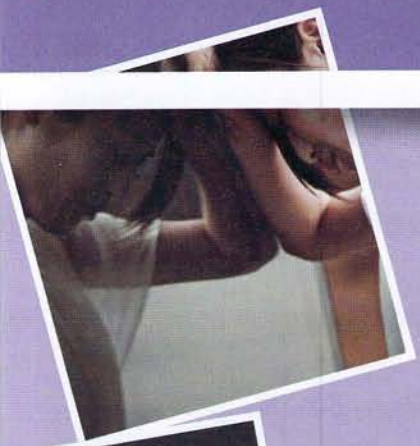
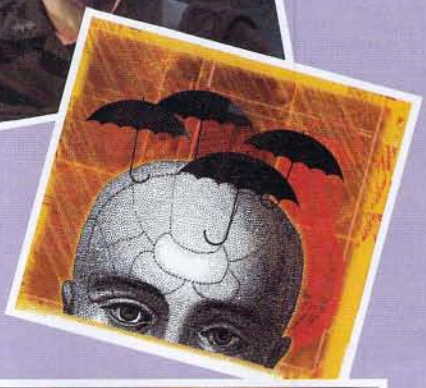
Unit XII





Abnormal Behavior

Modules

> I felt the need to clean my room at home in Indianapolis every Sunday and would spend four to five hours at it. I would take every book out of the bookcase, dust and put it back. . . . I couldn't stop.
>
> *Marc, diagnosed with obsessive-compulsive disorder (from Summers, 1996)*

> Whenever I get depressed it's because I've lost a sense of self. I can't find reasons to like myself. I think I'm ugly. I think no one likes me.
>
> *Greta, diagnosed with depression (from Thorne, 1993, p. 21)*

> Voices, like the roar of a crowd, came. I felt like Jesus; I was being crucified.
>
> *Stuart, diagnosed with schizophrenia (from Emmons et al., 1997)*

People are fascinated by the exceptional, the unusual, the abnormal. "The sun shines and warms and lights us and we have no curiosity to know why this is so," observed Ralph Waldo Emerson, "but we ask the reason of all evil, of pain, and hunger, and [unusual] people."

Why such fascination with disturbed people? Even when we are well, do we see in them something of ourselves? At various moments, all of us feel, think, or act the way disturbed people do much of the time. We, too, get anxious, depressed, withdrawn, suspicious, or deluded, just less intensely and more briefly. No wonder studying psychological disorders sometimes evokes an eerie sense of self-recognition, one that illuminates our own personality. "To study the abnormal is the best way of understanding the normal," proposed William James (1842–1910).

Another reason for our curiosity is that so many of us have felt, either personally or through friends or family, the bewilderment and pain of a psychological disorder that may bring unexplained physical symptoms, irrational fears, or a feeling that life is not worth living. Indeed, as members of the human family, most of us will at some point encounter a person with a psychological disorder.

The World Health Organization (WHO, 2010) reports that, worldwide, some 450 million people suffer from mental or behavioral disorders. These disorders account for 15.4 percent of the years of life lost due to death or disability—scoring slightly below cardiovascular conditions and slightly above cancer (Murray & Lopez, 1996). Rates and symptoms of psychological disorders vary by culture, but two terrible maladies appear more consistently worldwide: depression and schizophrenia.

Module 65

Introduction to Psychological Disorders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Module Learning Objectives

65-1 Discuss how we draw the line between normality and disorder.

65-2 Discuss the controversy over the diagnosis of attention-deficit/hyperactivity disorder.

65-3 Contrast the medical model with the biopsychosocial approach to psychological disorders.

65-4 Describe how and why clinicians classify psychological disorders.

65-5 Explain why some psychologists criticize the use of diagnostic labels.

65-6 Discuss the prevalence of psychological disorders, and summarize the findings on the link between poverty and serious psychological disorders.

Most people would agree that someone who is too depressed to get out of bed for weeks at a time has a psychological disorder. But what about those who, having experienced a loss, are unable to resume their usual social activities? Where should we draw the line between sadness and depression? Between zany creativity and bizarre irrationality? Between normality and abnormality? Let's start with these questions:

- How should we *define* psychological disorders?
- How should we *understand* disorders? How do underlying biological factors contribute to disorder? How do troubling environments influence our well-being? And how do these effects of nature and nurture interact?
- How should we *classify* psychological disorders? And can we do so in a way that allows us to help people without stigmatizing them with *labels?*

"Who in the rainbow can draw the line where the violet tint ends and the orange tint begins? Distinctly we see the difference of the colors, but where exactly does the one first blendingly enter into the other? So with sanity and insanity." -Herman Melville, *Billy Budd, Sailor,* 1924

Defining Psychological Disorders

65-1 How should we draw the line between normality and disorder?

A **psychological disorder** is a syndrome marked by a "clinically significant disturbance in an individual's cognition, emotion regulation, or behavior" (American Psychiatric Association, 2013). Disturbed, or *dysfunctional,* behaviors are *maladaptive*—they interfere with normal day-to-day life. An intense fear of spiders may be abnormal, but if it doesn't interfere with your life, it is not a disorder. Marc's cleaning rituals (from this unit's opening) did interfere with his work and leisure. If occasional sad moods persist and become disabling, they may signal a psychological disorder. Distress often accompanies dysfunctional behaviors. Marc, Greta, and Stuart were all distressed by their behaviors or emotions.

psychological disorder
a syndrome marked by a clinically significant disturbance in an individual's cognition, emotion regulation, or behavior. (Adapted from American Psychiatric Association, 2013.)

Over time, definitions of what makes for a "significant disturbance" have varied. From 1952 through December 9, 1973, homosexuality was classified as a mental illness. By day's end on December 10, it was not. The American Psychiatric Association had dropped homosexuality as a disorder because more and more of its members no longer viewed it as a psychological problem. (Later research revealed that the stigma and stresses that often accompany homosexuality, however, increase the risk of mental health problems [Hatzenbuehler et al., 2009; Meyer, 2003].) In this new century, controversy swirls over the frequent diagnosing of children with *attention-deficit/hyperactivity disorder* (see Thinking Critically About: ADHD—Normal High Energy or Disordered Behavior? on the next page).

Carol Beckwith

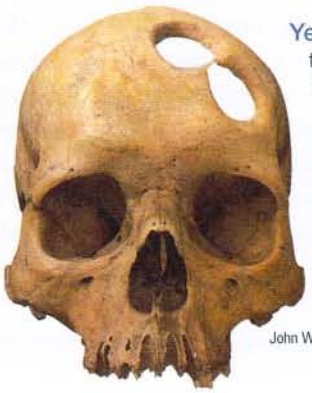
iStock/Thinkstock

Culture and normality Young men of the West African Wodaabe tribe put on elaborate makeup and costumes to attract women. Young American men may buy flashy cars with loud stereos to do the same. Each culture may view the other's behavior as abnormal.

Understanding Psychological Disorders

65-3 How do the medical model and the biopsychosocial approach understand psychological disorders?

To explain puzzling behavior, people in earlier times often presumed the work of strange forces—the movements of the stars, godlike powers, or evil spirits. Had you lived during the Middle Ages, you might have said, "The devil made him do it," and you might have



John W. Verano

Yesterday's "therapy" In other times and places, psychologically disordered people sometimes received brutal treatments, including the trephination evident in this Stone Age skull. Drilling skull holes like these may have been an attempt to release evil spirits and cure those with mental disorders. Did this patient survive the "cure"?

approved of a cure to rid the evil force by exorcising the demon. Until the last two centuries, "mad" people were sometimes caged in zoo-like conditions or given "therapies" appropriate to a demon: beatings, burning, or castration. In other times, therapy included pulling teeth, removing lengths of intestines, cauterizing the clitoris, or giving transfusions of animal blood (Farina, 1982).

Thinking Critically About

ADHD—Normal High Energy or Disordered Behavior?

65-2 Why is there controversy over attention-deficit/hyperactivity disorder?

Eight-year-old Todd has always been energetic. At home, he chatters away and darts from one activity to the next, rarely settling down to read a book or focus on a game. At play, he is reckless and overreacts when playmates bump into him or take one of his toys. At school, his exasperated teacher complains that fidgety Todd doesn't listen, follow instructions, or stay in his seat and do his lessons. As he matures to adulthood, Todd's hyperactivity likely will subside, but his inattentiveness may persist (Kessler et al., 2010).

If taken for a psychological evaluation, Todd may be diagnosed with **attention-deficit/hyperactivity disorder (ADHD),** as are some 11 percent of American 4- to 17-year-olds who display its key symptoms (extreme inattention, hyperactivity, and impulsivity) (Schwarz & Cohen, 2013). Studies also find 2.5 percent of adults—though a diminishing number with age—exhibiting ADHD symptoms (Simon et al., 2009). Psychiatry's new diagnostic manual loosens the criteria for adult ADHD, leading critics to fear increased diagnosis and overuse of prescription drugs (Frances, 2012).

To skeptics, being distractible, fidgety, and impulsive sounds like a "disorder" caused by a single genetic variation: a Y chromosome. And sure enough, ADHD is diagnosed three times more often in boys than in girls. Does energetic child + boring school = ADHD overdiagnosis? Is the label being applied to healthy schoolchildren who, in more natural outdoor environments, would seem perfectly normal?

Skeptics think so. In the decade after 1987, they note, the proportion of American children being treated for ADHD nearly quadrupled (Olfson et al., 2003). How commonplace the diagnosis is depends in part on teacher referrals. Some teachers refer lots of kids for ADHD assessment, others none. ADHD rates have varied by a factor of 10 in different counties of New York State (Carlson, 2000). Although African-American youth display more ADHD symptoms than do Caucasian youth, they less often receive an ADHD diagnosis (Miller et al., 2009). Depending on where they live, children who are "a persistent pain in the neck in school" are often diagnosed with ADHD and given powerful prescription drugs, notes Peter Gray (2010). But the problem resides less in the child, he argues, than in today's abnormal environment that forces children to do what evolution has not prepared them to do—to sit for long hours in chairs.

On the other side of the debate are those who argue that the more frequent diagnoses of ADHD today reflect increased awareness of the disorder, especially in those areas where rates are highest. They acknowledge that diagnoses can be subjective and sometimes inconsistent—ADHD is not as objectively defined as is a broken arm. Nevertheless, declared the World Federation for Mental Health (2005), "there is strong agreement among the international scientific community that ADHD is a real neurobiological disorder whose existence should no longer be debated." A consensus statement by 75 researchers noted that in neuroimaging studies, ADHD has associations with abnormal brain activity patterns (Barkley et al., 2002).

What, then, is known about ADHD's causes? It is not caused by too much sugar or poor schools. There is mixed evidence suggesting that extensive TV watching and video gaming are associated with reduced cognitive self-regulation and ADHD (Bailey et al., 2011; Courage & Setliff, 2010; Ferguson, 2011). ADHD often coexists with a learning disorder or with defiant and temper-prone behavior. ADHD is *heritable,* and research teams are sleuthing the culprit genes and abnormal neural pathways (Nikolas & Burt, 2010; Poelmans et al., 2011; Volkow et al., 2009; Williams et al., 2010). It is treatable with medications such as Ritalin and Adderall, which are considered stimulants but help calm hyperactivity and increase the ability to sit and focus on a task—and to progress normally in school (Barbaresi et al., 2007). Psychological therapies, such as those focused on shaping behaviors in the classroom and at home, have also helped address the distress of ADHD (Fabiano et al., 2008).

The bottom line: Extreme inattention, hyperactivity, and impulsivity can derail social, academic, and vocational achievements, and these symptoms can be treated with medication and other therapies. But the debate continues over whether normal rambunctiousness is too often diagnosed as a psychiatric disorder, and whether there is a cost to the long-term use of stimulant drugs in treating ADHD.

attention-deficit/hyperactivity disorder (ADHD)
a psychological disorder marked by the appearance by age 7 of one or more of three key symptoms: extreme inattention, hyperactivity, and impulsivity.

The Medical Model

In opposition to brutal treatments, reformers, including Philippe Pinel (1745–1826) in France, insisted that madness is not demon possession but a sickness of the mind caused by severe stresses and inhumane conditions. For Pinel and others, "moral treatment" included boosting patients' morale by unchaining them and talking with them, and by replacing brutality with gentleness, isolation with activity, and filth with clean air and sunshine. While such measures did not often cure patients, they were certainly more humane.

By the 1800s, the discovery that syphilis infects the brain and distorts the mind drove further gradual reform. Hospitals replaced asylums, and the medical world began searching for physical causes and treatments of mental disorders. Today, this **medical model** is recognizable in the terminology of the mental *health* movement: A mental *illness* (also called a psycho*pathology*) needs to be *diagnosed* on the basis of its *symptoms* and *treated* through *therapy,* which may include time in a psychiatric *hospital.*

medical model the concept that diseases, in this case psychological disorders, have physical causes that can be *diagnosed, treated,* and, in most cases, *cured,* often through treatment in a *hospital.*

The medical perspective has gained credibility from recent discoveries that genetically influenced abnormalities in brain structure and biochemistry contribute to many disorders. But as we will see, psychological factors, such as chronic or traumatic stress, also play an important role.

Dance in a Madhouse, 1917 (litho), Bellows, George Wesley (1882–1925)/ San Diego Museum of Art, USA/Museum Purchase/The Bridgeman Art Library

"Moral treatment" Under Philippe Pinel's influence, hospitals sometimes sponsored patient dances, often called "lunatic balls," depicted in this painting by George Bellows *(Dance in a Madhouse).*

The Biopsychosocial Approach

Today's psychologists contend that all behavior, whether called normal or disordered, arises from the interaction of nature (genetic and physiological factors) and nurture (past and present experiences). To presume that a person is "mentally ill," they say, attributes the condition to a "sickness" that must be identified and cured. But difficulty in the person's environment, the person's current interpretations of events, or the person's bad habits and poor social skills may also be factors.

