. T; 3. T; 4. F; 5. T

**2.4** 1. T; 2. F; 3. T; 4. F; 5. T



## Key Terms

agonist	dopamine	nerve impulse	reciprocal gene–environment interaction
allele	emotion	neuron	reuptake
amygdala	exposure	neuroscience paradigm	schema
antagonist	frontal lobe	neurotransmitters	second messengers
anterior cingulate	gamma-aminobutyric acid (GABA)	nonshared environment	septal area
attachment theory	gene	norepinephrine	serotonin
autonomic nervous system (ANS)	gene expression	object-relations theory	serotonin transporter gene
behavior genetics	gene–environment interaction	occipital lobe	shared environment
brain stem	genetic paradigm	paradigm	sympathetic nervous system
brief therapy	genotype	parasympathetic nervous system	synapse
cerebellum	gray matter	parietal lobe	temporal lobe
cognition	heritability	phenotype	thalamus
cognitive behavior therapy (CBT)	hippocampus	polygenic	time-out
cognitive behavioral paradigm	HPA axis	polymorphism	token economy
cognitive restructuring	hypothalamus	prefrontal cortex	ventricles
corpus callosum	in vivo	pruning	white matter
cortisol	interpersonal therapy (IPT)	psychodynamic paradigm	
diathesis	molecular genetics	rational-emotive behavior therapy (REBT)	
diathesis–stress			





# 3

# Diagnosis and Assessment

## LEARNING GOALS

1. Be able to describe the purposes of diagnosis and assessment.
2. Be able to distinguish the different types of reliability and validity.
3. Be able to identify the basic features, strengths, and weaknesses of the DSM-IV-TR.
4. Be able to describe the goals, strengths, and weaknesses of psychological and neurobiological approaches to assessment.
5. Be able to discuss the ways in which culture and ethnicity impact diagnosis and assessment.

## Clinical Case: Aaron

Hearing the sirens in the distance, Aaron realized that someone must have called the police. He didn't mean to get upset with the people sitting next to him at the bar, but he just knew that they were talking about him and plotting to have his special status with the CIA revoked. He could not let this happen again. The last time people conspired against him, he wound up in the hospital. He did not want to go to the hospital again and endure all of the evaluations. Different doctors would ask him all sorts of questions about his work with the CIA, which he simply was not at liberty to discuss. They asked other odd questions, such as whether he heard voices or believed others were putting thoughts into his head. He was never sure how they knew that he had those experiences, but he suspected that there were electronic bugging devices in his room at his parents' house, perhaps in the electrical outlets.

Just yesterday, Aaron began to suspect that someone was watching and listening to him through the electrical outlets. He decided that the safest thing to do was to stop speaking to his parents. Besides, they were constantly hounding him to take his medication. But when he took this medication, his vision got blurry and he had trouble sitting still. He reasoned that his parents must somehow be part of the group of people trying to remove him from the CIA. If he took this medication, he would lose his special powers that allowed him to spot terrorists in any setting, and the CIA would stop leaving messages for him in phone booths or in the commercials on Channel 2. Just the other day, he found a tattered paperback book in a phone booth, which he interpreted to mean that a new assignment was imminent. The voices in his head were giving him new clues about terrorist activity. They were currently telling him that he should be wary of people wearing the color purple, as this was a sign of a terrorist. If his parents were trying to sabotage his career with the CIA, he needed to keep out of the house at all costs. That was what had led him to the bar in the first place. If only the people next to him wouldn't have laughed and looked toward the door. He knew this meant that they were about to expose him as a CIA operative. If he hadn't yelled at them to stop, his cover would have been blown.



**D**IAGNOSIS AND ASSESSMENT ARE the critically important “first steps” in the study and treatment of psychopathology. In the case of Aaron, a clinician may begin treatment by determining whether Aaron meets the diagnostic criteria for a mood disorder, schizophrenia, or perhaps a substance-related disorder. Having a correct **diagnosis** will allow the clinician to describe base rates, causes, and treatment for Aaron and his family, all of which are important aspects of good clinical care. More broadly, diagnosis enables clinicians and scientists to communicate accurately with one another about cases or research. Without agreed-on definitions and categories, our field would face a situation like the Tower of Babel (Hyman, 2002), in which different scientists and clinicians would be unable to understand each other.

Diagnosis is also important for research on causes and treatments. Sometimes researchers discover unique causes and treatments associated with a certain set of symptoms. For example, autism was only recognized in the *Diagnostic and Statistical Manual* in 1980. Since that time, research on the causes and treatments of autism has grown exponentially. Diagnosis also can be the first major step in good clinical care. Imagine if your doctor told you, “There is no diagnosis for what you have.” Rather than this alarming scenario, hearing a diagnosis can provide relief in several different ways. Often, a diagnosis can help a person begin to understand why certain symptoms are occurring. Understanding the causes of symptoms can be a relief. Many disorders are extremely common, such as depression, anxiety, and substance abuse—knowing that his or her diagnosis is common can also help a person feel less unusual.

To help make the correct diagnosis, clinicians and researchers use a variety of assessment procedures, beginning with a clinical interview followed by other psychological and neurobiological assessment methods. Broadly speaking, all clinical assessment procedures are more or less formal ways of finding out what is wrong with a person, what may have caused problems, and what can be done to improve the person’s condition. Assessment procedures can help in making a diagnosis, and they can also provide information beyond a diagnosis. Indeed, a diagnosis is only a starting point. In the case of Aaron, for example, many other questions remain to be answered. Why does Aaron behave as he does? Why does he believe he is working for the CIA? What can be done to resolve his conflicts with his parents? Has he performed up to his intellectual potential in school and in his career? What obstacles might interfere with treatment? These are also the types of questions that mental health professionals address in their assessments.

In this chapter, we will describe the official diagnostic system used by many mental health professionals, as well as the strengths and weaknesses of this system. We will then turn to a discussion of the most widely used assessment techniques, including interviews, psychological assessment, and neurobiological assessment. We then conclude the chapter with an examination of a sometimes neglected aspect of assessment, the role of cultural bias. Before considering diagnosis and assessment in detail, however, we begin with a discussion of two concepts that play a key role in diagnosis and assessment: reliability and validity.

## Cornerstones of Diagnosis and Assessment

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The concepts of reliability and validity are the cornerstones of any diagnostic or assessment procedure. Without them, the usefulness of our methods is seriously limited. That said, these two concepts are quite complex. There are several kinds of each, and an entire subfield of psychology—psychometrics—exists primarily for their study. Here, we provide a general overview.

### Reliability

**Reliability** refers to consistency of measurement. An example of a reliable measure would be a wooden ruler, which produces the same value every time it is used to measure an object. In contrast, an unreliable measure would be a flexible, elastic-like ruler whose length changes every time it is used. Several types of reliability exist, and here we will discuss the types that are most central to assessment and diagnosis.



Reliability is an essential property of all assessment procedures. One means of determining reliability is to determine if different judges agree, as happens when two umpires witness the same event in a baseball game. (Reuters/NewMedia Inc./Corbis Images.)

**Interrater reliability** refers to the degree to which two independent observers agree on what they have observed. To take an example from baseball, two umpires may or may not agree as to whether the ball is fair or foul.

**Test-retest reliability** measures the extent to which people being observed twice or taking the same test twice, perhaps several weeks or months apart, receive similar scores. This kind of reliability makes sense only when we can assume that people being observed will not change appreciably between test sessions on the underlying variable being measured; a prime example of a situation in which this type of reliability is typically high is in evaluating intelligence tests. On the other hand, we cannot expect people to be in the same mood at a baseline and a follow-up assessment 4 weeks later.

Sometimes psychologists use two forms of a test rather than giving the same test twice, perhaps when there is concern that test takers will remember their answers from the first round of taking the test and aim merely to be consistent. This approach enables the tester to determine **alternate-form reliability**, the extent to which scores on the two forms of the test are consistent.

Finally, **internal consistency reliability** assesses whether the items on a test are related to one another. For example, one would expect the items on an anxiety questionnaire to be interrelated, or to correlate with one another, if they truly tap anxiety. A person who reports a dry mouth in a threatening situation would be expected to report increases in muscle tension as well, since both are common characteristics of anxiety.

## Validity

**Validity** is a complex concept, generally related to whether a measure measures what it is supposed to measure. For example, if a questionnaire is supposed to measure a person's hostility, does it do so? Before we describe types of validity, it is important to note that validity is related to reliability—unreliable measures will not have good validity. Because an unreliable measure does not yield consistent results (recall our example of a ruler whose length is constantly changing), an unreliable measure will not relate very strongly to other measures. For example, an unreliable measure of coping is not likely to relate well to how a person adjusts to stressful life experiences. Reliability, however, does not guarantee validity. Height can be measured very reliably, but height would not be a valid measure of anxiety.

**Content validity** refers to whether a measure adequately samples the domain of interest. For example, later in this chapter we will describe an interview that is often used to make an Axis I diagnosis. It has excellent content validity because it contains questions about all the symptoms that are involved in Axis I diagnoses. As another example, consider a measure of life stress that we will examine in more detail below. It consists of a list of 43 life experiences. Respondents indicate which of these experiences—for example, losing one's job—they have had in some time period, for example, the past year. Content validity is less certain here because many people may have life experiences that do not appear on the questionnaire. If you read the experiences in Table 3.7, you will likely think of stressors that are not on the list (e.g., the serious illness of someone close to you).

**Criterion validity** is evaluated by determining whether a measure is associated in an expected way with some other measure (the criterion). If both variables are measured at the same point in time, the resulting validity is referred to as **concurrent validity**. For example, we will describe a measure below of the overly negative thoughts that are believed to play an important role in depression. Criterion validity for this measure of negative thoughts could be established by showing that people with depression score higher on the test than do people without depression. Alternatively, criterion validity can be assessed by evaluating the ability of the measure to predict some other variable that is measured at some point in the future, often referred to as **predictive validity**. For example, IQ tests were originally developed to predict future school performance. Similarly, a measure of negative thinking could be used to





predict the development of depression in the future. In summary, concurrent and predictive validity are both types of criterion validity.

**Construct validity** is a more complex concept. It is relevant when we want to interpret a test as a measure of some characteristic or construct that is not observed simply or overtly (Cronbach & Meehl, 1955). A construct is an inferred attribute, such as anxiousness or distorted cognition. Consider an anxiety-proneness questionnaire as an example. If the questionnaire has construct validity, people who obtain different scores on our test really will differ in anxiety proneness. Just because the items seem to be about the tendency to become anxious (“I find that I become anxious in many situations”), it is not certain that the test is a valid measure of the construct of anxiety proneness.

Construct validity is evaluated by looking at a wide variety of data from multiple sources (compare this to criterion validity, where a test is typically evaluated against just one other piece of data). For example, people diagnosed as having an anxiety disorder and people without such a diagnosis could be compared on their scores on our self-report measure of anxiety proneness. The self-report measure would achieve some construct validity if the people with anxiety disorders scored higher than the people without anxiety disorders. Greater construct validity would be achieved by showing that the self-report measure was related to other measures thought to reflect anxiety, such as observations of fidgeting and trembling, and physiological indicators, such as increased heart rate and rapid breathing. When the self-report measure is associated with these multiple measures (diagnosis, observational indicators, physiological measures), its construct validity is increased.

More broadly, construct validity is related to theory. For example, we might hypothesize that being prone to anxiety is in part caused by a family history of anxiety. We could then obtain further evidence for the construct validity of our questionnaire by showing that it relates to a family history of anxiety. At the same time, we would also have gathered support for our theory of anxiety proneness. Thus, construct validation is an important part of the process of theory testing.

Construct validity is also centrally important to diagnostic categories. Below, we consider in more detail the issue of construct validity and the DSM-IV-TR.

## Classification and Diagnosis

### Clinical Case: Roxanne

Roxanne is a middle-aged woman who was brought to the local psychiatric emergency room by the police. They had found her running through a crowded street, laughing loudly and running into people. Her clothes were dirty and torn. When they questioned her, she was speaking very rapidly, and she was hard to follow. At the ER, she wrestled free of the police and began running down the hallway. She knocked over two staff members during her flight, while bellowing at the top of her lungs, “I am the resurrection! Come follow me!” Police brought her back to the exam room, and the staff began to form hypotheses. Clearly, she was full of energy. Had she been through some trauma? She believed she had special religious powers—could this be a delusion? Unfortunately, the staff were unable to gain much information

from an interview due to her rapid and pressured speech. Rather, Roxanne sat restlessly, occasionally laughing and shouting; treatment could not proceed without understanding the reason for her unusual behavior. When efforts to calm Roxanne failed, police helped the staff to contact family members, who were relieved to hear that Roxanne was safe. She had disappeared from home the day before. Family members described a long history of bipolar disorder (formerly known as manic depression), and they reported having been concerned for the past couple weeks because Roxanne had stopped taking medications for her bipolar disorder and for her high blood pressure. Treatment was able to proceed based on the idea that Roxanne was experiencing a new manic episode of her long-standing bipolar disorder.



In this section, we focus on the official diagnostic system used by mental health professionals, the *Diagnostic and Statistical Manual of Mental Disorders*, now in its fourth edition, commonly referred to as **DSM-IV-TR**. After reviewing the major components of DSM-IV-TR, we will describe the strengths of the DSM-IV-TR, and then review some criticisms of this system as well as of diagnosis in general.

### The Diagnostic System of the American Psychiatric Association (DSM-IV-TR)

In 1952, the American Psychiatric Association published its *Diagnostic and Statistical Manual* (DSM). The publication of the DSM was informed by earlier systems of classification (for a review, see Focus on Discovery 3.1), and it has been revised five times since 1952. DSM-IV was published in 1994, and in June 2000, a “text revision,” DSM-IV-TR, followed. Almost no changes were made to the diagnostic categories and criteria in the 2000 revision. Rather, DSM-IV-TR provided a summary of new research findings on prevalence rates, course, and etiology (causes). The DSM-IV-TR includes several key features: the use of separate dimensions, or axes, to rate people; discrete diagnostic categories; and more focus on cultural issues.

**Five Axes of Classification** As shown in Table 3.1, DSM-IV-TR includes five axes. This **multiaxial classification system**, by requiring judgments on each of the five axes, forces the diagnostician to consider a broad range of information.

Axis I includes all diagnostic categories except the personality disorders and mental retardation, which make up Axis II. Thus Axes I and II cover the classification of mental disorders. A complete listing of the DSM-IV-TR categories of Axes I and II appears inside the front cover of this book. (We will describe many of these disorders throughout the rest of this book.) Most people consult a mental health professional for an Axis I condition, such as depression or an anxiety disorder. But beyond Axis I conditions, clients might have a long-standing Axis II condition, such as dependent personality disorder. Axes I and II are separated to encourage clinicians to be attentive to the possibility of an Axis II disorder. The presence of an Axis II disorder along with an Axis I disorder generally means that a person’s problems will be more difficult to treat.

Axes III, IV, and V are designed to capture the broader life context of the person. On Axis III, the clinician indicates any general medical conditions. For many diagnoses, the DSM includes a provision for indicating that the disorder is due to a medical condition or substance abuse. For example, depression resulting from an endocrine gland dysfunction would be diagnosed on Axis I but listed as caused by a medical problem. Therefore, clinicians must be sensitive to possible medical causes of symptoms. On Axis IV, the clinician codes psychosocial problems that may contribute to the disorder, including occupational problems, economic problems, or interpersonal difficulties. Finally, on Axis V, the clinician indicates the person’s current level of adaptive functioning, using the Global Assessment of Functioning (GAF) scale (see Table 3.1) to consider social relationships, occupational functioning, and use of leisure time.



DSM-IV-TR is the official diagnostic system of the American Psychiatric Association. (Courtesy American Psychiatric Association.)