Evidence of such effects comes from links between specific disorders and cultures (Beardsley, 1994; Castillo, 1997). Cultures differ in their sources of stress, and they produce different ways of coping. The eating disorders anorexia nervosa and bulimia nervosa, for example, have occurred mostly in Western cultures. In Malaysia, *amok* describes a sudden outburst of violent behavior (thus the phrase "run amok"). Latin America lays claim to *susto,* a condition marked by severe anxiety, restlessness, and a fear of black magic. *Taijin-kyofusho,* social anxiety about one's appearance combined with a readiness to blush and a fear of eye contact, appears in Japan, as does the extreme withdrawal of *hikikomori.* Such disorders may share an underlying dynamic (such as anxiety) while differing in the symptoms (an eating problem or a type of fear) manifested in a particular culture.

FYI

Increasingly, North American disorders, such as eating disorders, are, along with McDonald's and MTV, spreading across the globe (Watters, 2010).

But not all disorders are culture-bound. Depression and schizophrenia occur worldwide. From Asia to Africa and across the Americas, schizophrenia's symptoms often include irrationality and incoherent speech.

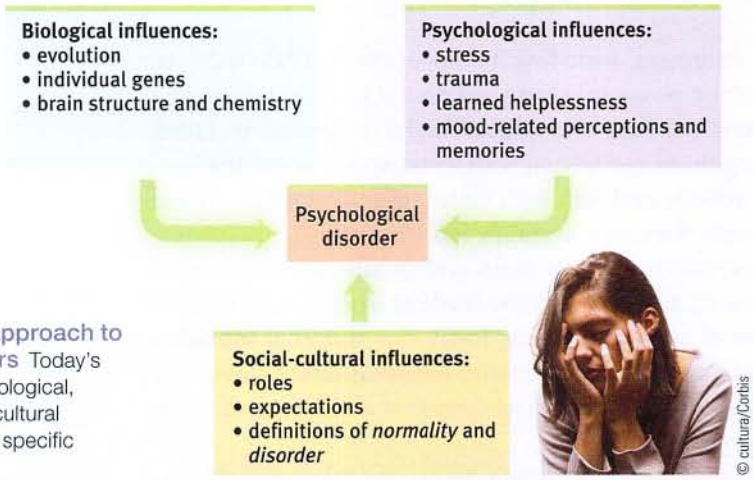


Figure 65.1
The biopsychosocial approach to psychological disorders Today's psychology studies how biological, psychological, and social-cultural factors interact to produce specific psychological disorders.

To assess the whole set of influences—genetic predispositions and physiological states, inner psychological dynamics, and social and cultural circumstances—the biopsychosocial model helps (**FIGURE 65.1**). This approach recognizes that mind and body are inseparable. Negative emotions contribute to physical illness, and physical abnormalities contribute to negative emotions. We are mind embodied and socially embedded.

Classifying Psychological Disorders

65-4 How and why do clinicians classify psychological disorders?

In biology and the other sciences, classification creates order. To classify an animal as a "mammal" says a great deal—that it is warm-blooded, has hair or fur, and nourishes its young with milk. In psychiatry and psychology, too, classification orders and describes symptoms. To classify a person's disorder as "schizophrenia" suggests that the person talks incoherently; hallucinates or has delusions (bizarre beliefs); shows either little emotion or inappropriate emotion; or is socially withdrawn. "Schizophrenia" provides a handy shorthand for describing a complex disorder.

FYI
A book of case illustrations accompanying the previous DSM edition provides several examples for this unit.

In psychiatry and psychology, diagnostic classification aims not only to describe a disorder but also to predict its future course, imply appropriate treatment, and stimulate research into its causes. Indeed, to study a disorder we must first name and describe it. The most common system for describing disorders and estimating how often they occur is the American Psychiatric Association's 2013 *Diagnostic and Statistical Manual of Mental Disorders,* now in its fifth edition (**DSM-5**). Physicians and mental health workers use the detailed "diagnostic criteria and codes" in the DSM-5 to guide medical diagnoses and define who is eligible for treatments, including medication. For example, a person may be diagnosed with and treated for "insomnia disorder" if he or she meets *all* of the following criteria:

DSM-5 the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders,* Fifth Edition; a widely used system for classifying psychological disorders.

- Is dissatisfied with sleep quantity or quality (difficulty initiating, maintaining, or returning to sleep).
- Sleep disturbance causes distress or impairment in everyday functioning.
- Occurs at least three nights per week.
- Present for at least three months.
- Occurs despite adequate opportunity for sleep.
- Is not explained by another sleep disorder (such as narcolepsy).
- Is not caused by substance use or abuse.
- Is not caused by other mental disorders or medical conditions.

In this new DSM edition, some diagnostic labels have changed. For example, "autism" and "Asperger's syndrome" are no longer included; they have been combined into "autism spectrum disorder." "Mental retardation" has become "intellectual disability." New categories include "hoarding disorder" and "binge-eating disorder."

Some new or altered diagnoses are controversial. "Disruptive mood dysregulation disorder" is a new DSM-5 diagnosis for children "who exhibit persistent irritability and frequent episodes of behavior outbursts three or more times a week for more than a year." Will this diagnosis assist parents who struggle with unstable children, or will it "turn temper tantrums into a mental disorder" and lead to overmedication, as the chair of the previous DSM edition has warned (Frances, 2012)?

Critics have long faulted the DSM for casting too wide a net and bringing "almost any kind of behavior within the compass of psychiatry" (Eysenck et al., 1983). They worry that the DSM-5 will extend the pathologizing of everyday life—for example, by turning bereavement grief into depression and boyish rambunctiousness into ADHD (Frances, 2013). Others respond that depression and hyperactivity, though needing careful definition, are genuine disorders even, for example, those triggered by a major life stress such as a death when the grief does not go away (Kendler, 2011; Kupfer, 2012).

"I'm always like this, and my family was wondering if you could prescribe a mild depressant."

Labeling Psychological Disorders

65-5 Why do some psychologists criticize the use of diagnostic labels?

The DSM has other critics who register a more fundamental complaint—that these labels are at best arbitrary and at worst value judgments masquerading as science. Once we label a person, we view that person differently (Farina, 1982). Labels create preconceptions that guide our perceptions and our interpretations.

In a now-classic study of the biasing power of labels, David Rosenhan (1973) and seven others went to hospital admissions offices, complaining of "hearing voices" saying *empty, hollow,* and *thud.* Apart from this complaint and giving false names and occupations, they answered questions truthfully. All eight normal people were misdiagnosed with disorders.

"One of the unpardonable sins, in the eyes of most people, is for a man to go about unlabeled. The world regards such a person as the police do an unmuzzled dog, not under proper control." -T. H. Huxley, *Evolution and Ethics,* 1893

Should we be surprised? As one psychiatrist noted, if someone swallows blood, goes to an emergency room, and spits it up, should we fault the doctor for diagnosing a bleeding ulcer? Surely not. But what followed the diagnosis in the Rosenhan study was startling. Until being released an average of 19 days later, the "patients" exhibited no further symptoms such as hearing voices. Yet after analyzing their (quite normal) life histories, clinicians were able to "discover" the causes of their disorders, such as reacting with mixed emotions about a parent. Even the routine behavior of taking notes was misinterpreted as a symptom.

Labels matter. When people in another experiment watched videotaped interviews, those told the interviewees were job applicants perceived them as normal (Langer et al., 1974, 1980). Those who thought they were watching psychiatric or cancer patients perceived them as "different from most people." Therapists who thought an interviewee was a psychiatric patient perceived him as "frightened of his own aggressive impulses," a "passive, dependent type," and so forth. A label can, as Rosenhan discovered, have "a life and an influence of its own."

Surveys in Europe and North America have demonstrated the stigmatizing power of labels (Page, 1977). Getting a job or finding a place to rent can be a challenge for those known to be just released from prison—or a mental hospital. But as we are coming to understand that many psychological disorders are diseases of the brain, not failures of character, the stigma seems to be lifting (Solomon, 1996). Public figures are feeling freer to "come out" and speak with candor about their struggles with disorders such as depression. And the more contact people have with individuals with disorders, the more accepting their attitudes are (Kolodziej & Johnson, 1996). People express greatest sympathy for people whose disorders are gender atypical—for men suffering depression (which is more common among women), or for women plagued by alcohol use disorder (Wirth & Bodenhausen, 2009).

"My sister suffers from a bipolar disorder and my nephew from schizoaffective disorder. There has, in fact, been a lot of depression and alcoholism in my family and, traditionally, no one ever spoke about it. It just wasn't done. The stigma is toxic." -Actress Glenn Close, "Mental Illness: The Stigma of Silence," 2009

Protozoa Pictures/Phoenix Pictures/The Kobal Collection

Accurate portrayal Recent films have offered some realistic depictions of psychological disorders. *Black Swan* (2010), shown here, portrayed a main character suffering a delusional disorder. *Temple Grandin* (2010) dramatized a lead character who successfully copes with autism spectrum disorder. *A Single Man* (2009) depicted depression.

Nevertheless, stereotypes linger in media portrayals of psychological disorders. Some are reasonably accurate and sympathetic. But too often people with disorders are portrayed as objects of humor or ridicule *(As Good as It Gets),* as homicidal maniacs (Hannibal Lecter in *Silence of the Lambs*), or as freaks (Nairn, 2007). Apart from the few who experience threatening delusions and hallucinated voices that command a violent act, and from those whose dysfunctionality includes substance abuse, mental disorders seldom lead to violence (Douglas et al., 2009; Elbogen & Johnson, 2009; Fazel et al., 2009, 2010). In real life, people with disorders are more likely to be the *victims* of violence than the perpetrators (Marley & Bulia, 2001). Indeed, reported the U.S. Surgeon General's Office (1999, p. 7), "There is very little risk of violence or harm to a stranger from casual contact with an individual who has a mental disorder." (Although most people with psychological disorders are not violent, those who are create a moral dilemma for society. For more on this topic, see Thinking Critically About: Insanity and Responsibility.)

AP® Exam Tip

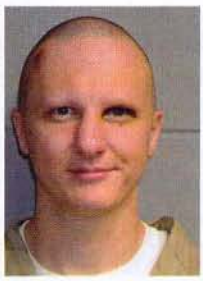
Notice that the term *insanity* comes out of the legal system. It is not a psychological or medical diagnosis and does not appear in the DSM-5.

Thinking Critically About

Insanity and Responsibility

"My brain . . . my genes . . . my bad upbringing made me do it." Such defenses were anticipated by Shakespeare's Hamlet. If I wrong someone when not myself, he explained, "then Hamlet does it not, Hamlet denies it. Who does it then? His madness." Such is the essence of a legal insanity defense. "Insanity" is a legal rather than a psychological concept, and was created in 1843 after a deluded Scotsman tried to shoot the prime minister (who he thought was persecuting him) but killed an assistant by mistake. Like U.S. President Ronald Reagan's near-assassin, John Hinckley, Scotsman Daniel M'Naghten was sent to a mental hospital rather than to prison.

In both cases, the public was outraged. "Hinckley Insane, Public Mad," declared one headline. They were mad again when a deranged Jeffrey Dahmer in 1991 admitted murdering 15 young men and eating parts of their bodies. They were mad in 1998 when 15-year-old Kip Kinkel, driven by "those voices in my head," killed his parents and two fellow Springfield, Oregon, students and wounded 25 others. They were mad in 2002 when Andrea Yates, after being taken off her antipsychotic medication, was tried in Texas for drowning her five children. And they were mad in 2011, when an irrational Jared Loughner gunned down a crowd of people, including survivor Congresswoman Gabrielle Giffords, in an Arizona supermarket parking lot. Following their arrest, most of these people were sent to jails, not hospitals. (Hinckley was sent to a psychiatric hospital and later, after another trial, Yates was instead hospitalized.) As Yates' fate illustrates, 99 percent of those whose insanity defense is accepted are nonetheless institutionalized, often for as long as those convicted of crimes (Lilienfeld & Arkowitz, 2011).



HANDOUT/Reuters/Corbis

Jail or hospital? Jared Lee Loughner was charged with the 2011 Tucson, Arizona, shooting that killed six people and left over a dozen others injured, including U.S. Representative Gabrielle Giffords. Loughner had a history of mental health issues, including paranoid beliefs, and was diagnosed with schizophrenia. Usually, however, schizophrenia is only associated with violence when accompanied by substance abuse (Fazel et al., 2009).

Most people with psychological disorders are not violent. But what should society do with those who are? What do we do with disturbed individuals who mow down innocents at movie theaters and schools? Sometimes there is nothing to be done, as in the case of the 2012 Sandy Hook Elementary School tragedy in Connecticut, where the shooter's final fatal shot was self-inflicted. Many people who have been executed or are now on death row have been limited by intellectual disability or motivated by delusional voices. The State of Arkansas forced one murderer with schizophrenia, Charles Singleton, to take two anti-psychotic drugs—in order to make him mentally competent, so that he could then be put to death.

Which of Yates' two juries made the right decision? The first, which decided that people who commit such rare but terrible crimes should be held responsible? Or the second, which decided to blame the "madness" that clouds their vision? As we come to better understand the biological and environmental basis for all human behavior, from generosity to vandalism, when should we—and should we not—hold people accountable for their actions?

Not only can labels bias perceptions, they can also change reality. When teachers are told certain students are "gifted," when students expect someone to be "hostile," or when interviewers check to see whether someone is "extraverted," they may act in ways that elicit the very behavior expected (Snyder, 1984). Someone who was led to think you are nasty may treat you coldly, leading you to respond as a mean-spirited person would. Labels can serve as self-fulfilling prophecies.

But let us remember the *benefits* of diagnostic labels. Mental health professionals use labels to communicate about their cases, to comprehend the underlying causes, and to discern effective treatment programs. Diagnostic definitions also inform patient self-understandings. And they are useful in research that explores the causes and treatments of disordered behavior.

Rates of Psychological Disorders

65-6 How many people suffer, or have suffered, from a psychological disorder? Is poverty a risk factor?

Who is most vulnerable to psychological disorders? At what times of life? To answer such questions, various countries have conducted lengthy, structured interviews with representative samples of thousands of their citizens. After asking hundreds of questions that probed for symptoms—"Has there ever been a period of two weeks or more when you felt like you wanted to die?"—the researchers have estimated the current, prior-year, and lifetime prevalence of various disorders.

How many people have, or have had, a psychological disorder? More than most of us suppose:

- The U.S. National Institute of Mental Health (2008, based on Kessler et al., 2005) estimates that 26 percent of adult Americans "suffer from a diagnosable mental disorder in a given year" (**TABLE 65.1**).
- A large-scale World Health Organization (2004a) study—based on 90-minute interviews of 60,463 people—estimated the number of prior-year mental disorders in 20 countries. As **FIGURE 65.2** displays, the lowest rate of reported mental disorders was in Shanghai, the highest rate in the United States. Moreover, immigrants to the United States from Mexico, Africa, and Asia average better mental health than their native U.S. counterparts (Breslau et al., 2007; Maldonado-Molina et al., 2011). For example, compared with people who have recently immigrated from Mexico, Mexican-Americans born in the United States are at greater risk of mental disorder—a phenomenon known as the *immigrant paradox* (Schwartz et al., 2010).

Table 65.1 Percentage of Americans Reporting Selected Psychological Disorders in the Past Year

Psychological Disorder	Percentage
Generalized anxiety	3.1
Social anxiety disorder	6.8
Phobia of specific object or situation	8.7
Mood disorder	9.5
Obsessive-compulsive disorder (OCD)	1.0
Schizophrenia	1.1
Posttraumatic stress disorder (PTSD)	3.5
Attention-deficit/hyperactivity disorder (ADHD)	4.1
Any mental disorder	26.2

Source: National Institute of Mental Health, 2008.

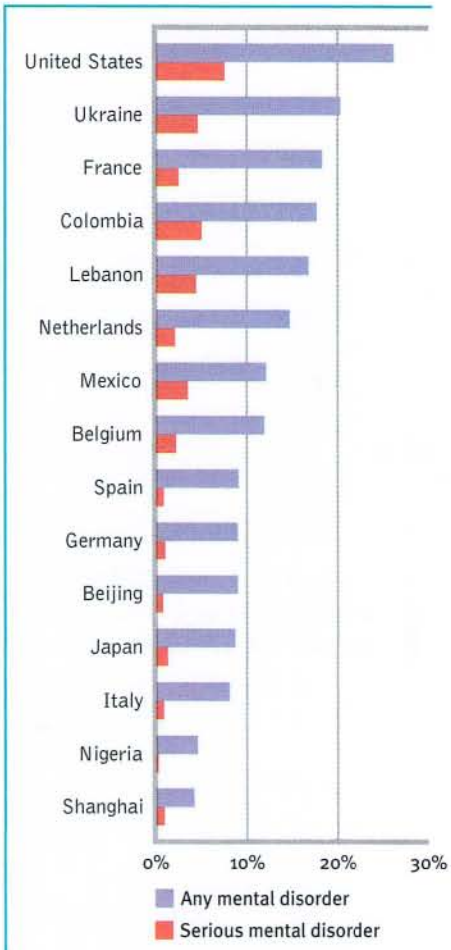


Figure 65.2
Prior-year prevalence of disorders in selected areas From World Health Organization (WHO, 2004a) interviews in 20 countries.

Who is most vulnerable to mental disorders? As we have seen, the answer varies with the disorder. One predictor of mental disorder, poverty, crosses ethnic and gender lines. The incidence of serious psychological disorders has been doubly high among those below the poverty line (CDC, 1992). Like so many other correlations, the poverty-disorder association raises a chicken-and-egg question: Does poverty cause disorders? Or do disorders cause poverty? It is both, though the answer varies with the disorder. Schizophrenia understandably leads to poverty. Yet the stresses and demoralization of poverty can also precipitate disorders, especially depression in women and substance use disorder in men (Dohrenwend et al., 1992). In one natural experiment on the poverty-pathology link, researchers tracked rates of behavior problems in North Carolina Native American children as economic development enabled a dramatic reduction in their community's poverty rate. As the study began, children of poverty exhibited more deviant and aggressive behaviors. After four years, children whose families had moved above the poverty line exhibited a 40 percent decrease in the behavior problems, while those who continued in their previous positions below or above the poverty line exhibited no change (Costello et al., 2003).

As **TABLE 65.2** indicates, there is a wide range of risk and protective factors for mental disorders. At what times of life do disorders strike? Usually by early adulthood. "Over 75 percent of our sample with any disorder had experienced its first symptoms by age 24," reported Lee Robins and Darrel Regier (1991, p. 331). The symptoms of antisocial personality disorder and of phobias are among the earliest to appear, at a median age of 8 and 10, respectively. Symptoms of alcohol use disorder, obsessive-compulsive disorder, bipolar disorder, and schizophrenia appear at a median age near 20. Major depression often hits somewhat later, at a median age of 25. Such findings make clear the need for research and treatment to help the growing number of people, especially teenagers and young adults, who suffer the bewilderment and pain of a psychological disorder.

Table 65.2 Risk and Protective Factors for Mental Disorders

Risk Factors	Protective Factors
Academic failure	Aerobic exercise
Birth complications	Community offering empowerment, opportunity, and security
Caring for chronically ill or patients with neurocognitive disorder	Economic independence
Child abuse and neglect	Effective parenting
Chronic insomnia	Feelings of mastery and control
Chronic pain	Feelings of security
Family disorganization or conflict	Literacy
Low birth weight	Positive attachment and early bonding
Low socioeconomic status	Positive parent-child relationships
Medical illness	Problem-solving skills
Neurochemical imbalance	Resilient coping with stress and adversity
Parental mental illness	Self-esteem
Parental substance abuse	Social and work skills
Personal loss and bereavement	Social support from family and friends
Poor work skills and habits	
Reading disabilities	
Sensory disabilities	
Social incompetence	
Stressful life events	
Substance abuse	
Trauma experiences	

Source: World Health Organization (WHO, 2004b,c).

Although mindful of the pain, we can also be encouraged by the many successful people—including Leonardo da Vinci, Isaac Newton, and Leo Tolstoy—who pursued brilliant careers while enduring psychological difficulties. So have 18 U.S. presidents, including the periodically depressed Abraham Lincoln, according to one psychiatric analysis of their biographies (Davidson et al., 2006). The bewilderment, fear, and sorrow caused by psychological disorders are real. But, as Unit XIII shows, hope, too, is real.

Before You Move On

▶ ASK YOURSELF

How would you draw the line between sending disturbed criminals to prisons or to mental hospitals? Would the person's history (for example, having suffered child abuse) influence your decisions?

▶ TEST YOURSELF

What is the biopsychosocial approach, and why is it important in our understanding of psychological disorders?

Answers to the Test Yourself questions can be found in Appendix E at the end of the book.

Module 65 Review

65-1 How should we draw the line between normality and disorder?

- According to psychologists and psychiatrists, a *psychological disorder* is a syndrome marked by a clinically significant disturbance in an individual's cognition, emotion regulation, or behavior.

65-2 Why is there some controversy over attention-deficit/hyperactivity disorder?

- A child who by age 7 displays extreme inattention, hyperactivity, and impulsivity may be diagnosed with *attention-deficit/hyperactivity disorder (ADHD)* and treated with medication and other therapy.
- The controversy centers on whether the growing number of ADHD cases reflects overdiagnosis or increased awareness of the disorder. Long-term effects of stimulant-drug treatment for ADHD are not yet known.

65-3 How do the medical model and the biopsychosocial approach understand psychological disorders?

- The *medical model* assumes that psychological disorders are mental illnesses with physical causes that can be diagnosed, treated, and, in most cases, cured through therapy, sometimes in a hospital.
- The biopsychosocial approach assumes that three sets of influences—biological (evolution, genetics, brain structure and chemistry), psychological (stress, trauma, learned helplessness, mood-related perceptions and memories), and social-cultural (roles, expectations, definitions of "normality" and "disorder")—interact to produce specific psychological disorders.

65-4 How and why do clinicians classify psychological disorders?

- The American Psychiatric Association's *DSM-5* (*Diagnostic and Statistical Manual of Mental Disorders*, Fifth Edition) contains diagnostic labels and descriptions that provide a common language and shared concepts for communication and research.
- Some critics believe the DSM editions have become too detailed and extensive.

65-5 Why do some psychologists criticize the use of diagnostic labels?

- Other critics view DSM diagnoses as arbitrary labels that create preconceptions which bias perceptions of the labeled person's past and present behavior. The legal label, "insanity," raises moral and ethical questions about whether society should hold people with disorders responsible for their violent actions.
- Most people with disorders are nonviolent and are more likely to be victims than attackers.

65-6 How many people suffer, or have suffered, from a psychological disorder? Is poverty a risk factor?

- Psychological disorder rates vary, depending on the time and place of the survey. In one multinational survey, rates for any disorder ranged from less than 5 percent (Shanghai) to more than 25 percent (the United States).
- Poverty is a risk factor: Conditions and experiences associated with poverty contribute to the development of psychological disorders. But some disorders, such as schizophrenia, can drive people into poverty.

Multiple-Choice Questions

1. Which of the following describes the idea that psychological disorders can be diagnosed and treated?

a. Taijin-kyofusho
b. The DSM
c. The biopsychosocial approach
d. Amok
e. The medical model

2. Which of the following is the primary purpose of the DSM?

a. Diagnosis of mental disorders
b. Selection of appropriate psychological therapies for mental disorders
c. Placement of mental disorders in appropriate cultural context
d. Selection of appropriate medicines to treat mental disorders
e. Understanding the causes of mental disorders

3. Which of the following disorders do Americans report most frequently?

a. Schizophrenia
b. Mood disorders
c. Posttraumatic stress disorder (PTSD)
d. Obsessive-compulsive disorder (OCD)
e. Attention-deficit/hyperactivity disorder (ADHD)

Practice FRQs

1. Name and describe the two major approaches to understanding psychological disorders.

Answer

2 points: The medical model, which is an attempt to first diagnose and then treat psychological disorders.

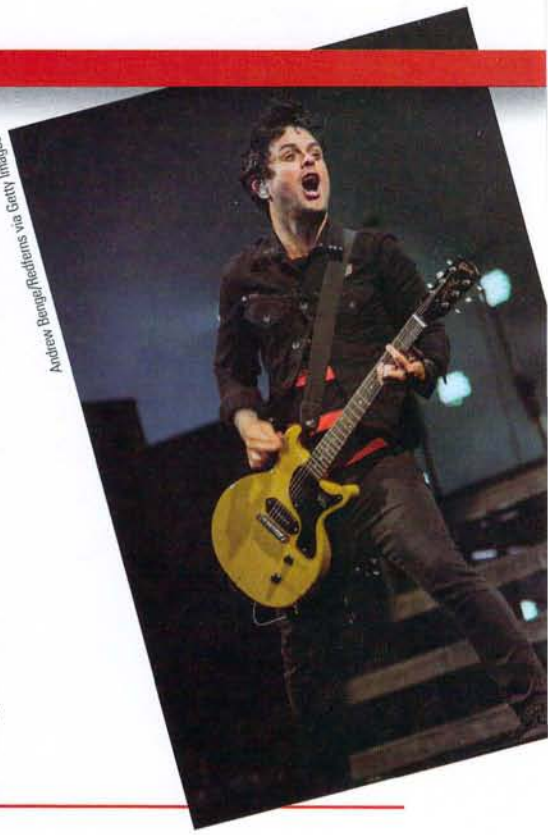
2 points: The biopsychosocial approach, which is an attempt to understand psychological disorders as an interaction of biological, psychological, and social-cultural factors.

2. Explain two criticisms of the DSM.

(2 points)

Module 66

Anxiety Disorders, Obsessive-Compulsive Disorder, and Posttraumatic Stress Disorder



Andrew Benge/Redferns via Getty Images

Module Learning Objectives

66-1 Identify the different anxiety disorders.

66-2 Describe obsessive-compulsive disorder.

66-3 Describe posttraumatic stress disorder.

66-4 Describe how the learning and biological perspectives explain anxiety disorders, OCD, and PTSD.

66-1 What are the different anxiety disorders?

anxiety disorders psychological disorders characterized by distressing, persistent anxiety or maladaptive behaviors that reduce anxiety.

Anxiety is part of life. Speaking in front of a class, peering down from a ladder, or waiting to play in a big game, any one of us might feel anxious (even seasoned performers like Green Day's Billie Joe Armstrong, whose anxiety and substance abuse resulted in cancelled concerts in 2012 and 2013). At times we may feel enough anxiety to avoid making eye contact or talking with someone—"shyness," we call it. Fortunately for most of us, our uneasiness is not intense and persistent.

Some of us, however, are more prone to notice and remember threats (Mitte, 2008). This tendency may place us at risk for one of the **anxiety disorders,** marked by distressing, persistent anxiety or dysfunctional anxiety-reducing behaviors. We will consider these three:

- *Generalized anxiety disorder,* in which a person is unexplainably and continually tense and uneasy
- *Panic disorder,* in which a person experiences sudden episodes of intense dread
- *Phobias,* in which a person is intensely and irrationally afraid of a specific object or situation

Two other disorders involve anxiety, though the DSM-5 now classifies them separately:

- *Obsessive-compulsive disorder,* in which a person is troubled by repetitive thoughts or actions
- *Posttraumatic stress disorder,* in which a person has lingering memories, nightmares, and other symptoms for weeks after a severely threatening, uncontrollable event

Snapshots

© Jason Love

Obsessing about obsessive-compulsive disorder

AP® Exam Tip

The way disorders are classified can be confusing, so it's worth taking some time to keep the organization straight. Sometimes, there is a broad classification that includes more specific disorders—the broad category of anxiety disorders, for example, includes generalized anxiety disorder, panic disorder, and phobia. Other times, there is just one level of classification. Obsessive-compulsive disorder and posttraumatic stress disorder do not fit into broader categories.