**Table 3.1 DSM-IV-TR Multiaxial Classification System**

Axis I	Axis V Global Assessment of Functioning Scale (GAF Scale)
<p>Disorders Usually First Diagnosed in Infancy, Childhood, or Adolescence</p> <p>Delirium, Dementia, Amnesic and Other Cognitive Disorders</p> <p>Substance-Related Disorders</p> <p>Schizophrenia and Other Psychotic Disorders</p> <p>Mood Disorders</p> <p>Anxiety Disorders</p> <p>Somatoform Disorders</p> <p>Factitious Disorders</p> <p>Dissociative Disorders</p> <p>Sexual and Gender Identity Disorders</p> <p>Eating Disorders</p> <p>Sleep Disorders</p> <p>Impulse Control Disorders Not Elsewhere Classified</p> <p>Adjustment Disorders</p>	<p>Consider psychological, social, and occupational functioning on a hypothetical continuum of mental health/illness. Do not include impairment in functioning due to physical (or environmental) limitations.</p> <p><b>Code</b></p> <p>100 Superior functioning in a wide range of activities, life's problems never seem to get out of hand, is sought out by others because of many positive qualities. No symptoms.</p> <p>90 Absent or minimal symptoms (e.g., mild anxiety before an exam), good functioning in all areas, interested and involved in a wide range of activities, socially effective, generally satisfied with life, no more than everyday problems or concerns (e.g., an occasional argument with family members).</p> <p>80 If symptoms are present, they are transient and expectable reactions to psychosocial stressors (e.g., difficulty concentrating after family argument); no more than slight impairment in social, occupational, or school functioning (e.g., temporarily falling behind in schoolwork).</p> <p>70 Some mild symptoms (e.g., depressed mood and mild insomnia) OR some difficulty in social, occupational, or school functioning (e.g., occasional truancy, or theft within the household), but generally functioning pretty well, has some meaningful interpersonal relationships.</p> <p>60 Moderate symptoms (e.g., flat affect and circumstantial speech, occasional panic attacks) OR moderate difficulty in social, occupational, or school functioning (e.g., no friends, unable to keep a job).</p> <p>50 Serious symptoms (e.g., suicidal ideation, severe obsessional rituals, frequent shoplifting) OR any serious impairment in social, occupational, or school functioning (e.g., no friends, unable to keep a job).</p> <p>40 Some impairment in reality testing or communication (e.g., speech is at times illogical, obscure, or irrelevant) OR major impairment in several areas, such as work or school, family relations, judgment, thinking, or mood (e.g., depressed man avoids friends, neglects family, and is unable to work; child frequently beats up younger children, is defiant at home, and is failing at school).</p> <p>30 Behavior is considerably influenced by delusions or hallucinations OR serious impairment in communication or judgment (e.g., sometimes incoherent, acts grossly inappropriately, suicidal preoccupation) OR inability to function in almost all areas (e.g., stays in bed all day; no job, home, or friends).</p> <p>20 Some danger of hurting self or others (e.g., suicide attempts without clear expectation of death, frequently violent, manic excitement) OR occasionally fails to maintain minimal personal hygiene (e.g., smears feces) OR gross impairment in communication (e.g., largely incoherent or mute).</p> <p>10 Persistent danger of severely hurting self or others (e.g., recurrent violence) OR persistent inability to maintain minimal personal hygiene OR serious suicidal act with clear expectation of death.</p> <p>0 Inadequate information.</p>
Axis II	
<p>Mental Retardation</p> <p>Personality Disorders</p>	
Axis III	
<p>General Medical Conditions</p>	
Axis IV Psychosocial and Environmental Problems	
<p>Check:</p> <p>_____ Problems with primary support group. Specify:</p> <p>_____ Problems related to the social environment. Specify:</p> <p>_____ Educational problem. Specify:</p> <p>_____ Occupational problem. Specify:</p> <p>_____ Housing problem. Specify:</p> <p>_____ Economic problem. Specify:</p> <p>_____ Problems with access to health care services. Specify:</p> <p>_____ Problems related to interaction with the legal system/crime. Specify:</p> <p>_____ Other psychosocial and environmental problems. Specify:</p>	

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## FOCUS ON DISCOVERY 3.1

### A Brief History of Classification and Diagnosis

By the end of the nineteenth century, as people recognized that different illnesses required different treatments, medical diagnostic procedures were improved. During the same period, other sciences, such as botany and chemistry, advanced after classification systems were developed. Impressed by these successes, investigators of mental disorders sought to develop classification schemes. Unfortunately, progress in classifying mental disorders was not gained easily.

#### Early Efforts at Classification of Mental Illness

Emil Kraepelin (1856–1926) authored an influential early classification system in his textbook of psychiatry first published in 1883. His classification system attempted to definitively establish the biological nature of mental illnesses. Kraepelin noted that certain symptoms clustered together as a *syndrome*. He labeled a set of syndromes and hypothesized that each had its own biological cause, course, and outcome. Even though effective treatments had not been identified, at least the course of the disease could be predicted.

Kraepelin proposed two major groups of severe mental illnesses: dementia praecox (an early term for schizophrenia) and manic-depressive psychosis (an early term for bipolar disorder). He postulated a chemical imbalance as the cause of dementia praecox and an irregularity in metabolism as the explanation of manic-depressive psychosis. Though his theories about causes were not quite correct, Kraepelin's classification scheme nonetheless influenced the current diagnostic categories.

#### Development of the WHO and DSM Systems

In 1939 the World Health Organization (WHO) added mental disorders to the International List of Causes of Death (ICD). In 1948 the list was

expanded to become the International Statistical Classification of Diseases, Injuries, and Causes of Death, a comprehensive listing of all diseases, including a classification of abnormal behavior. Unfortunately, the mental disorders section was not widely accepted. Even though American psychiatrists had played a prominent role in the WHO effort, the American Psychiatric Association published its own Diagnostic and Statistical Manual (DSM) in 1952.

In 1969 the WHO published a new classification system, which was more widely accepted. In the United Kingdom, a glossary of definitions was produced to accompany the WHO system (General Register Office, 1968). A second version of the American Psychiatric Association's DSM, DSM-II (1968), was similar to the WHO system. But true consensus still eluded the field. Even though DSM-II and the British Glossary of Mental Disorders specified some symptoms of diagnoses, the two systems defined different symptoms for a given disorder! Thus diagnostic practices still varied widely.

In 1980 the American Psychiatric Association published an extensively revised diagnostic manual, DSM-III, and a somewhat revised version, DSM-III-R, followed in 1987. In 1988 the American Psychiatric Association began work on DSM-IV, which was published in 1994. Thirteen working groups, which included many psychologists, were established to critique DSM-III-R, review literature, analyze previously collected data, and collect new data. The committee adopted an important new approach—the reasons for changes in diagnoses would be explicitly stated and supported by data. In previous versions of the DSM, the reasons for diagnostic changes had not always been explicit.

**Improvements in the DSM** Beginning with the third edition of DSM and continuing today, an effort was made to create more reliable and valid diagnostic categories. Major improvements include the following:

1. Specific diagnostic criteria—the symptoms for a given diagnosis—are spelled out precisely, and clinical symptoms are defined in a glossary. Table 3.2 compares the descriptions of a manic episode given in DSM-II with the diagnostic criteria given in DSM-IV-TR. Notice how DSM-IV-TR is much more detailed and concrete.
2. The characteristics of each diagnosis in Axes I and II are described much more extensively than they were in DSM-II. For each disorder there is a description of essential features, then of associated features, such as laboratory findings (e.g., enlarged ventricles in schizophrenia) and results from physical exams (e.g., electrolyte imbalances in people who have eating disorders). Next, a summary of the research literature provides information about age of onset, course, prevalence and sex ratio, familial pattern, and differential diagnosis (i.e., how to distinguish similar diagnoses from each other).
3. With each revision of the DSM, the number of diagnostic categories has increased (see Table 3.3). For example, autism was added in DSM-III. Below, we discuss some of the implications of so many diagnostic categories. Although the number of diagnostic categories has increased dramatically over the years, some categories have been dropped because they have no research to support their validity (e.g., homosexuality).



4. Beginning with DSM-IV, a special section is provided on diagnoses and axes that need more study to decide whether they should become part of the diagnostic system (see Focus on Discovery 3.2 for examples).

**Table 3.2 Description of Mania in DSM-II versus DSM-IV-TR**

**DSM-II (1968, p. 36)**

Manic-depressive illness, manic type. This disorder consists exclusively of manic episodes. These episodes are characterized by excessive elation, irritability, talkativeness, flight of ideas, and accelerated speech and motor activity. Brief periods of depression sometimes occur, but they are never true depressive episodes.

**DSM-IV-TR (2000, p. 362)**

**Diagnostic Criteria for a Manic Episode**

- A. A distinct period of abnormally and persistently elevated, expansive, or irritable mood, lasting at least 1 week (or any duration if hospitalization is necessary).
- B. During the period of mood disturbance, three (or more) of the following symptoms have persisted (four if the mood is only irritable) and have been present to a significant degree:
  1. inflated self-esteem or grandiosity
  2. decreased need for sleep (e.g., feels rested after only 3 hours of sleep)
  3. more talkative than usual or pressure to keep talking
  4. flight of ideas or subjective experience that thoughts are racing
  5. distractibility (i.e., attention too easily drawn to unimportant or irrelevant external stimuli)
  6. increase in goal-directed activity (either socially, at work or school, or sexually) or psychomotor agitation
  7. excessive involvement in pleasurable activities that have a high potential for painful consequences (e.g., engaging in unrestrained buying sprees, sexual indiscretions, or foolish business investments)
- C. The symptoms do not meet criteria for a Mixed Episode.
- D. The mood disturbance is sufficiently severe to cause marked impairment in occupational functioning or in usual social activities or relationships with others, or to necessitate hospitalization to prevent harm to self or others, or there are psychotic features.
- E. The symptoms are not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication, or other treatment) or a general medical condition (e.g., hyperthyroidism).

*Note:* DSM-IV-TR material reprinted with permission from the DSM-IV-TR, copyright 2000, American Psychiatric Association.

**Ethnic and Cultural Considerations in DSM-IV-TR** Mental illness is universal. There is not a single culture in which people are free of mental illness. But there are many different cultural influences on the risk factors for mental illness (e.g., social cohesion, poverty, access to drugs of abuse, and stress), the types of symptoms experienced, the willingness to seek help, and the treatments available. Sometimes these differences across cultures are profound. For example, although mental health care is widely available in the United States, it is estimated that there is only one psychiatrist for every 2 million people living in sub-Saharan Africa (World Health Organization, 2001).

Cultural differences do not always play out in the way one might expect. For example, even with the access to medical care in the United States, a major study found that outcomes for schizophrenia were more favorable in Nigeria, India, and Colombia than in more industrialized countries, including the United States (Sartorius et al., 1986). People who immigrate from Mexico to the United States are about half as likely to meet criteria for mental illness than native born citizens in the United States initially, but over time, they and their children begin to show an increase in certain disorders, such as substance abuse, such that their risk for disorder begins to approximate that of people born in the United States (Allegría et al., 2008). As shown in Table 3.4, rates of mental illnesses tend to be higher in the United States than in many other countries. If we hope to understand how culture defines risk, symptom

**Table 3.3 Number of Diagnostic Categories per Edition of DSM**

Edition of DSM	Number of Categories
DSM I	106
DSM-II	182
DSM-III	265
DSM-III-R	292
DSM-IV-TR	297

*Source:* Pincus et al. (1992).



**Table 3.4 Twelve-Month Prevalence Rates of the Most Common DSM-IV-TR Diagnoses by Country**

Country	Anxiety Disorders	Mood Disorders	Substance Disorders	Any Psychological Disorder
<b>Americas</b>				
Colombia	10.0	6.8	2.8	17.8
Mexico	6.8	4.8	2.5	12.2
United States	18.2	9.6	3.8	26.4
<b>Europe</b>				
Belgium	6.9	6.2	1.2	12.0
France	12.0	8.5	0.7	18.4
Germany	6.2	3.6	1.1	9.1
Italy	5.8	3.8	0.1	8.2
Netherlands	8.8	6.9	3.0	14.9
Spain	5.9	4.9	0.3	9.2
<b>Middle East and Africa</b>				
Lebanon	11.2	6.6	1.3	16.9
Nigeria	3.3	0.8	0.8	4.7
<b>Asia</b>				
Japan	5.3	3.1	1.7	8.8
Beijing	3.2	2.5	2.6	9.1

Source: The WHO World Mental Health Survey Consortium (2004).

Note: In the European countries, bipolar disorders and non-alcohol-related substance-use disorders were not assessed. Obsessive-compulsive disorder was not assessed in Asian countries.

Anxiety disorders include agoraphobia, generalized anxiety disorder, obsessive-compulsive disorder, panic disorder, posttraumatic stress disorder, social phobia, and specific phobia. Mood disorders include bipolar I and II disorders, dysthymia, and major depressive disorder. Substance disorders include alcohol or drug abuse or dependence. Diagnoses were assessed with the Composite International Diagnostic Interview. Tabled values are percentages.



The core symptoms of depression appear to be similar cross-culturally. (Richard Nowitz/Photo Researchers.)

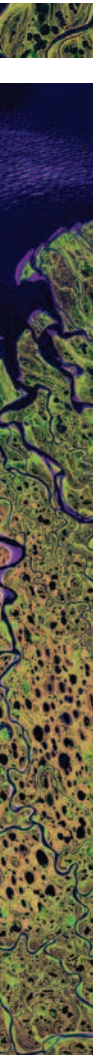
expression, and outcomes, we need a diagnostic system that can be applied reliably and validly in different countries and cultures.

Previous editions of the DSM were criticized for their lack of attention to cultural and ethnic variations in psychopathology. DSM-IV-TR enhances cultural sensitivity in three ways: (1) by providing a general framework for evaluating the role of culture and ethnicity, (2) by describing cultural factors and ethnicity for each disorder, and (3) by listing culture-bound syndromes in an appendix.

In the general framework, clinicians are cautioned not to diagnose symptoms unless they are atypical and problematic within a person's culture. People vary in the degree to which they identify with their cultural or ethnic group. Some value assimilation into the majority culture, whereas others wish to maintain close ties to their cultural background. In general, clinicians are advised to be constantly mindful of how culture and ethnicity influence diagnosis and treatment. We will return to this topic when we cover assessment tools.

Much more attention is paid now to how culture can shape the symptoms of a given disorder. For example, the symptoms of both schizophrenia (e.g., delusions and hallucinations) and depression (e.g., depressed mood and loss of interest or pleasure in activities) are similar cross-culturally (Draguns, 1989). But as we will discuss in Chapter 5, it is more likely in Japan than in the United States for anxiety to be focused around fears of offending others (Kirmayer, 2001).

In evaluating symptoms, clinicians also need to be aware that cultures may shape the language used to describe distress in many cultures, for example, it is common to describe grief or anxiety in physical terms—"I am sick in my heart" or "My heart is heavy"—rather than in psychological terms.



## FOCUS ON DISCOVERY 3.2

### Possible Categories in Need of Further Study

One of DSM-IV-TR's appendixes is entitled "Criteria Sets and Axes Provided for Further Study." It contains several proposals for new categories that the DSM-IV task force considers promising but not sufficiently supported by data to merit inclusion in DSM-IV. By describing these potential categories, the DSM task force hopes to encourage professionals to consider whether a future DSM should contain any of these syndromes or axes officially.

#### Possible New Syndromes

Here is a sampling of the more than two dozen categories described as meriting further study.

**Binge eating disorder.** Symptoms include recurrent binges (eating an excessive amount of food within less than two hours), lack of control over the bingeing episode, and distress about bingeing, as well as other characteristics, such as eating alone. It is distinguished from anorexia nervosa by the absence of weight loss and from bulimia nervosa by the absence of compensatory behaviors (purging, fasting, or excessive exercise). Most often, people with binge eating disorder are obese, and one issue is how to distinguish this category from obesity. We discuss this in more detail in Chapter 9.

**Premenstrual dysphoric disorder.** This proposed syndrome is marked by depression, anxiety, anger, mood swings, and decreased interest in usually pleasurable activities. The symptoms occur a week or so before menstruation for most months in a given year and are severe

enough to interfere with social or occupational functioning. This category is to be distinguished from premenstrual syndrome, which is experienced by many more women and is not usually debilitating. Arguments abound for and against this possible category. On the plus side, inclusion might alert people to the hormonal bases of monthly mood changes linked to the menstrual cycle and thereby foster more tolerance and less blame. On the minus side, listing such mood changes in a manual of mental disorders would seem to convey the message that women who experience these psychological changes are mentally disordered.

**Passive-aggressive personality disorder (negativistic personality disorder).** This personality disorder was present in DSM-III and DSM-III-R but was moved to the appendix in DSM-IV. Symptoms include resenting, resisting, and opposing demands and expectations by means of passive activities, such as lateness, procrastination, forgetfulness, and intentional inefficiency. The implication is that the person expresses anger or resentment by not doing certain things rather than by more direct expression, such as assertiveness or aggressiveness. Such people often feel mistreated, cheated, or underappreciated.

**Depressive personality disorder.** In lay terms, symptoms of this personality disorder include gloominess, lack of cheer, and a tendency to worry a lot. This traitlike, long-term disorder may be a precursor to a full-blown major depressive disorder. One concern is that it is very difficult to distinguish between depressive personality disorder and other depressive disorders.

The DSM includes 25 culture-bound syndromes in the appendix. Culture-bound syndromes are diagnoses that are likely to be seen within specific regions. It is important to note that these culture-bound syndromes are not just found in cultures outside the United States. For example, some argued for listing bulimia nervosa as a Western culture-bound syndrome, a topic we return to in more detail in Chapter 9. The following are some examples of syndromes listed in the DSM appendix.