Generalized Anxiety Disorder

For the past two years, Tom, a 27-year-old electrician, has been bothered by dizziness, sweating palms, heart palpitations, and ringing in his ears. He feels edgy and sometimes finds himself shaking. With reasonable success, he hides his symptoms from his family and co-workers. But he allows himself few other social contacts, and occasionally he has to leave work. His family doctor and a neurologist can find no physical problem.

Tom's unfocused, out-of-control, agitated feelings suggest a **generalized anxiety disorder**, which is marked by pathological worry. The symptoms of this disorder are commonplace; their persistence, for six months or more, is not. People with this condition—two-thirds are women (McLean & Anderson, 2009)—worry continually, and they are often jittery, agitated, and sleep-deprived. Concentration is difficult as attention switches from worry to worry, and their tension and apprehension may leak out through furrowed brows, twitching eyelids, trembling, perspiration, or fidgeting.

One of generalized anxiety disorder's worst characteristics is that the person may not be able to identify, and therefore deal with or avoid, its cause. To use Sigmund Freud's term, the anxiety is *free-floating*. Generalized anxiety disorder is often accompanied by depressed mood, but even without depression it tends to be disabling (Hunt et al., 2004; Moffitt et al., 2007b). Moreover, it may lead to physical problems, such as high blood pressure.

Many people with generalized anxiety disorder were maltreated and inhibited as children (Moffitt et al., 2007a). As time passes, however, emotions tend to mellow, and by age 50, generalized anxiety disorder becomes fairly rare (Rubio & López-Ibor, 2007).

Panic Disorder

Panic disorder entails an anxiety tornado. Panic strikes suddenly, wreaks havoc, and disappears. For the 1 person in 75 with this disorder, anxiety suddenly escalates into a terrifying *panic attack*—a minutes-long episode of intense fear that something horrible is about to happen. Heart palpitations, shortness of breath, choking sensations, trembling, or dizziness typically accompany the panic, which may be misperceived as a heart attack or other serious physical ailment. Smokers have at least a doubled risk of panic disorder (Zvolensky & Bernstein, 2005). Because nicotine is a stimulant, lighting up doesn't lighten up.

One woman recalled suddenly feeling "hot and as though I couldn't breathe. My heart was racing and I started to sweat and tremble and I was sure I was going to faint. Then my fingers started to feel numb and tingly and things seemed unreal. It was so bad I wondered if I was dying and asked my husband to take me to the emergency room. By the time we got there (about 10 minutes) the worst of the attack was over and I just felt washed out" (Greist et al., 1986).

generalized anxiety disorder an anxiety disorder in which a person is continually tense, apprehensive, and in a state of autonomic nervous system arousal.

panic disorder an anxiety disorder marked by unpredictable, minutes-long episodes of intense dread in which a person experiences terror and accompanying chest pain, choking, or other frightening sensations. Often followed by worry over a possible next attack.

phobia an anxiety disorder marked by a persistent, irrational fear and avoidance of a specific object, activity, or situation.

social anxiety disorder intense fear of social situations, leading to avoidance of such. (Formerly called *social phobia*.)

Phobias

Phobias are anxiety disorders in which an irrational fear causes the person to avoid some object, activity, or situation. Many people accept their phobias and live with them, but others are incapacitated by their efforts to avoid the feared situation. Marilyn, an otherwise healthy and happy 28-year-old, fears thunderstorms so intensely that she feels anxious as soon as a weather forecaster mentions possible storms later in the week. If her husband is away and a storm is forecast, she may stay with a close relative. During a storm, she hides from windows and buries her head to avoid seeing the lightning.

Other *specific phobias* may focus on animals, insects, heights, blood, or enclosed spaces (**FIGURE 66.1**). People avoid the stimulus that arouses the fear, hiding during thunderstorms or avoiding high places.

Not all phobias have such specific triggers. **Social anxiety disorder** (formerly called *social phobia*) is shyness taken to an extreme. Those with social anxiety disorder,

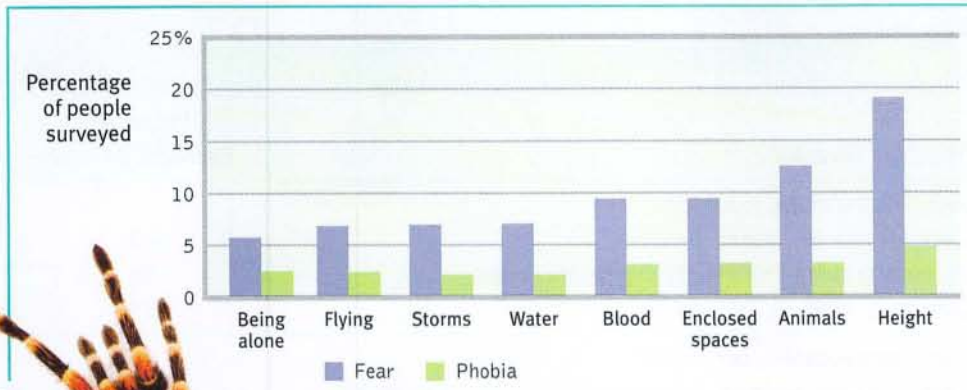


Figure 66.1
Some common and uncommon specific fears This Dutch national interview study identified the commonality of various specific fears. A strong fear becomes a phobia if it provokes a compelling but irrational desire to avoid the dreaded object or situation. (From Delpa et al., 2008.)


Martin Harvey/ Jupiterimages

an intense fear of being scrutinized by others, avoid potentially embarrassing social situations, such as speaking up, eating out, or going to parties—or will sweat or tremble when doing so.

Much as fretting over insomnia may, ironically, cause insomnia, so worries about anxiety—perhaps fearing another panic attack, or fearing anxiety-caused sweating in public—can amplify anxiety symptoms (Olatunji & Wolitzky-Taylor, 2009). People who have experienced several panic attacks may come to avoid situations where the panic has struck before. If the fear is intense enough, it may become **agoraphobia,** fear or avoidance of situations in which escape might be difficult or help unavailable when panic strikes. Given such fear, people may avoid being outside the home, in a crowd, on a bus, or on an elevator.

After spending five years sailing the world, Charles Darwin began suffering panic disorder at age 28. Because of the attacks, he moved to the country, avoided social gatherings, and traveled only in his wife's company. But the relative seclusion did free him to focus on developing his evolutionary theory. "Even ill health," he reflected, "has saved me from the distraction of society and its amusements" (quoted in Ma, 1997).

agoraphobia fear or avoidance of situations, such as crowds or wide open places, where one has felt loss of control and panic.

obsessive-compulsive disorder (OCD) a disorder characterized by unwanted repetitive thoughts (obsessions) and/or actions (compulsions).

Obsessive-Compulsive Disorder

66-2 What is obsessive-compulsive disorder?

As with generalized anxiety and phobias, we can see aspects of **obsessive-compulsive disorder (OCD)** in our everyday behavior. We all may at times be obsessed with senseless or offensive thoughts that will not go away. Or we may engage in compulsive behaviors, perhaps lining up books and pencils "just so" before studying.

Obsessive thoughts and compulsive behaviors cross the fine line between normality and disorder when they persistently interfere with everyday living and cause distress. Checking to see you locked the door is normal; checking 10 times is not. Washing your hands is normal; washing so often that your skin becomes raw is not. (**TABLE 66.1** on the next page offers more examples.) At some time during their lives, often during their late teens or twenties, 2 to 3 percent of people cross that line from normal preoccupations and fussiness to debilitating disorder (Karno et al., 1988). Although the person knows them to be irrational, the anxiety-fueled obsessive thoughts become so haunting, the compulsive rituals so senselessly time-consuming, that effective functioning becomes impossible.

Making everything perfect
Soccer star David Beckham has openly discussed his obsessive-compulsive tendencies, which have driven him to line up objects in pairs or to spend hours straightening furniture (Adams, 2011).


Stephen Dunn/Getty Images

Table 66.1 Common Obsessions and Compulsions Among Children and Adolescents With Obsessive-Compulsive Disorder

Thought or Behavior	Percentage Reporting Symptom
Obsessions (repetitive *thoughts*)	
Concern with dirt, germs, or toxins	40
Something terrible happening (fire, death, illness)	24
Symmetry, order, or exactness	17
Compulsions (repetitive *behaviors*)	
Excessive hand washing, bathing, toothbrushing, or grooming	85
Repeating rituals (in/out of a door, up/down from a chair)	51
Checking doors, locks, appliances, car brakes, homework	46

Source: Adapted from Rapoport, 1989.

posttraumatic stress disorder (PTSD) a disorder characterized by haunting memories, nightmares, social withdrawal, jumpy anxiety, numbness of feeling, and/or insomnia that lingers for four weeks or more after a traumatic experience.

OCD is more common among teens and young adults than among older people (Samuels & Nestadt, 1997). A 40-year follow-up study of 144 Swedish people diagnosed with the disorder found that, for most, the obsessions and compulsions had gradually lessened, though only 1 in 5 had completely recovered (Skoog & Skoog, 1999).

Posttraumatic Stress Disorder

66-3 What is posttraumatic stress disorder?

As an Iraq war soldier, Jesse "saw the murder of children, women. It was just horrible for anyone to experience." After calling in a helicopter strike on one house where he had seen ammunition crates carried in, he heard the screams of children from within. "I didn't know there were kids there," he recalls. Back home in Texas, he suffered "real bad flashbacks" (Welch, 2005).

Our memories exist in part to protect us in the future. So there is biological wisdom in not being able to forget our most emotional or traumatic experiences—our greatest embarrassments, our worst accidents, our most horrid experiences. But sometimes, for some of us, the unforgettable takes over our lives. The complaints of battle-scarred veterans such as Jesse—recurring haunting memories and nightmares, a numbed social withdrawal, jumpy anxiety, insomnia—are typical of what once was called "shellshock" or "battle fatigue" and now is called **posttraumatic stress disorder (PTSD)** (Babson & Feldner, 2010; Yufik & Simms, 2010). What defines and explains PTSD is less the event itself than the severity and persistence of the trauma memory (Rubin et al., 2008).

Lynn Johnson/National Geographic Society/Corbis

Bringing the war home Nearly a quarter of a million Iraq and Afghanistan war veterans have been diagnosed with PTSD or traumatic brain injury (TBI). Many vets participate in an intensive recovery program using deep breathing, massage, and group and individual discussion techniques to treat their PTSD or TBI.

PTSD symptoms have also been reported by survivors of accidents, disasters, and violent and sexual assaults (including an estimated two-thirds of prostitutes) (Brewin et al., 1999; Farley et al., 1998; Taylor et al., 1998). A month after the 9/11 terrorist attacks, a survey of Manhattan residents indicated that 8.5 percent were suffering PTSD, most as a result of the attack (Galea et al., 2002). Among those living near the World Trade Center, 20 percent reported such telltale signs as nightmares, severe anxiety, and fear of public places (Susser et al., 2002).

To pin down the frequency of this disorder, the U.S. Centers for Disease Control (1988) compared 7000 Vietnam combat veterans with 7000 noncombat veterans who served during the same years. On average, according to a reanalysis, 19 percent of all Vietnam veterans reported PTSD symptoms. The rate varied from 10 percent among those who had never seen combat to 32 percent among those who had experienced heavy combat (Dohrenwend et al., 2006). Similar variations in rates have been found among more recent combat veterans and among people who have experienced a natural disaster or have been kidnapped, held captive, tortured, or raped (Brewin et al., 2000; Brody, 2000; Kessler, 2000; Stone, 2005; Yaffe et al., 2010).

The toll seems at least as high for veterans of the Iraq war, where 1 in 6 U.S. combat infantry personnel has reported symptoms of PTSD, depression, or severe anxiety in the months after returning home (Hoge et al., 2006, 2007). In one study of 103,788 veterans returning from Iraq and Afghanistan, 1 in 4 was diagnosed with a psychological disorder, most frequently PTSD (Seal et al., 2007).

So what determines whether a person suffers PTSD after a traumatic event? Research indicates that the greater one's emotional distress during a trauma, the higher the risk for posttraumatic symptoms (Ozer et al., 2003). Among New Yorkers who witnessed the 9/11 attacks, PTSD was doubled for survivors who were inside rather than outside the World Trade Center (Bonanno et al., 2006). And the more frequent an assault experience, the more adverse the long-term outcomes tend to be (Golding, 1999). In the 30 years after the Vietnam war, veterans who came home with a PTSD diagnosis had twice the normal likelihood of dying (Crawford et al., 2009).

A sensitive limbic system seems to increase vulnerability, by flooding the body with stress hormones again and again as images of the traumatic experience erupt into consciousness (Kosslyn, 2005; Ozer & Weiss, 2004). Brain scans of PTSD patients suffering memory flashbacks reveal an aberrant and persistent right temporal lobe activation (Engdahl et al., 2010). Genes may also play a role. In one study, combat-exposed men had identical twins who did not experience combat. But these nonexposed co-twins still tended to share their brother's risk for cognitive difficulties, such as unfocused attention. Such findings suggest that some PTSD symptoms may actually be genetically predisposed (Gilbertson et al., 2006).

Some psychologists believe that PTSD has been overdiagnosed, due partly to a broadening definition of *trauma* (Dobbs, 2009; McNally, 2003). PTSD is actually infrequent, say those critics, and well-intentioned attempts to have people relive the trauma may exacerbate their emotions and pathologize normal stress reactions (Wakefield & Spitzer, 2002). "Debriefing" survivors right after a trauma by getting them to revisit the experience and vent emotions has actually proven generally ineffective and sometimes harmful (Bonanno et al., 2010).

Researchers have noted the impressive *survivor resiliency* of those who do *not* develop PTSD (Bonanno et al., 2010). About half of adults experience at least one traumatic event in their lifetime, but only about 1 in 10 women and 1 in 20 men develop PTSD (Olff et al., 2007; Ozer & Weiss, 2004; Tolin & Foa, 2006). More than 9 in 10 New Yorkers, although stunned and grief-stricken by 9/11, did *not* respond pathologically. By the following January, the stress symptoms of the rest had mostly subsided (Galea et al., 2002). Similarly, most combat-stressed veterans and most political dissidents who survive dozens of episodes of torture do not later exhibit PTSD (Mineka & Zinbarg, 1996). Likewise, the Holocaust survivors in 71 studies "showed remarkable resilience." Despite some lingering stress symptoms, most experienced essentially normal physical health and cognitive functioning (Barel et al., 2010).