- **amok.** A dissociative episode in which there is a period of brooding followed by a violent and sometimes homicidal outburst. The episode tends to be triggered by an insult and is found primarily among men. Persecutory delusions are often present as well. The term is Malaysian and is defined by the dictionary as a murderous frenzy. You may have heard the phrase "run amok."
- **ghost sickness.** An extreme preoccupation with death and those who have died found among certain Native American tribes.
- **dhat.** A term used in India to refer to severe anxiety about the discharge of semen.
- **koro.** Reported in South and East Asia, an episode of intense anxiety about the possibility that the penis or nipples will recede into the body, possibly leading to death.
- **shenjing shuairuo (neurasthenia).** A common diagnosis in China, this syndrome is characterized by fatigue, dizziness, headaches, pain, poor concentration, sleep problems, and memory loss.
- **taijin kyofusho.** The fear that one could offend others through inappropriate eye contact, blushing, a perceived body deformation, or one's own foul body odor. This disorder is most

## Clinical Case: Lola: An Example of a Multiaxial Diagnosis

Lola is a 17-year-old high school junior. She moved to the United States from Mexico with her parents and brother when she was 14 years old. A few months after they arrived, Lola's father returned to Mexico to attend the funeral of his brother. He was denied reentry to the United States due to a problem with his visa, and he has been unable to reunite with the family for nearly 3 years. Lola's mother has found it difficult to make ends meet on her salary as a bookkeeper, and the family was forced to move to a rougher neighborhood a year ago. Lola's English was fairly good when she came to the United States, and she has picked up many of the nuances of the language since arriving in the country. For the past 2 years, she has been dating a boy in her school. They have been fairly constant companions, and she describes him as the one person she would turn to if she was feeling upset. If her mother had any concern about Lola, it was that she seemed to rely on her boyfriend too much—she asked for his advice with small and large decisions, and she seemed wary of social interactions when he wasn't present. Lola's mother stated, "It is as though she is afraid to think for herself." Lola's mother noted that she had always been a bit shy and had tended to count on her brother a lot for decisions and social support when she was younger.

With little warning, her boyfriend announced that he wanted to break up with her. Lola was extremely distressed by this change and reported that almost immedi-

ately she was unable to sleep or eat. She lost weight rapidly and found herself unable to concentrate on her schoolwork. Friends complained that she no longer wanted to talk during lunch or by phone. After 2 weeks of steadily feeling worse, Lola left a suicide note and disappeared. Police found her the next day in an abandoned home, holding a bottle of medicines. She reported that she had been sitting there all night, considering ending her life. Lola's mother reported that she had never seen her this distressed but that a few other family members had what she called bouts of sadness. Still, these family members in Mexico had not made suicide attempts nor had they received any formal treatment. Instead, the family learned to give these family members support and time to heal on their own. After the police found Lola, she was hospitalized for intensive treatment.

### Multiaxial Diagnosis of Lola

Axis I Major Depressive Disorder

Axis II Dependent Personality Disorder

Axis III None

Axis IV Problems with primary support group (father not with family); problems related to social environment (acculturation stress; relationship with boyfriend)

Axis V GAF: 25

common in Japan, but cases have been reported in the United States. Japanese cultural norms appear to proscribe more careful attention to social appropriateness and hierarchy, perhaps intensifying the risk of these symptoms (Fabrega, 2002).

- *Hikikomori* (withdrawal). This refers to a syndrome observed in Japan, Taiwan, and South Korea in which an individual, most often an adolescent boy or young adult man, shuts himself into a room (e.g., bedroom) for a period of 6 months or more and does not socialize with anyone outside the room.



A therapist must be mindful of the role of cultural differences in the ways in which patients describe their problems. (Rhoda Sidney/PhotoEdit.)

Some have argued that we should try to identify broad syndromes that can be identified across cultures and, in this light, have argued against the inclusion of culture-bound syndromes (Lopez-Ibor, 2003). In support of this position, they point toward a number of culture-bound syndromes that are not so different from the main DSM-IV-TR diagnoses. For example, Kleinman (1986) interviewed 100 Chinese people who had been diagnosed with *shenjing shuairuo* and found that 87 percent of them met criteria for major depressive disorder. Many of those responded to antidepressant medications. Suzuki and colleagues (2003) have pointed out that the symptoms of *taijin kyofusho* overlap with those of social phobia (excessive fear of social interaction and evaluation) and body dysmorphic disorders (the mistaken belief that one is deformed or ugly), which are more commonly diagnosed in the United States. Other syndromes may reflect the common concerns of anxiety and distress, with the content

## Returning to Clinical Case: Roxanne: A Second Example of a Multiaxial Diagnosis

Previously, we described the case of Roxanne, who was brought to the psychiatric emergency room by the police. A multiaxial diagnosis for Roxanne might look as follows.

Axis I	Bipolar I Disorder, Manic
Axis II	None
Axis III	High blood pressure
Axis IV	Problems with housing (homeless)
Axis V	GAF: 20

shaped by life circumstances and values (Lopez-Ibor, 2003). Hence, some researchers believe it is important to look for commonalities across cultures. In contrast, others believe that culture-bound syndromes are central, as since local and personal meanings are a key issue in understanding mental illness (Gaw, 2001). Researchers already are considering various approaches to culture and diagnosis for DSM-V (Kupfer, First, & Regier, 2002).

## Quick Summary

Because diagnosis provides the first step in thinking about the causes of symptoms, it is the first step in planning treatment. Because psychopathology is diagnosed on the basis of symptoms, clinical interviews are used to make diagnoses.

With all assessments, the reliability (the consistency of measurement) and validity (whether an assessment measures what it is designed to measure) should be evaluated. Reliability can be estimated by examining how well raters agree, how consistent test scores are over time, how alternate forms of a test compare, or how well items correlate with each other. There are many different forms of validity, including content, criterion, and construct validity.

Diagnostic systems for mental illness have changed a great deal in the past 100 years. Currently, the system in use in the United States is the DSM-IV-TR, a multiaxial classification system that includes approximately 300 different diagnostic categories. One of the most heartening features of the DSM is the explicit rules for diagnosis. This clarity has improved reliability and provides a systematic foundation to study whether each diagnosis is valid. In several different ways, the system guides clinicians to be more sensitive to the role of culture and ethnicity in evaluating mental health.

## Check Your Knowledge 3.1 (Answers are at the end of the chapter.)

Answer the questions.

1. Match each axis with its function.

\_\_\_\_\_ Axis I  
 \_\_\_\_\_ Axis II  
 \_\_\_\_\_ Axis III  
 \_\_\_\_\_ Axis IV  
 \_\_\_\_\_ Axis V

- a. most major mental disorders, with the exception of personality disorders and mental retardation
- b. functioning
- c. problems with the social environment
- d. personality disorders and mental retardation
- e. medical conditions

2. Which type of reliability or validity is tested with the following procedures?

\_\_\_\_\_ A group of high school students is given the same IQ test 2 years in a row.

\_\_\_\_\_ A group of high school students is given an IQ test, and their scores are correlated with a different IQ test they took the year before.

\_\_\_\_\_ A measure of the tendency to blame oneself is developed, and researchers then test whether it predicts depression, whether it is related to childhood abuse, and whether it is related to less assertiveness in the workplace.

\_\_\_\_\_ Patients are interviewed by two different doctors. Researchers examine whether the doctors agree about the diagnosis.

- a. interrater reliability
- b. test-retest reliability
- c. criterion validity
- d. construct validity



## Specific Criticisms of the DSM

Some specific questions and concerns have been raised about the current version of the DSM. We review some of these concerns in the following sections.

**Too Many Diagnoses?** DSM-IV-TR contains almost 300 different diagnoses. Some have critiqued the burgeoning number of diagnostic categories (see Table 3.3). The DSM-IV-TR even includes an all-encompassing category for “Other conditions that may be a focus of clinical attention.” This category comprises conditions that are not regarded as mental disorders per se but still may be a focus of professional attention or treatment, including academic problems, relational problems, bereavement, religious doubt, and noncompliance with treatment. This category seems to exist, perhaps, so that anyone entering the mental health system can be categorized. The DSM-IV includes a category for acute stress disorder, to capture symptoms in the first month after a severe trauma. Should these relatively common reactions to trauma be pathologized by diagnosing them as a mental disorder (Harvey & Bryant, 2002)? By expanding its coverage, the authors of the DSM seem to have made too many problems into psychiatric disorders, without good justification for doing so.

Others argue that the system includes too many minute distinctions based on small differences in symptoms. One side effect of the huge number of diagnostic categories is a phenomenon called **comorbidity**, which refers to the presence of a second diagnosis. When diagnosticians use DSM-IV-TR, comorbidity is the norm rather than the exception. Among people who meet criteria for at least one psychiatric diagnosis, 45 percent will meet criteria for at least one more psychiatric diagnosis (Kessler et al., 2005). Some argue that this overlap is a sign that we are dividing syndromes too finely. Others praise the careful specificity.

Among people who think there are too many diagnostic categories, several researchers have considered ways to collapse into broader categories. To begin, some disorders seem to co-occur more frequently than do others. For example, a person with antisocial personality disorder is highly likely to meet diagnostic criteria for substance abuse or dependence. In the DSM-IV-TR, these are diagnosed as separate disorders. Some have argued that childhood conduct disorder, adult antisocial personality disorder, alcohol dependence, and other forms of drug dependence co-occur so often that they should be considered different manifestations of one underlying disease process or vulnerability (Krueger et al., 2005). These different types of problems could be jointly considered “externalizing disorders.” Others have found that a person with a diagnosis of major depressive disorder is highly likely to meet the diagnostic criteria for an anxiety disorder. Some have recommended grouping depressive and anxious disorders together (Watson, 2005).

A more subtle issue about the large number of diagnoses is that many risk factors seem to trigger more than one disorder. For example, early trauma, dysregulation of stress hormones, tendencies to attend to and remember negative information about the self, and neuroticism all seem to increase risk for a broad range of anxiety disorders as well as mood disorders (Harvey et al., 2004). Genes that increase the risk for anxiety disorders also seem to increase the risk for depression (Kendler et al., 2003). Some genes increase risk for the externalizing disorders as a whole (Kendler, Prescott, et al., 2003). Similarly, selective serotonin reuptake inhibitors (SSRIs), such as Prozac, often seem to relieve symptoms of anxiety as well as depression (Van Ameringen et al., 2001). Does this mean that we should lump anxiety and depressive disorders into one category? Beliefs about this differ. Some think we should lump, others think we should keep these finer distinctions.

**Categorical Diagnoses versus Continuum** In the DSM, Axes I and II rely on **categorical** (yes–no) **classification**. Does the patient have schizophrenia or not? This type of classification does not consider continuity between normal and abnormal behavior. For example, in Table 3.2 we see that the diagnosis of mania requires the presence of three symptoms from a list of seven, or four if the person’s mood is irritable. But why require three symptoms rather than two or five? A categorical system forces clinicians to define one threshold as “diagnosable.” There is often little research support for the threshold defined. Indeed, as many as 20–50 percent of people seeking treatment



fall into the “not otherwise specified” category (Helmuth, 2003); that is, many people have mild symptoms that appear to fall just below the threshold for a diagnosis. Many people who have subthreshold symptoms of a diagnosis still seek and receive extensive health care treatment (Johnson, Weissman, & Klerman, 1992). Categorical diagnoses foster a false impression of discontinuity (Widiger & Samuel, 2005).

Consider an illustration of a problem with categorical systems. A central feature of narcissistic personality disorder is grandiosity. As Drew Westen quipped, “Anyone who has been on a bad blind date knows that narcissism and grandiosity are fairly common” (Helmuth, 2003, p. 809). If you were considering a blind date, you might rather know how much grandiosity was present, rather than whether grandiosity was present at all. Because anxiety, depression, and many personality disorder symptoms are common, it may be more helpful to know their severity rather than if they are present.

In contrast to categorical classification, **dimensional** systems describe the *degree* of an entity that is present (e.g., a 1-to-10 scale of anxiety, where 1 represents minimal and 10 extreme). Diagnosis involves a profile on several dimensions. (See Figure 3.1 for an illustration of the difference between dimensional and categorical approaches.) A **dimensional diagnostic system** can subsume a categorical system by specifying a threshold. This capability is a potential advantage of the dimensional approach.

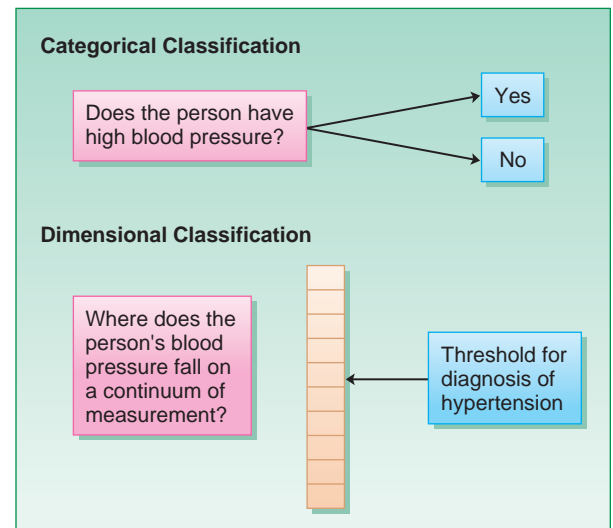
One reason categorical systems are popular is that they define a threshold for treatment. Consider high blood pressure (hypertension), a topic discussed at length in Chapter 7. Blood pressure measurements form a continuum, which clearly fits a dimensional approach; yet by defining a threshold for high blood pressure, doctors can feel more certain about when to offer treatment. Similarly, a threshold for clinical depression may help demarcate a point where treatment is recommended. Although the cutoffs are likely to be somewhat arbitrary, they can provide helpful guidance.

In sum, the categorical versus dimensional issue is not resolved. In any categorical approach, there will be questions about thresholds for diagnosis.

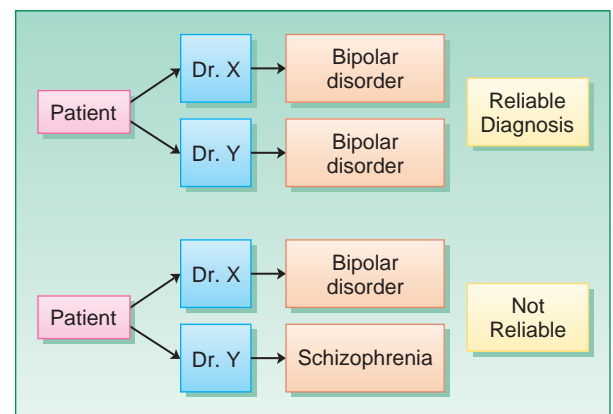
**Reliability of the DSM** Suppose you were concerned about your mental health, and you went to see two psychologists. Consider the distress you would feel if the two psychologists disagreed—one told you that you had schizophrenia, and the other told you that you had bipolar disorder. Diagnostic systems must have high interrater reliability to be useful. Before DSM-III, reliability for DSM diagnoses was poor, mainly because the criteria for making a diagnosis were not clear (see Figure 3.2 for an illustration of interrater reliability).

The increased explicitness of the DSM criteria has improved reliability. Nonetheless, because clinicians might not rely on the criteria precisely, the reliability of the DSM in everyday usage may be a bit lower than that seen in research studies. Even when following criteria, there is some room for disagreement in DSM-IV-TR. Consider again the criteria for mania in Table 3.2. What does it mean to say that mood is abnormally elevated? Or when is “involvement in pleasurable activities that have a high potential for painful consequences” excessive? Such judgments set the stage for the insertion of cultural biases as well as the clinician’s own personal ideas of what the average person should be doing. Because different clinicians may adopt different definitions for symptoms like “elevated mood,” achieving high reliability is likely to be a challenge.

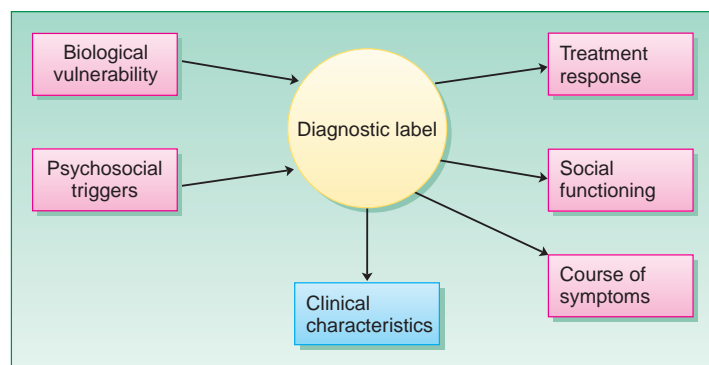
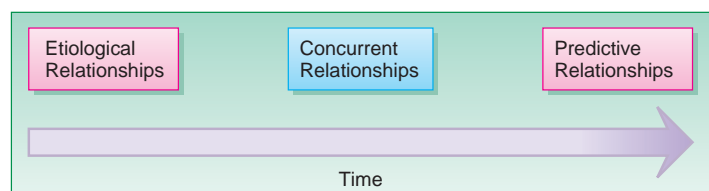
**How Valid Are Diagnostic Categories?** Construct validity is considered the most important type of validity for diagnosis. The diagnoses of DSM are referred to as constructs because they are inferred, not proven, entities. Every diagnosis is based on a pattern of symptoms. With the exception of IQ tests for mental retardation or polysomnography for sleep disorders, we have no



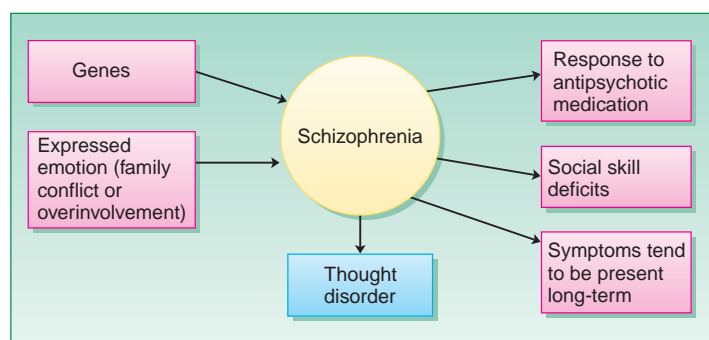
**Figure 3.1** Categorical versus dimensional systems of diagnosis.