FYI

A $125 million, five-year U.S. Army program is currently assessing the well-being of 800,000 soldiers and training them in emotional resilience (Stix, 2011).

Psychologist Peter Suedfeld (1998, 2000; Cassel & Suedfeld, 2006), who as a boy survived the Holocaust under deprived conditions while his mother died in Auschwitz, has documented the *resilience* of Holocaust survivors, most of whom have lived productive lives. "It is not always true that 'What doesn't kill you makes you stronger,' but it is often true," he reports. And "what doesn't kill you may reveal to you just how strong you really are."

Indeed, suffering can lead to "benefit finding" (Aspinwall & Tedeschi, 2010a,b; Helgeson et al., 2006), and to what Richard Tedeschi and Lawrence Calhoun (2004) call **posttraumatic growth.** Tedeschi and Calhoun have found that the struggle with challenging crises, such as

posttraumatic growth positive psychological changes as a result of struggling with extremely challenging circumstances and life crises.

facing cancer, often leads people later to report an increased appreciation for life, more meaningful relationships, increased personal strength, changed priorities, and a richer spiritual life. This idea—that suffering has transformative power—is also found in Judaism, Christianity, Hinduism, Buddhism, and Islam. The idea is confirmed by research with ordinary people. Compared with those with traumatic life histories and with those unchallenged by any significant adversity, people whose life history includes *some* adversity tend to enjoy better mental health and well-being (Seery et al., 2010). Out of even our worst experiences some good can come. Like the body, the mind has great recuperative powers and may grow stronger with exertion.

Understanding Anxiety Disorders, OCD, and PTSD

66-4 How do the learning and biological perspectives explain anxiety disorders, OCD, and PTSD?

Anxiety is both a feeling and a cognition, a doubt-laden appraisal of one's safety or social skill. How do these anxious feelings and cognitions arise? Freud's psychoanalytic theory proposed that, beginning in childhood, people *repress* intolerable impulses, ideas, and feelings and that this submerged mental energy sometimes produces mystifying symptoms, such as anxiety. Today's psychologists have instead turned to two contemporary perspectives—learning and biological.

The Learning Perspective

CLASSICAL AND OPERANT CONDITIONING

When bad events happen unpredictably and uncontrollably, anxiety or other disorders often develop (Field, 2006b; Mineka & Oehlberg, 2008). Recall from Unit VI that dogs learn to fear neutral stimuli associated with shock and that infants come to fear furry objects associated with frightening noises. Using classical conditioning, researchers have also created chronically anxious, ulcer-prone rats by giving them unpredictable electric shocks (Schwartz, 1984). Like assault victims who report feeling anxious when returning to the scene of the crime, the rats become apprehensive in their lab environment. This link between conditioned fear and general anxiety helps explain why anxious or traumatized people are hyperattentive to possible threats, and how panic-prone people come to associate anxiety with certain cues (Bar-Haim et al., 2007; Bouton et al., 2001). In one survey, 58 percent of those with social anxiety disorder experienced their disorder after a traumatic event (Ost & Hugdahl, 1981).

AP® Exam Tip

This is a good time to return to Unit VI and review the principles of classical and operant conditioning.

Through conditioning, the short list of naturally painful and frightening events can multiply into a long list of human fears. My car was once struck by another whose driver missed a stop sign. For months afterward, I felt a twinge of unease when any car approached from a side street. Marilyn's phobia of thunderstorms may have been similarly conditioned during a terrifying or painful experience associated with a thunderstorm.

Two specific learning processes can contribute to these disorders. The first, *stimulus generalization,* occurs, for example, when a person attacked by a fierce dog later develops a fear of *all* dogs. The second learning process, *reinforcement,* helps maintain our phobias and compulsions after they arise. Avoiding or escaping the feared situation reduces anxiety, thus reinforcing the phobic behavior. Feeling anxious or fearing a panic attack, a person may go inside and be reinforced by feeling calmer (Antony et al., 1992). Compulsive behaviors operate similarly. If washing your hands relieves your feelings of anxiety, you may wash your hands again when those feelings return.

OBSERVATIONAL LEARNING

We may also learn fear through observational learning—by observing others' fears. Susan Mineka (1985, 2002) sought to explain why nearly all monkeys reared in the wild fear snakes, yet lab-reared monkeys do not. Surely, most wild monkeys do not actually suffer snake bites.

Do they learn their fear through observation? To find out, Mineka experimented with six monkeys reared in the wild (all strongly fearful of snakes) and their lab-reared offspring (virtually none of which feared snakes). After repeatedly observing their parents or peers refusing to reach for food in the presence of a snake, the younger monkeys developed a similar strong fear of snakes. When retested three months later, their learned fear persisted. Humans likewise learn fears by observing others (Olsson et al., 2007).

COGNITION

Observational learning is not the only cognitive influence on feelings of anxiety. As the next unit's discussion of cognitive-behavioral therapy illustrates, our interpretations and irrational beliefs can also cause feelings of anxiety. Whether we interpret the creaky sound in the old house simply as the wind or as a possible knife-wielding intruder determines whether we panic. People with anxiety disorder also tend to be *hypervigilant.* A pounding heart becomes a sign of a heart attack. A lone spider near the bed becomes a likely infestation. An everyday disagreement with a friend or boss spells possible doom for the relationship. Anxiety is especially common when people cannot switch off such intrusive thoughts and perceive a loss of control and sense of helplessness (Franklin & Foa, 2011).

The Biological Perspective

There is, however, more to anxiety, OCD, and PTSD than conditioning, observational learning, and cognition. The biological perspective can help us understand why few people develop lasting phobias after suffering traumas, why we learn some fears more readily, and why some individuals are more vulnerable.

NATURAL SELECTION

We humans seem biologically prepared to fear threats faced by our ancestors. Our phobias focus on such specific fears: spiders, snakes, and other animals; enclosed spaces and heights; storms and darkness. (Those fearless about these occasional threats were less likely to survive and leave descendants.) Thus, even in Britain, with only one poisonous snake species, people often fear snakes. And preschool children more speedily detect snakes in a scene than flowers, caterpillars, or frogs (LoBue & DeLoache, 2008). It is easy to condition and hard to extinguish fears of such "evolutionarily relevant" stimuli (Coelho & Purkis, 2009; Davey, 1995; Öhman, 2009).

Our modern fears can also have an evolutionary explanation. For example, a fear of flying may come from our biological predisposition to fear confinement and heights. Moreover, consider what people tend *not* to learn to fear. World War II air raids produced remarkably few lasting phobias. As the air blitzes continued, the British, Japanese, and German populations became not more panicked, but rather more indifferent to planes outside their immediate neighborhoods (Mineka & Zinbarg, 1996). Evolution has not prepared us to fear bombs dropping from the sky.

Just as our phobias focus on dangers faced by our ancestors, our compulsive acts typically exaggerate behaviors that contributed to our species' survival. Grooming gone wild becomes hair pulling. Washing up becomes ritual hand washing. Checking territorial boundaries becomes rechecking an already locked door (Rapoport, 1989).

GENES

Some people are more anxious than others. Genes matter. Pair a traumatic event with a sensitive, high-strung temperament and the result may be a new phobia (Belsky & Pluess, 2009). Some of us have genes that make us like orchids—fragile, yet capable of beauty under favorable circumstances. Others of us are like dandelions—hardy, and able to thrive in varied circumstances (Ellis & Boyce, 2008).

Among monkeys, fearfulness runs in families. Individual monkeys react more strongly to stress if their close biological relatives are anxiously reactive (Suomi, 1986).

Reuters/Mike Blake/Landov

Fearless The biological perspective helps us understand why most people would be too afraid to try U.S. Olympic snowboarder Shaun White's tricks. White is less vulnerable to a fear of heights than most of us!

In humans, vulnerability to anxiety disorders rises when an afflicted relative is an identical twin (Hettema et al., 2001; Kendler et al., 1992, 1999, 2002a,b). Identical twins also may develop similar phobias, even when raised separately (Carey, 1990; Eckert et al., 1981). One pair of 35-year-old female identical twins independently became so afraid of water that each would wade in the ocean backward and only up to the knees.

Given the genetic contribution to anxiety disorders, researchers are now sleuthing the culprit genes. One research team has identified 17 genes that appear to be expressed with typical anxiety disorder symptoms (Hovatta et al., 2005). Other teams have found genes associated specifically with OCD (Dodman et al., 2010; Hu et al., 2006).

Genes influence disorders by regulating neurotransmitters. Some studies point to an anxiety gene that affects brain levels of *serotonin,* a neurotransmitter that influences sleep and mood (Canli, 2008). Other studies implicate genes that regulate the neurotransmitter *glutamate* (Lafleur et al., 2006; Welch et al., 2007). With too much glutamate, the brain's alarm centers become overactive.

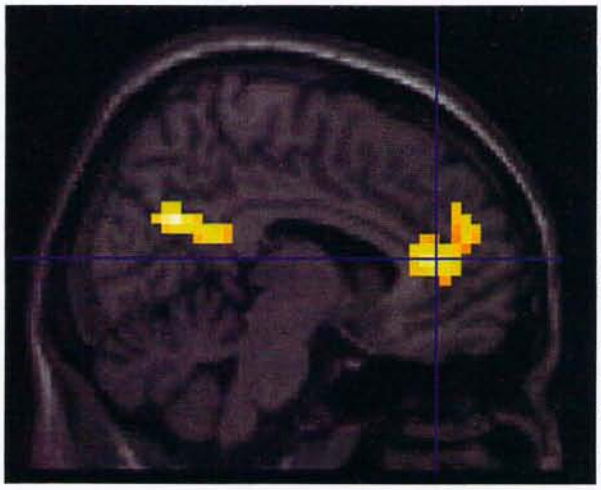
THE BRAIN

Generalized anxiety, panic attacks, PTSD, and even obsessions and compulsions are manifested biologically as an overarousal of brain areas involved in impulse control and habitual behaviors. When the disordered brain detects that something is amiss, it seems to generate a mental hiccup of repeating thoughts or actions (Gehring et al., 2000). Brain scans of people with OCD reveal elevated activity in specific brain areas during behaviors such as compulsive hand washing, checking, ordering, or hoarding (Insel, 2010; Mataix-Cols et al., 2004, 2005). As **FIGURE 66.2** shows, the *anterior cingulate cortex,* a brain region that monitors our actions and checks for errors, seems especially likely to be hyperactive in those with OCD (Maltby et al., 2005). Fear-learning experiences that traumatize the brain can also create fear circuits within the amygdala (Etkin & Wager, 2007; Kolassa & Elbert, 2007; Maren, 2007). Some antidepressant drugs dampen this fear-circuit activity and its associated obsessive-compulsive behavior.

Fears can also be blunted by giving people drugs, such as propranolol or D-Cycloserine, as they recall and then rerecord ("reconsolidate") a traumatic experience (Kindt et al., 2009; Norberg, et al., 2008). Although they don't forget the experience, the associated emotion is largely erased.

Figure 66.2

An obsessive-compulsive brain Neuroscientists Nicholas Maltby, David Tolin, and their colleagues (2005) used functional MRI scans to compare the brains of those with and without OCD as they engaged in a challenging cognitive task. The scans of those with OCD showed elevated activity in the anterior cingulate cortex in the brain's frontal area (indicated by the yellow area on the far right).



Reprinted from *NeuroImage*, 24, Maltby, N., Tolin, D. F., Worhunsky, P., O'Keefe, T. M., & Kiehl, K. A. Dysfunctional action monitoring hyperactivates frontal-striatal circuits in obsessive-compulsive disorder: An event-related fMRI study, 495–503, 2005, with permission from Elsevier.

Before You Move On

▶ ASK YOURSELF

Can you recall a fear that you have learned? What role, if any, was played by fear conditioning and by observational learning?

▶ TEST YOURSELF

How do generalized anxiety disorder, panic disorder, phobias, obsessive-compulsive disorder, and posttraumatic stress disorder differ?

Answers to the Test Yourself questions can be found in Appendix E at the end of the book.

Module 66 Review

66-1 What are the different anxiety disorders?

- Anxious feelings and behaviors are classified as an *anxiety disorder* only when they form a pattern of distressing, persistent anxiety or maladaptive behaviors that reduce anxiety.
- People with *generalized anxiety disorder* feel persistently and uncontrollably tense and apprehensive, for no apparent reason.
- In the more extreme *panic disorder,* anxiety escalates into periodic episodes of intense dread.
- Those with a *phobia* may be irrationally afraid of a specific object, activity, or situation.
- Two other disorders (obsessive-compulsive disorder and posttraumatic stress disorder) involve anxiety (though they are classified separately from the anxiety disorders).

66-2 What is obsessive-compulsive disorder?

- Persistent and repetitive thoughts (obsessions) and actions (compulsions) characterize *obsessive-compulsive disorder (OCD).*

66-3 What is posttraumatic stress disorder?

- Symptoms of *posttraumatic stress disorder (PTSD)* include four or more weeks of haunting memories, nightmares, social withdrawal, jumpy anxiety, and sleep problems following some traumatic experience.

66-4 How do the learning and biological perspectives explain anxiety disorders, OCD, and PTSD?

- The learning perspective views anxiety disorders, OCD, and PTSD as products of fear conditioning, stimulus generalization, fearful-behavior reinforcement, and observational learning of others' fears and cognitions (interpretations, irrational beliefs, and hypervigilance).
- The biological perspective considers the role that fears of life-threatening animals, objects, or situations played in natural selection and evolution; genetic predispositions for high levels of emotional reactivity and neurotransmitter production; and abnormal responses in the brain's fear circuits.