**Figure 3.2** Interrater reliability. In this example, the diagnosis of the first patient is reliable—both clinicians diagnose bipolar disorder—whereas the diagnosis of the second is not reliable.



(a)



(b)

**Figure 3.3** Construct validity. An example of the types of information a diagnosis might help predict.

laboratory tests, neurobiological markers, or genetic indicators to use in making diagnoses. A diagnosis of schizophrenia, then, does not have the same status as a diagnosis of diabetes, where we have laboratory tests.

One way of thinking about diagnosis is to ask whether the system helps organize different observations (see Figure 3.3 for one example of how a diagnosis might help organize different observations). Diagnoses have construct validity if they help make accurate predictions. What types of predictions should a good diagnostic category facilitate? One would hope that a diagnosis would inform us about related clinical characteristics, such as poor social skills in people with schizophrenia.

The DSM specifies that symptoms alone are not enough to qualify for a diagnosis. Rather, a person must experience either impairment or distress to meet criteria for a diagnosis. There are many different possible signs of impairment, including difficulty with employment, academic accomplishments, or relationships. As shown in Table 3.5, most major psychiatric disorders are associated with a substantial increase in the risk of marital distress as well as missed days at work.

Beyond capturing the most common difficulties for a person with a diagnosis, one would hope that a diagnosis would inform us about what to expect next—the likely course of the disorder and response to different treatments. Perhaps most importantly, one would hope that the diagnosis relates to possible causes of the disorder, for example, a genetic predisposition or a biochemical imbalance. A diagnosis with strong construct validity should help predict a broad range of characteristics (see Figure 3.3).

The central question, then, is whether diagnoses made with the DSM criteria reveal anything useful about patients. We have organized this book around the major DSM diagnostic categories because we believe that they do indeed possess some construct validity. Certain categories have less validity than others, however, and we will discuss some gaps in the validity of specific diagnostic categories

**Table 3.5 Rates of Marital Distress and Missed Work Days among People with Mental Illness in the Past Year**

Disorder	Odds of Marital Distress for a Given Diagnosis Compared to No Mental Illness	Odds of Missed Work Days for a Given Diagnosis Compared to No Mental Illness
Panic disorder	1.28	3.32
Specific phobia	1.34	2.82
Social phobia	1.93	2.74
Generalized anxiety disorder	2.54	1.15
Posttraumatic stress disorder	2.30	2.05
Major depressive disorder	1.68	2.14
Bipolar I or II disorder	3.60	Not assessed
Alcohol use disorder	2.78	2.54

Source: Information on marital distress drawn from M. A. Whisman (2007). Information on work-loss days drawn from The ESEMEd/MHEDEA 2000 investigators (2004).

Note: Age, gender, education, and race/ethnicity are controlled for in marital distress analyses, and age and gender are controlled for in work-loss analyses. Diagnoses were based on the Composite International Diagnostic Interview. Marital distress was measured using a 14-item version of the Dyadic Adjustment Scale. Missed work days were measured during the month before the interview.



## FOCUS ON DISCOVERY 3.3

### Possible Changes for DSM-V

DSM-V is not likely to appear before 2012. But researchers are well at work on the possible changes. Some of the proposals are described below (Helmuth, 2003; Kupfer et al., 2002).

*Personal health index.* DSM-V may include a place to list the strengths of a patient.

*Reorganizing categories based on overlap.* Currently, some diagnoses overlap so much that people have wondered whether they should be separated. For example, depression and anxiety often strike the same people, share many risk factors, and respond similarly to antidepressant medication (Watson, 2005). Do they still belong in separate categories? In addition, overlap is a particular issue for personality disorders and disorders usually first diagnosed in infancy, childhood, or adolescence.

*Dimensional approach to diagnoses.* As described in the text, some have argued against a categorical approach to diagnosis. The next round of DSM may include specific dimensions for clinicians to evaluate. This approach is receiving considerable attention as a way to think about personality disorders.

*Organizing diagnoses by causes.* Currently, DSM-IV-TR defines diagnoses entirely on the basis of symptoms. Some have argued that advances in neuroscience and behavioral approaches to psychology could help us rethink this approach. For example, schizophrenia and schizotypal personality disorder share a great deal of genetic overlap. Could these ties be reflected in the diagnostic system? Others have proposed organizing diagnoses based on parallels in neurotransmitter activity, temperament, emotion dysregulation, or social triggers. Most, however, agree that we still need much more knowledge to be able to develop this type of system.

*Defining disability.* DSM-IV-TR requires the presence of disability for a diagnosis to be made. Some have argued that we should be considering symptoms and disability separately so that we can begin to understand what types of variables predict disability in the face of symptoms.

It isn't clear whether any of these changes will be adopted; substantial debate and research are likely to occur between then and now. Ongoing updates will be posted at <http://dsm5.org/index.cfm>. Some have argued that changes in the next round should be minor and that science supports most of the current diagnoses.

in later chapters. As research findings accumulate on whether each category has construct validity, this is likely to shape the next edition of the DSM (see Focus on Discovery 3.3 for a discussion of likely changes in DSM-V).

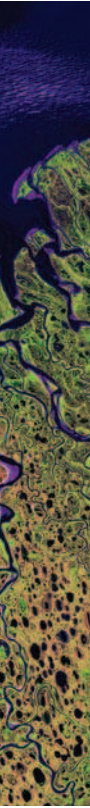
### General Criticisms of Diagnosing Mental Illness

Although we described many advantages of diagnosis in the beginning of this chapter, it is also clear that diagnoses can have negative effects on a person. Consider how your life might be changed by receiving the diagnosis of schizophrenia. You might become worried that someone will recognize your disorder. Or you might fear the onset of another episode. You might worry about your ability to deal with new challenges. The fact that you are a "former mental patient" could have a stigmatizing effect. Friends and loved ones might treat you differently, and employment might be hard to find.

There is little doubt that diagnosis can have negative consequences. Research shows that many people view people with mental illness negatively, and patients and their families often encounter stigma against mental illness (Wahl, 1999). As we discussed in Chapter 1, stigma concerning mental disorders remains a huge problem.

Another concern about diagnosis is that it can result in a loss of information about that person, because once classified by a diagnostic category, we may lose sight of the uniqueness of that person. Because of this concern, the American Psychological Association recommends that people avoid using words like *schizophrenic* or *depressive* to describe people. Consider that we do not call people with medical illnesses by their disease (e.g., you aren't likely to hear someone with cancer described as the *canceric*). Rather, psychologists are encouraged to use phrases such as *a person with schizophrenia*.

Even with more careful language, some maintain that diagnosis shapes us to focus on illnesses and, in doing so, to ignore important differences among people. Unfortunately, this criticism ignores a fundamental truth: it is human nature to categorize whenever we think about anything. Some would argue, then, that if we use categories anyway, it is best to systematically develop the categories. If one accepts this perspective, then the question is how well the current system does in grouping similar illnesses.





## Quick Summary

Despite the major improvements in the DSM, a number of problems remain. Some argue that there are too many diagnoses, and others challenge the use of a categorical rather than a dimensional approach to diagnoses. Reliability is substantially higher than it was for DSM-II, but there is still some disagreement across clinicians regarding some symptoms and diagnoses. Finally, the field as a whole faces a huge challenge; researchers are focused on validating this diagnostic system by trying to identify the causal patterns, symptom patterns, and treatment that can be predicted by a given diagnosis. In sum,

although the DSM is continually improving, it is far from perfect. We can expect more changes and refinements over the next several years. Regardless of the diagnostic system used, there are certain problems inherent in diagnosing people with mental illness; it is important to be aware of the potential stigma associated with diagnoses and the tendency to ignore a person's strengths when focusing on diagnoses. APA recommends using phrases such as *person with schizophrenia* rather than *schizophrenic* as one way to be conscious that a person is much more than his or her diagnosis.

## Check Your Knowledge 3.2

Answer the questions.

1. Some researchers have argued that DSM-V should “lump” diagnoses so that we have fewer categories. List three reasons why some think DSM-V should lump diagnoses.
2. Most of the axes in DSM-IV-TR are categorical, but one is dimensional. Which one is dimensional?
3. What are three broad types of characteristics that a valid diagnosis should help predict?

## Psychological Assessment

To make a diagnosis, mental health professionals can use a variety of assessment measures and tools. Beyond helping to make a diagnosis, psychological assessment techniques are used in other important ways. For example, assessment methods are often used to identify appropriate therapeutic interventions. And repeated assessments are very useful in monitoring the effects of treatment over time. In addition, assessments are fundamental to conducting research on the causes of disorder.