Multiple-Choice Questions

1. What do we call an anxiety disorder marked by a persistent, irrational fear and avoidance of a specific object, activity, or situation?

a. Obsessive-compulsive disorder
b. Phobia
c. Panic disorder
d. Generalized anxiety disorder
e. Posttraumatic stress disorder

2. A person troubled by repetitive thoughts or actions is most likely experiencing which of the following?

a. Generalized anxiety disorder
b. Posttraumatic stress disorder
c. Panic disorder
d. Obsessive-compulsive disorder
e. Fear conditioning

3. The key difference between obsessions and compulsions is that compulsions involve repetitive

a. thoughts.
b. experiences.
c. behaviors.
d. memories.
e. concerns.

Practice FRQs

1. Name the two contemporary perspectives used by psychologists to understand anxiety disorders. Then explain how or what psychologists study within each perspective.

Answer

1 point: The learning perspective

1 point: Psychologists using the learning perspective study fear conditioning, observational learning, or cognitive processes.

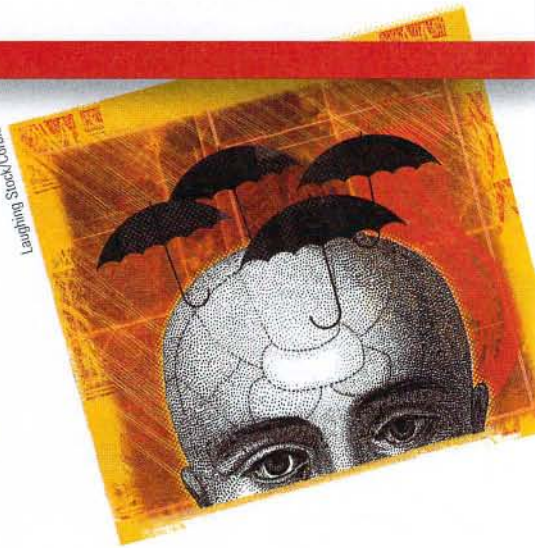
1 point: The biological perspective

1 point: Psychologists using the biological perspective study natural selection, genes, or the brain.

2. Name and describe two anxiety disorders. ***(4 points)***

Module 67

Mood Disorders


Laughing Stock/Corbis

Module Learning Objectives

67-1 Define *mood disorders*, and contrast major depressive disorder and bipolar disorder.

67-2 Describe how the biological and social-cognitive perspectives explain mood disorders.

67-3 Discuss the factors that affect suicide and self-injury, and identify important warning signs to watch for in suicide-prevention efforts.

67-1 What are mood disorders? How does major depressive disorder differ from bipolar disorder?

The emotional extremes of **mood disorders** come in two principal forms: (1) *major depressive disorder,* with its prolonged hopelessness and lethargy, and (2) *bipolar disorder* (formerly called *manic-depressive disorder*), in which a person alternates between depression and *mania,* an overexcited, hyperactive state.

mood disorders psychological disorders characterized by emotional extremes. See *major depressive disorder, mania,* and *bipolar disorder.*

Major Depressive Disorder

If you are like most high school students, at some time during this year—more likely the dark months of winter than the bright days of summer—you will probably experience some of depression's symptoms. You may feel deeply discouraged about the future, dissatisfied with your life, or socially isolated. You may lack the energy to get things done or even to force yourself out of bed; be unable to concentrate, eat, or sleep normally; or even wonder if you would be better off dead. Perhaps academic success came easily to you in middle school, and now you find that disappointing grades jeopardize your goals. Maybe social stresses, such as feeling you don't belong or experiencing the end of a romance, have plunged you into despair. And maybe brooding has at times only worsened your self-torment. Likely you think you are more alone in having such negative feelings than you really are (Jordan et al., 2011). In one survey of American high school students, 29 percent "felt so sad or hopeless almost every day for 2 or more weeks in a row that they stopped doing some usual activities" (CDC, 2008). In another national survey, of American collegians, 31 percent agreed when asked if in the past year they had at some time "felt so depressed that it was difficult to function" (ACHA, 2009). Misery has more company than most suppose.

Although phobias are more common, depression is the number-one reason people seek mental health services. At some point during their lifetime, depression plagues 12 percent of Canadian adults and 17 percent of U.S. adults (Holden, 2010; Patten et al., 2006). Moreover, it is the leading cause of disability worldwide (WHO, 2002). In any given year, a depressive episode plagues 5.8 percent of men and 9.5 percent of women, reports the World Health Organization.

"My life had come to a sudden stop. I was able to breathe, to eat, to drink, to sleep. I could not, indeed, help doing so; but there was no real life in me." -Leo Tolstoy, *My Confession,* 1887

"Depression . . . is well adapted to make a creature guard itself against any great or sudden evil." -Charles Darwin, *The Life and Letters of Charles Darwin*, 1887

As anxiety is a response to the threat of future loss, depressed mood is often a response to past and current loss. About one in four people diagnosed with depression is debilitated by a significant loss, such as a loved one's death, a ruptured marriage, or a lost job (Wakefield et al., 2007). To feel bad in reaction to profoundly sad events is to be in touch with reality. In such times, there is an up side to being down. Sadness is like a car's low-fuel light—a signal that warns us to stop and take appropriate measures. Recall that, biologically speaking, life's purpose is not happiness but survival and reproduction. Coughing, vomiting, swelling, and pain protect the body from dangerous toxins. Similarly, depression is a sort of psychic hibernation: It slows us down, defuses aggression, helps us let go of unattainable goals, and restrains risk taking (Andrews & Thomson, 2009a,b; Wrosch & Miller, 2009). To grind temporarily to a halt and ruminate, as depressed people do, is to reassess one's life when feeling threatened, and to redirect energy in more promising ways (Watkins, 2008). Even mild sadness can improve people's recall, make them more discerning, and help them make complex decisions (Forgas, 2009). There is sense to suffering.

"If someone offered you a pill that would make you permanently happy, you would be well advised to run fast and run far. Emotion is a compass that tells us what to do, and a compass that is perpetually stuck on NORTH is worthless." -Daniel Gilbert, "The Science of Happiness," 2006

But when does this response become seriously maladaptive? Joy, contentment, sadness, and despair are different points on a continuum, points at which any of us may be found at any given moment. The difference between a blue mood after bad news and a mood disorder is like the difference between gasping for breath after a hard run and being chronically short of breath.

Major depressive disorder occurs when at least five signs of depression last two or more weeks (**TABLE 67.1**). To sense what major depression feels like, suggest some clinicians, imagine combining the anguish of grief with the sluggishness of bad jet lag.

major depressive disorder
a mood disorder in which a person experiences, in the absence of drugs or another medical condition, two or more weeks with five or more symptoms, at least one of which must be either (1) depressed mood or (2) loss of interest or pleasure.

Adults diagnosed with *persistent depressive disorder* (also called *dysthymia*) experience a mildly depressed mood more often than not for at least two years (American Psychiatric Association, 2013). They also display at least two of the following symptoms:

1. Problems regulating appetite
2. Problems regulating sleep
3. Low energy
4. Low self-esteem
5. Difficulty concentrating and making decisions
6. Feelings of hopelessness

Table 67.1 Diagnosing Major Depressive Disorder

The DSM-5 classifies major depressive disorder as the presence of at least five of the following symptoms over a two-week period of time (including depressed mood or loss of interest or pleasure). The symptoms must cause near-daily distress or impairment and not be attributable to substance use or another medical or mental illness.

- Depressed mood most of the day
- Markedly diminished interest or pleasure in activities most of the day
- Significant weight loss or gain when not dieting, or significant decrease or increase in appetite
- Insomnia or sleeping too much
- Physical agitation or lethargy
- Fatigue or loss of energy
- Feeling worthless, or excessive or inappropriate guilt
- Problems in thinking, concentrating, or making decisions
- Recurrent thoughts of death and suicide

Bipolar Disorder

With or without therapy, episodes of major depression usually end, and people temporarily or permanently return to their previous behavior patterns. However, some people rebound to, or sometimes start with, the opposite emotional extreme—the euphoric, hyperactive, wildly optimistic state of **mania.** If depression is living in slow motion, mania is fast forward. Alternating between depression and mania (week to week, and not day to day or moment to moment) signals **bipolar disorder.**

Adolescent mood swings, from rage to bubbly, can, when prolonged, produce a bipolar diagnosis. Between 1994 and 2003, U.S. National Center for Health Statistics annual physician surveys revealed an astonishing 40-fold increase in diagnoses of bipolar disorder in those 19 and under—from an estimated 20,000 to 800,000 (Carey, 2007; Flora & Bobby, 2008; Moreno et al., 2007). The new popularity of the diagnosis, given in two-thirds of the cases to boys, has been a boon to companies whose drugs are prescribed to lessen mood swings. The DSM-5 will likely reduce the number of child and adolescent bipolar diagnoses, by classifying as *disruptive mood dysregulation disorder* some of those with emotional volatility (Miller, 2010).

During the manic phase, people with bipolar disorder are typically overtalkative, overactive, and elated (though easily irritated); have little need for sleep; and show fewer sexual inhibitions. Speech is loud, flighty, and hard to interrupt. They find advice irritating. Yet they need protection from their own poor judgment, which may lead to reckless spending or unsafe sex.

In milder forms, mania's energy and free-flowing thinking does fuel creativity. George Frideric Handel, who may have suffered from a mild form of bipolar disorder, composed his nearly four-hour-long *Messiah* (1742) during three weeks of intense, creative energy (Keynes, 1980). Robert Schumann composed 51 musical works during two years of mania (1840 and 1849) and none during 1844, when he was severely depressed (Slater & Meyer, 1959). Those who rely on precision and logic, such as architects, designers, and journalists, suffer bipolar disorder less often than do those who rely on emotional expression and vivid imagery (Ludwig, 1995). Composers, artists, poets, novelists, and entertainers seem especially prone (Jamison, 1993, 1995; Kaufman & Baer, 2002; Ludwig, 1995).

FYI

For some people suffering depressive disorders or bipolar disorder, symptoms may have a *seasonal pattern.* Depression may regularly return each fall or winter, and mania (or a reprieve from depression) may dependably arrive with spring. For many others, winter darkness simply means more blue moods. When asked "Have you cried today?" Americans have agreed more often in the winter.

	Percentage who cried	
	Men	Women
August	4%	7%
December	8%	21%

Source: Time/CNN survey, 1994.

mania a mood disorder marked by a hyperactive, wildly optimistic state.

bipolar disorder a mood disorder in which a person alternates between the hopelessness and lethargy of depression and the overexcited state of mania. (Formerly called *manic-depressive disorder.*)

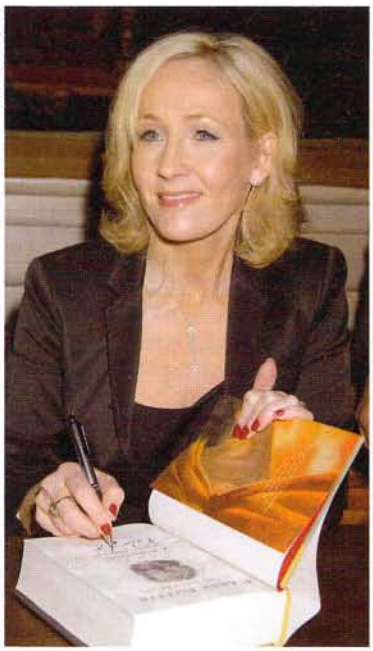
Actress
Catherine Zeta-Jones
WireImage/Getty Images

Humorist
Samuel Clemens (Mark Twain)
The Granger Collection

Writer
Virginia Woolf
George C. Beresford/Hulton Getty Pictures Library

Movie Producer
Tim Burton
Jemal Countess/Getty Images

Creativity and bipolar disorder There are many creative artists, composers, writers, and musical performers with bipolar disorder. Madeleine L'Engle wrote in *A Circle of Quiet* (1972): "All the people in history, literature, art, whom I most admire: Mozart, Shakespeare, Homer, El Greco, St. John, Chekhov, Gregory of Nyssa, Dostoevsky, Emily Brontë: not one of them would qualify for a mental-health certificate."



Jennifer Graylock

Life after depression Writer J. K. Rowling reports suffering acute depression—a "dark time," with suicidal thoughts—between ages 25 and 28. It was, she said, a "terrible place" that did, however, form a foundation that allowed her "to come back stronger" (McLaughlin, 2010).

It is as true of emotions as of everything else: What goes up comes down. Before long, the elated mood either returns to normal or plunges into a depression. Though bipolar disorder is much less common than major depressive disorder, it is often more dysfunctional, claiming twice as many lost workdays yearly (Kessler et al., 2006). Among adults, it afflicts men and women about equally.

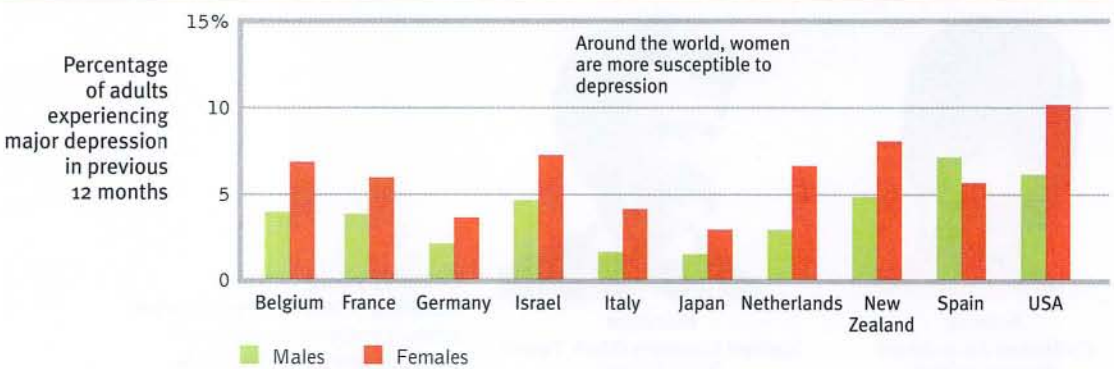
Understanding Mood Disorders

67-2 How do the biological and social-cognitive perspectives explain mood disorders?