We will see that beyond the basic interview, many of the assessment techniques stem from the paradigms presented in Chapter 2. We discuss here clinical interviews; measures for assessing stress; personality tests, including objective and projective tests; intelligence tests; and behavioral and cognitive assessment techniques. Although we present these methods individually, a complete psychological assessment of a person will often entail combining several assessment techniques. The data from the various techniques complement each other and provide a more complete picture of the person. In short, there is no one best assessment measure. Rather, using multiple techniques and multiple sources of information will provide the best assessment.

### Clinical Interviews

Most of us have probably been interviewed at one time or another, although the conversation may have been so informal that we did not regard it as an interview. For mental health professionals, there are both formal, structured clinical interviews as well as informal and less structured clinical interviews that are used in psychopathological assessment.

**Characteristics of Clinical Interviews** One way in which a **clinical interview** is perhaps different from a casual conversation is the attention the interviewer pays to how the respondent answers questions—or does not answer them. For example, if a client is recounting marital



conflicts, the clinician will generally be attentive to any emotion accompanying the comments. If the person does not seem upset about a difficult situation, the answers probably will be understood differently from how they would be interpreted if the person was crying or agitated while relating the story.

The interviewer's choice of paradigm influences the type of information sought, how it is obtained, and how it is interpreted. A psychodynamically trained clinician is likely to remain skeptical of verbal reports because the psychodynamic paradigm holds that the most significant aspects of a disturbed person's developmental history may be repressed into the unconscious. By the same token, the cognitive behavioral clinician is likely to focus on current environmental conditions that can be related to changes in the person's behavior—for example, the circumstances in which the person becomes anxious as well as the thoughts the person articulates about the anxiety. Thus, the informal clinical interview does not follow one prescribed course but varies with the paradigm adopted by the interviewer.

Great skill is necessary to carry out good clinical interviews. Clinicians, regardless of the paradigm adopted, recognize the importance of establishing rapport with the client. The interviewer must obtain the trust of the person; it is naive to assume that a client will easily reveal information to another, even to an authority figure with the title “Doctor.” Even a client who sincerely, perhaps desperately, wants to recount intensely personal problems to a professional may not be able to do so without help.

Most clinicians empathize with their clients in an effort to draw them out and to encourage them to elaborate on their concerns. An accurate summary statement of what the client has been saying can help sustain the momentum of talk about painful and possibly embarrassing events and feelings, and an accepting attitude toward personal disclosures dispels the fear that revealing “secrets of the heart” (London, 1964) to another human being will have disastrous consequences.

Interviews vary in the degree to which they are structured. In practice, most clinicians probably operate from only the vaguest outlines. Exactly how information is collected is left largely up to the particular interviewer and depends, too, on the responsiveness and responses of the interviewee. Through years of training and clinical experience, each clinician develops ways of asking questions with which he or she is comfortable and that seem to draw out the information that will be of maximum benefit to the client. Thus, to the extent that an interview is unstructured, the interviewer must rely on intuition and general experience. As a consequence, reliability for unstructured clinical interviews is probably lower than for structured interviews; that is, two interviewers may reach different conclusions about the same patient.

**Structured Interviews** At times, mental health professionals need to collect standardized information, particularly for making diagnostic judgments based on the DSM. To meet that need, investigators have developed structured interviews, such as the Structured Clinical Interview (SCID) for Axis I of DSM-IV (Spitzer, Gibbon, & Williams, 1996), that assists researchers and clinicians in making diagnostic decisions. A **structured interview** is one in which the questions are set out in a prescribed fashion for the interviewer.

The SCID is a branching interview, that is, the client's response to one question determines the next question that is asked. It also contains detailed instructions to the interviewer concerning when and how to probe in detail and when to go on to questions about another diagnosis. Most symptoms are rated on a three-point scale of severity, with instructions in the interview schedule for directly translating the symptom ratings into diagnoses. The initial questions



Although it is illegal to discriminate based on mental illness, many employers do so. Stigma must be considered when giving a person a diagnosis of a mental disorder. (Ryan McVay/PhotoDisc, Inc./Getty Images.)



Structured interviews are widely used to make reliable diagnoses. (© BSIP/Phototake.)

pertaining to obsessive-compulsive disorder (discussed in Chapter 5) are presented in Figure 3.4. The interviewer begins by asking about obsessions. If the responses elicit a rating of 1 (absent), the interviewer turns to questions about compulsions. If the patient's responses again elicit a rating of 1, the interviewer is instructed to go to the questions for posttraumatic stress disorder. On the other hand, if positive responses (2 or 3) are elicited about obsessive-compulsive disorder, the interviewer continues with further questions about that problem.

Results of several studies demonstrate that the SCID achieves good interrater reliability for most diagnostic categories. As shown in Table 3.6, interrater reliability is a bit low for some of the anxiety disorders. Other structured interviews with good reliability have been developed for diagnosing personality disorders and for more specific disorders, such as the anxiety disorders, and for diagnosing disorders of childhood (DiNardo et al., 1993; Shaffer et al., 2000). With adequate training, interrater reliability for structured interviews is generally good (Blanchard & Brown, 1998).

In practice, most clinicians review the DSM symptoms in an informal manner without using a structured interview. Note, however, that clinicians using unstructured diagnostic interviews tend to miss comorbid diagnoses that often accompany a primary diagnosis (Zimmerman & Mattia, 1999).

**Table 3.6 Interrater Reliability of Selected DSM Diagnoses**

Diagnosis	Kappa
<b>Axis I disorders</b>	
Major depressive disorder	.80
Dysthymic disorder	.76
Bipolar disorder	.84
Schizophrenia	.79
Alcohol dependence/abuse	1.00
Other substance dependence/abuse	1.00
Panic disorder	.65
Social phobia	.63
Obsessive-compulsive disorder	.57
Generalized anxiety disorder	.63
Posttraumatic stress disorder	.88
Any eating disorder	.77
<b>Axis II disorders</b>	
Avoidant	.97
Dependent	.86
Obsessive-compulsive	.83
Depressive	.65
Paranoid	.93
Schizotypal	.91
Schizoid	.91
Histrionic	.92
Narcissistic	.98
Borderline	.91
Antisocial	.95

*Sources:* Estimates for bipolar disorder are based on a study using DSM-III-R criteria (Williams et al., 1992), which are largely comparable to DSM-IV-TR. Estimates for schizophrenia are drawn from Flaum et al. (1998). Other Axis I estimates are drawn from Zanarini et al. (2000), and Axis II estimates are based on Maffei et al. (1997).

*Note:* The numbers here are a statistic called kappa, which measures the proportion of agreement over and above what would be expected by chance. Generally, kappas over 0.70 are considered good.

## Assessment of Stress

Given the centrality of stress to nearly all the disorders we consider in this book, measuring stress is clearly important in the total assessment picture. Broadly, **stress** can be conceptualized as the subjective experience of distress in response to perceived environmental problems. Life stressors can be defined as the environmental problems that trigger the subjective sense of stress. Various scales and methods have been developed to measure life stress. Here we examine three: the Social Readjustment Rating Scale, the Assessment of Daily Experience, and the Life Events and Difficulties Schedule.

**The Social Readjustment Rating Scale** In the 1960s two researchers, Holmes and Rahe (1967), asked a large group of men in the military to describe life events they had encountered. Then they gave that list of life events to a large group of people and asked them to rate each item according to its intensity and the amount of time they thought they would need to adjust to it. Marriage was arbitrarily assigned a stress value of 500; all other items were then evaluated using this reference point. For example, an event twice as stressful as marriage would be assigned a value of 1,000, and an event one-fifth as stressful as marriage would be assigned a value of 100. The average ratings assigned to the events by the respondents in Holmes and Rahe's study are shown in Table 3.7. From this study Holmes and Rahe created the Social Readjustment Rating Scale (SRRS). A respondent checks off the life events experienced during the time period in question. Ratings are then totaled for all the events actually experienced to produce a Life Change Unit (LCU) score, a weighted sum of events.

The SRRS has been criticized because it contains items that are both the triggers and the outcomes of psychological symptoms. For example, the item "change in sleeping habits" could be the result of depression or anxiety. Moreover, the SRRS was developed over 40 years ago based on the experiences of one group of men, rendering some of the original ratings of stressful life events potentially out of sync with the times. Two studies gave the 43 original events on the SRRS to community residents and found that a number of the ratings changed compared to the original ratings from the 1960s, with some items being rated as less stressful (e.g., changing jobs) and others being rated as more stressful (e.g., change in financial status) (Miller & Rahe, 1997; Scully, Tosi, & Banning, 2000). The SRRS also has been criticized because some items (e.g., vacation or change in eating habits) could reflect positive rather than negative life changes. Another criticism of the SRRS is that it relies on a retrospective method, asking participants to recall the stressful life events that they experienced over a long time period. Retrospective reports are subject to considerable distortion and forgetting.