In thousands of studies, psychologists have been accumulating evidence to help explain mood disorders and suggest more effective ways to treat and prevent them. Researcher Peter Lewinsohn and his colleagues (1985, 1998, 2003) summarized the facts that any theory of depression must explain, including the following:

- ***Many behavioral and cognitive changes accompany depression.*** People trapped in a depressed mood are inactive and feel unmotivated. They are sensitive to negative happenings (Peckham et al., 2010). They more often recall negative information. They expect negative outcomes (my team will lose, my grades will fall, my love will fail). When the mood lifts, these behavioral and cognitive accompaniments disappear. Nearly half the time, people also exhibit symptoms of another disorder, such as anxiety or substance use disorder.
- ***Depression is widespread.*** Its commonality suggests that its causes, too, must be common.
- ***Women's risk of major depression is nearly double men's.*** When Gallup in 2009 asked more than a quarter-million Americans if they had ever been diagnosed with depression, 13 percent of men and 22 percent of women said they had (Pelham, 2009). This gender gap has been found worldwide **(FIGURE 67.1)**. The trend begins in adolescence; preadolescent girls are not more depression-prone than are boys (Hyde et al., 2008).

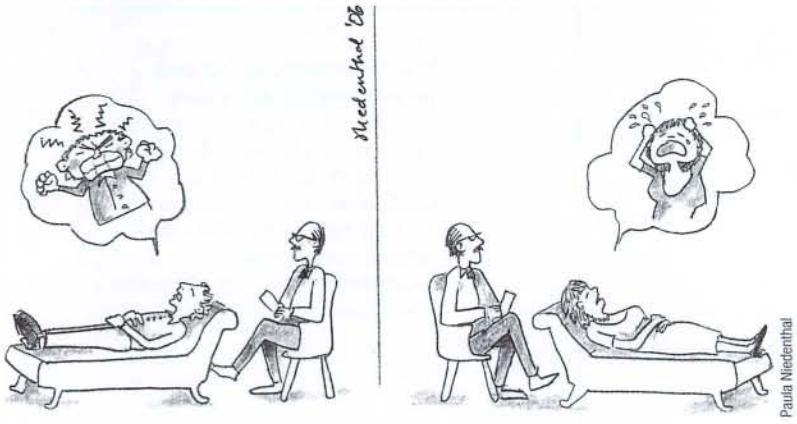
Figure 67.1
Gender and major depression Interviews with 89,037 adults in 18 countries (10 shown here) confirm what many smaller studies have found: Women's risk of major depression is nearly double that of men's.



The factors that put women at risk for depression (genetic predispositions, child abuse, low self-esteem, marital problems, and so forth) similarly put men at risk (Kendler et al., 2006). Yet women are more vulnerable to disorders involving internalized states, such as depression, anxiety, and inhibited sexual desire. Men's disorders tend to be more external—alcohol use disorder, antisocial conduct, lack of impulse control. When women get sad, they often get sadder than men do. When men get mad, they often get madder than women do.

- ***Most major depressive episodes self-terminate.*** Although therapy often helps and tends to speed recovery, most people suffering major depression eventually return to normal even without professional help. The plague of depression comes and, a few weeks or months later, it goes, though for about half of people it eventually

recurs (Burcusa & Iacono, 2007; Curry et al., 2011; Hardeveld et al., 2010). For only about 20 percent is the condition chronic (Klein, 2010). On average, patients with major depression today will spend about three-fourths of the next decade in a normal, nondepressed state (Furukawa et al., 2009). Recovery is more likely to be permanent the later the first episode strikes, the longer the person stays well, the fewer the previous episodes, the less stress experienced, and the more social support received (Belsher & Costello, 1988; Fergusson & Woodward, 2002; Kendler et al., 2001).



The emotional lives of men and women?

- ***Stressful events related to work, marriage, and close relationships often precede depression.*** A family member's death, a job loss, a marital crisis, or a physical assault increase one's risk of depression (Kendler et al., 2008; Monroe & Reid, 2009; Orth et al., 2009). If stress-related anxiety is a "crackling, menacing brushfire," notes biologist Robert Sapolsky (2003), "depression is a suffocating heavy blanket thrown on top of it." One long-term study (Kendler, 1998) tracked rates of depression in 2000 people. The risk of depression ranged from less than 1 percent among those who had experienced no stressful life event in the preceding month to 24 percent among those who had experienced three such events in that month.
- ***With each new generation, depression is striking earlier (now often in the late teens) and affecting more people, with the highest rates in developed countries among young adults.*** This is true in Canada, the United States, England, France, Germany, Italy, Lebanon, New Zealand, Puerto Rico, and Taiwan (Collishaw et al., 2007; Cross-National Collaborative Group, 1992; Kessler et al., 2010; Twenge et al., 2008). In one study, 12 percent of Australian adolescents reported symptoms of depression (Sawyer et al., 2000). Most hid it from their parents; almost 90 percent of those parents perceived their depressed teen as *not* suffering depression. In North America, today's young adults are three times more likely than their grandparents to report having recently—or ever—suffered depression (despite the grandparents' many more years of being at risk). The increase appears partly authentic, but it may also reflect today's young adults' greater willingness to disclose depression.

"I see depression as the plague of the modern era." -Lewis Judd, former chief, National Institute of Mental Health, 2000

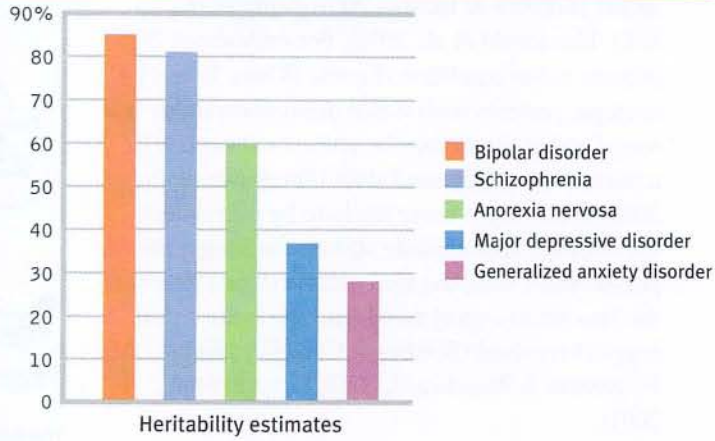
Today's researchers propose biological and cognitive explanations of depression, often combined in a biopsychosocial approach.

The Biological Perspective

GENETIC INFLUENCES

Mood disorders run in families. As one researcher noted, emotions are "postcards from our genes" (Plotkin, 1994). The risk of major depression and bipolar disorder increases if you have a parent or sibling with the disorder (Sullivan et al., 2000). If one identical twin is diagnosed with major depressive disorder, the chances are about 1 in 2 that at some time the other twin will be, too. If one identical twin has bipolar disorder, the chances are 7 in 10 that the other twin will at some point be diagnosed similarly. Among fraternal twins, the corresponding odds are just under 2 in 10 (Tsuang & Faraone, 1990). The greater similarity among identical twins holds even among twins raised apart (DiLalla et al., 1996). Summarizing the major twin studies, one research team estimated the heritability (extent to which individual differences are attributable to genes) of major depression at 37 percent (**FIGURE 67.2** on the next page).

Figure 67.2
The heritability of various psychological disorders
Researchers Joseph Bienvenu, Dimitry Davydow, and Kenneth Kendler (2011) aggregated data from studies of identical and fraternal twins to estimate the heritability of bipolar disorder, schizophrenia, anorexia nervosa, major depressive disorder, and generalized anxiety disorder.



Moreover, adopted people who suffer a mood disorder often have close biological relatives who suffer mood disorders, develop alcohol use disorder, or commit suicide (Wender et al., 1986). (Close-up: Suicide and Self-Injury reports other research findings.)

Close-up

Suicide and Self-Injury

67-3 What factors affect suicide and self-injury, and what are some of the important warning signs to watch for in suicide prevention efforts?

"'But life, being weary of these worldly bars, / Never lacks power to dismiss itself." -William Shakespeare, Julius Caesar, 1599

Each year nearly 1 million despairing people worldwide will elect a permanent solution to what might have been a temporary problem. Comparing the suicide rates of different groups, researchers have found

- ***national differences:*** Britain's, Italy's, and Spain's suicide rates are little more than half those of Canada, Australia, and the United States. Austria's and Finland's are about double (WHO, 2011). Within Europe, people in the most suicide-prone country (Belarus) have been 16 times more likely to kill themselves than those in the least (Georgia).
- ***racial differences:*** Within the United States, Whites kill themselves twice as often as Blacks (AAS, 2010).
- ***gender differences:*** Women are much more likely than men to attempt suicide (WHO, 2011). But men are two to four times more likely (depending on the country) to actually end their lives. Men use more lethal methods, such as firing a bullet into the head, the method of choice in 6 of 10 U.S. suicides.
- ***age differences and trends:*** In late adulthood, rates increase, peaking in middle age and beyond. In the last half of the twentieth century, the global rate of annual suicide deaths nearly doubled (WHO, 2008).
- ***other group differences:*** Suicide rates are much higher among the rich, the nonreligious, and those who are single, widowed, or divorced (Hoyer & Lund, 1993; Stack, 1992; Stengel, 1981). When facing an unsupportive environment, including family or peer rejection, gay and lesbian youth are at increased risk of attempting suicide (Goldfried, 2001; Haas et al., 2011; Hatzenbuehler, 2011).
- ***day of the week differences:*** 25 percent of suicides occur on Wednesdays (Kposowa & D'Auria, 2009).

The risk of suicide is at least five times greater for those who have been depressed than for the general population (Bostwick & Pankratz, 2000). People seldom commit suicide while in the depths of depression, when energy and initiative are lacking. The risk increases when they begin to rebound and become capable of following through. Among people with alcohol use disorder, 3 percent die by suicide. This rate is roughly 100 times greater than the rate for people without alcohol use disorder (Murphy & Wetzel, 1990; Sher, 2006).

Because suicide is so often an impulsive act, environmental barriers (such as jump barriers on high bridges and the unavailability of loaded guns) can reduce suicides (Anderson, 2008). Although common sense might suggest that a determined person would simply find another way to complete the act, such restrictions give time for self-destructive impulses to subside.

Social suggestion may trigger suicide. Following highly publicized suicides and TV programs featuring suicide, known suicides increase. So do fatal auto and private airplane "accidents." One six-year study tracked suicide cases among all 1.2 million people who lived in metropolitan Stockholm at any time during the 1990s

(continued)

Close-up *(continued)*

(Hedström et al., 2008). Men exposed to a family suicide were 8 times more likely to commit suicide than were nonexposed men. Although that phenomenon may be partly attributable to family genes, shared genetic predispositions do not explain why men exposed to a co-worker's suicide were 3.5 times more likely to commit suicide, compared with nonexposed men.

Suicide is not necessarily an act of hostility or revenge. The elderly sometimes choose death as an alternative to current or future suffering. In people of all ages, suicide may be a way of switching off unendurable pain and relieving a perceived burden on family members. "People desire death when two fundamental needs are frustrated to the point of extinction," notes Thomas Joiner (2006, p. 47): "The need to belong with or connect to others, and the need to feel effective with or to influence others." Suicidal urges typically arise when people feel disconnected from others, and a burden to them (Joiner, 2010), or when they feel defeated and trapped by an inescapable situation (Taylor et al., 2011). Thus, suicide rates increase a bit during economic recessions (Luo et al., 2011). Suicidal thoughts also may increase when people are driven to reach a goal or standard—to become thin or straight or rich—and find it unattainable (Chatard & Selimbegović, 2011).

In hindsight, families and friends may recall signs they believe should have forewarned them—verbal hints, giving possessions away, or withdrawal and preoccupation with death. To judge from surveys of 84,850 people across 17 nations, about 9 percent of people at some point in their lives have thought seriously of suicide. About 30 percent of these (3 percent of people) actually attempt it (Nock et al., 2008). For only about 1 in 25 does the attempt become their final act (AAS, 2009). Of those who die, one-third had tried to kill themselves previously. Most discussed it beforehand. So, if a friend talks suicide to you, it's important to listen and to direct the person to professional help. Anyone who threatens suicide is at least sending a signal of feeling desperate or despondent.

NONSUICIDAL SELF-INJURY

Suicide is not the only way to send a message or deal with distress. Some people, especially adolescents and young adults, may engage in *nonsuicidal self-injury (NSSI)* (**FIGURE 67.3**). Such behavior includes cutting or burning the skin, hitting oneself, pulling hair out, inserting objects under the nails or skin, and self-administered tattooing (Fikke et al., 2011).

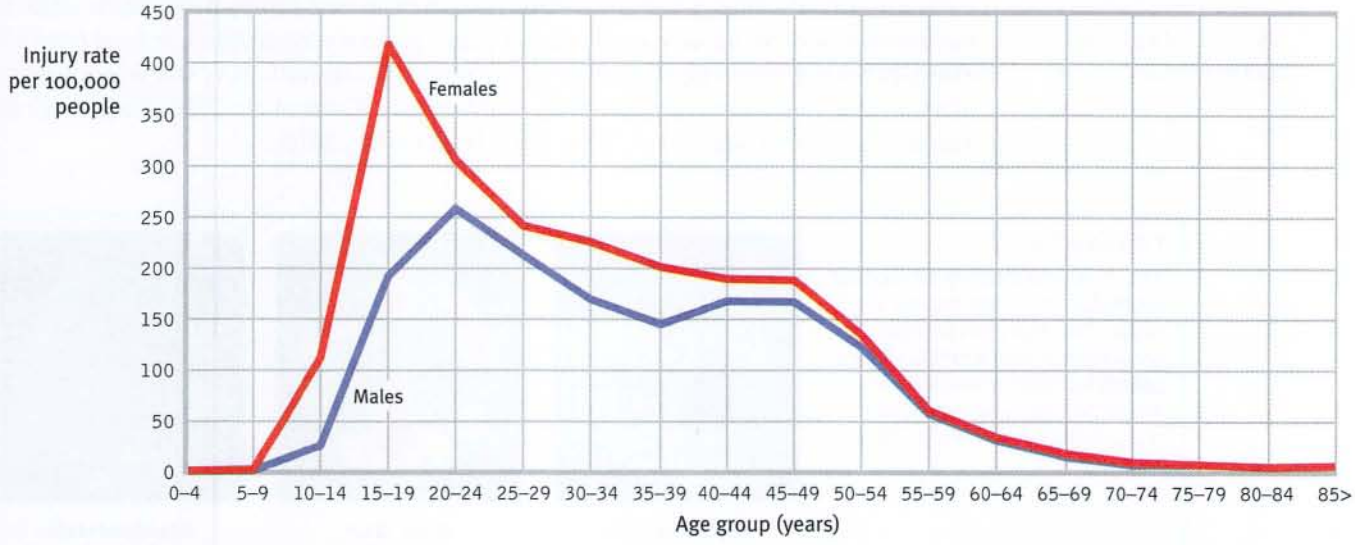
Why do people hurt themselves? Those who do so tend to be less able to tolerate emotional distress, are extremely self-critical, and often have poor communication and problem-solving skills (Nock, 2010). They engage in NSSI to

- gain relief from intense negative thoughts through the distraction of pain,
- ask for help and gain attention,
- relieve guilt by self-punishment
- get others to change their negative behavior (bullying, criticism), or
- to fit in with a peer group.

Does NSSI lead to suicide? Usually not. Those who engage in NSSI are typically *suicide gesturers,* not *suicide attempters* (Nock & Kessler, 2006). Suicide gesturers engage in NSSI as a desperate but non-life-threatening form of communication or when they are feeling overwhelmed. But NSSI has been shown to be a risk factor for future suicide attempts (Wilkinson & Goodyer, 2011). If people do not get help, their nonsuicidal behavior may escalate to suicidal ideation and finally, to attempted suicide.

Figure 67.3

Rates of nonfatal self-injury in the U.S. Self-injury rates peak higher for females than for males (CDC, 2009).



To tease out the genes that put people at risk for depression, some researchers have turned to *linkage analysis.* After finding families in which the disorder appears across several generations, geneticists examine DNA from affected and unaffected family members, looking for differences. Linkage analysis points us to a chromosome neighborhood, note behavior genetics researchers Robert Plomin and Peter McGuffin (2003); "a house-to-house search is then needed to find the culprit gene." Such studies are reinforcing the view that depression is a complex condition. Many genes work together, producing a mosaic of small effects that interact with other factors to put some people at greater risk. If the culprit gene variations can be identified—with chromosome 3 genes implicated in separate British and American studies (Breen et al., 2011; Pergadia et al., 2011)—they may open the door to more effective drug therapy.

THE DEPRESSED BRAIN

Using modern technology, researchers are also gaining insight into brain activity during depressed and manic states, and into the effects of certain neurotransmitters during these states. One study gave 13 elite Canadian swimmers the wrenching experience of watching a video of the swim in which they failed to make the Olympic team or failed at the Olympic games (Davis et al., 2008). Functional MRI scans showed the disappointed swimmers experiencing brain activity patterns akin to those of patients with depressed moods.

Many studies have found diminished brain activity during slowed-down depressive states, and more activity during periods of mania (**FIGURE 67.4**). The left frontal lobe and an adjacent brain reward center are active during positive emotions, but less active during depressed states (Davidson et al., 2002; Heller et al., 2009). In one study of people with severe depression, MRI scans also found their frontal lobes 7 percent smaller than normal (Coffey et al., 1993). Other studies show that the hippocampus, the memory-processing center linked with the brain's emotional circuitry, is vulnerable to stress-related damage.

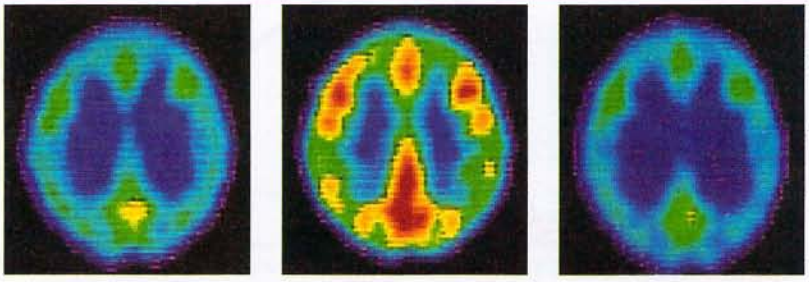
AP® Exam Tip

You can review brain scanning techniques, neurotransmitters, and brain structures in Unit III.

Bipolar disorder likewise correlates with brain structure. Neuroscientists have found structural differences, such as decreased axonal white matter or enlarged fluid-filled ventricles, in the brains of people with bipolar disorder (Kempton et al., 2008; van der Schot et al., 2009).

Neurotransmitter systems influence mood disorders. Norepinephrine, which increases arousal and boosts mood, is scarce during depression and overabundant during mania. (Drugs that alleviate mania reduce norepinephrine.) Many people with a history of depression also have a history of habitual smoking, and smoking increases one's risk for future depression (Pasco et al. 2008). This may indicate an attempt to self-medicate with inhaled nicotine, which can temporarily increase norepinephrine and boost mood (HMHL, 2002b).

Researchers are also exploring a second neurotransmitter, serotonin (Carver et al., 2008). One well-publicized study of New Zealand young adults found that the recipe for depression combined two necessary ingredients—significant life stress plus a variation on a serotonin-controlling gene (Caspi et al., 2003; Moffitt et al., 2006). Depression arose from the interaction of an adverse environment plus a genetic susceptibility, but not from either alone. But stay tuned: The story of gene-environment interactions is still being written, as other researchers debate the reliability of this result (Caspi et al., 2010; Karg et al., 2011; Munafò et al., 2009; Risch et al., 2009; Uher & McGuffin, 2010).



Depressed state (May 17) | Manic state (May 18) | Depressed state (May 27)

Courtesy of Drs. Lewis Baxter and Michael E. Phelps, UCLA School of Medicine

Figure 67.4

The ups and downs of bipolar disorder These top-facing PET scans show that brain energy consumption rises and falls with the patient's emotional switches. Areas where the brain rapidly consumes glucose are shown in red in these images.

Drugs that relieve depression tend to increase norepinephrine or serotonin supplies by blocking either their reuptake (as Prozac, Zoloft, and Paxil do with serotonin) or their chemical breakdown. Repetitive physical exercise, such as jogging, reduces depression as it increases serotonin (Ilardi, 2009; Jacobs, 1994). Boosting serotonin may promote recovery from depression by stimulating hippocampus neuron growth (Airan et al., 2007; Jacobs et al., 2000).

What's good for the heart is also good for the brain and mind. People who eat a heart-healthy "Mediterranean diet" (heavy on vegetables, fish, and olive oil) have a comparatively low risk of developing heart disease, late-life cognitive decline, and depression—all of which are associated with inflammation (Dowlati et al., 2010; Sánchez-Villegas et al., 2009; Tangney et al., 2011). Excessive alcohol use also correlates with depression—mostly because alcohol misuse leads to depression (Fergusson et al., 2009).

The Social-Cognitive Perspective

Depression is a whole-body disorder. Biological influences contribute to depression but don't fully explain it. The social-cognitive perspective explores the roles of thinking and acting.

Depressed people view life through the dark glasses of low self-esteem (Orth et al., 2009). Their intensely negative assumptions about themselves, their situation, and their future lead them to magnify bad experiences and minimize good ones. Listen to Norman, a Canadian college professor, recalling his depression:

> I [despaired] of ever being human again. I honestly felt subhuman, lower than the lowest vermin. Furthermore, I was self-deprecatory and could not understand why anyone would want to associate with me, let alone love me. . . . I was positive that I was a fraud and a phony and that I didn't deserve my Ph.D. I didn't deserve to have tenure; I didn't deserve to be a Full Professor. . . . I didn't deserve the research grants I had been awarded; I couldn't understand how I had written books and journal articles. . . . I must have conned a lot of people. (Endler, 1982, pp. 45–49)

Research reveals how *self-defeating beliefs* and a *negative explanatory style* feed depression's vicious cycle.

Michael Marsland

Susan Nolen-Hoeksema (1959–2013) "This epidemic of morbid meditation is a disease that women suffer much more than men. Women can ruminate about anything and everything—our appearance, our families, our career, our health." (*Women Who Think Too Much: How to Break Free of Overthinking and Reclaim Your Life*, 2003)

NEGATIVE THOUGHTS AND NEGATIVE MOODS INTERACT

Self-defeating beliefs may arise from *learned helplessness.* As we saw in Module 29, both dogs and humans act depressed, passive, and withdrawn after experiencing uncontrollable painful events. Learned helplessness is more common in women than in men, and women may respond more strongly to stress (Hankin & Abramson, 2001; Mazure et al., 2002; Nolen-Hoeksema, 2001, 2003). For example, 38 percent of women and 17 percent of men entering U. S. colleges and universities report feeling at least occasionally "overwhelmed by all I have to do" (Pryor et al., 2006). (Men report spending more of their time in "light anxiety" activities such as sports, TV watching, and partying, possibly avoiding activities that might make them feel overwhelmed.) This may help explain why, beginning in their early teens, women are nearly twice as vulnerable to depression. Susan Nolen-Hoeksema (2003) believed women's higher risk of depression relates to what she described as their tendency to *overthink,* to ruminate. **Rumination**—staying focused on a problem (thanks to the continuous firing of a frontal lobe area that sustains attention)—can be adaptive (Altamirano et al., 2010; Andrews & Thomson, 2009a,b). But when it is relentless, self-focused rumination diverts us from thinking about other life tasks and produces a negative emotional inertia (Kuppens et al., 2010).

rumination compulsive fretting; *overthinking* about our problems and their causes.

But why do life's unavoidable failures lead only some people to become depressed? The answer lies partly in their *explanatory style*—who or what they blame for their failures (or credit for their successes). Think of how you might feel if you failed a test. If you can externalize the blame ("What an unfair test!"), you are more likely to feel angry. If you blame yourself, you probably will feel stupid and depressed.

"I have learned to accept my mistakes by referring them to a personal history which was not of my making." -B. F. Skinner (1983)

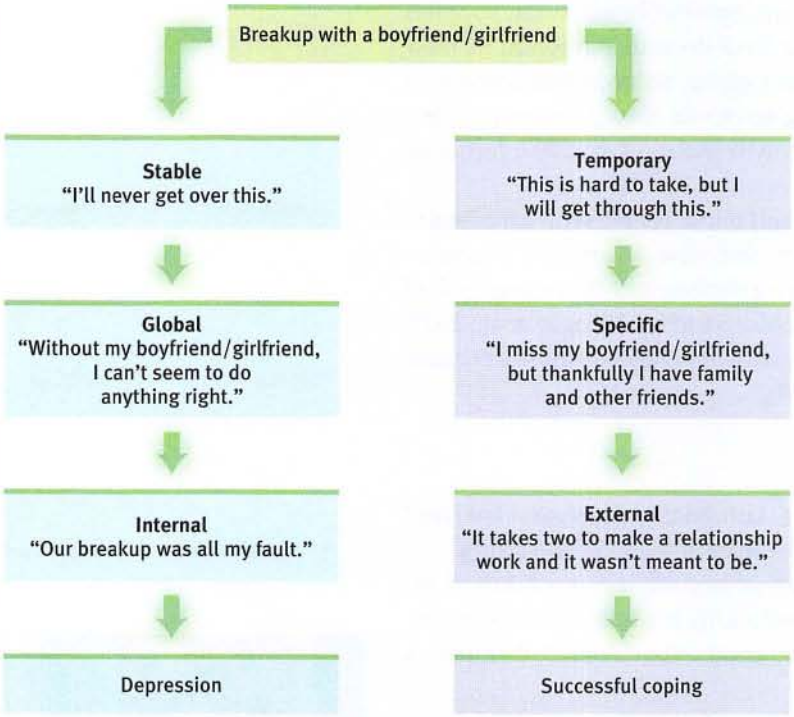


Figure 67.5
Explanatory style and depression After a negative experience, a depression-prone person may respond with a negative explanatory style.

So it is with depressed people, who tend to explain bad events in terms that are *stable* ("It's going to last forever"), *global* ("It's going to affect everything I do"), and *internal* ("It's all my fault") (**FIGURE 67.5**). Depression-prone people respond to bad events in an especially self-focused, self-blaming way (Mor & Winquist, 2002; Pyszczynski et al., 1991; Wood et al., 1990a,b). Their self-esteem fluctuates more rapidly up with boosts and down with threats (Butler et al., 1994).

The result of these pessimistic, overgeneralized, self-blaming attributions may be a depressing sense of hopelessness (Abramson et al., 1989; Panzarella et al., 2006). As Martin Seligman has noted, "A recipe for severe depression is preexisting pessimism encountering failure" (1991, p. 78). What then might we expect of new college students who are not depressed but do exhibit a pessimistic explanatory style? Lauren Alloy and her collaborators (1999) monitored Temple University and University of Wisconsin students every 6 weeks for 2.5 years. Among those identified as having a pessimistic thinking style, 17 percent had a first episode of major depression, as did only 1 percent of those who began college with an optimistic thinking style.

Seligman (1991, 1995) has contended that depression is common among young Westerners because the rise of individualism and the decline of commitment to religion and family have forced young people to take personal responsibility for failure or rejection. In non-Western cultures, where close-knit relationships and cooperation are the norm, major depression is less common and less tied to self-blame over personal failure (WHO, 2004a). In Japan, for example, depressed people instead tend to report feeling shame over letting others down (Draguns, 1990a).

PEANUTS

Might Charlie Brown be helped by an optimism-training program?

There is, however, a chicken-and-egg problem with the social-cognitive explanation of depression. Self-defeating beliefs, negative attributions, and self-blame *coincide* with a depressed mood and are *indicators* of depression. But do they *cause* depression, any more than a speedometer's reading causes a car's speed? Before or after being depressed, people's thoughts are less negative. Perhaps this is because, as we noted in our discussion of state-dependent memory (Module 32), a depressed mood triggers negative thoughts. If you temporarily put people in a bad or sad mood, their memories, judgments, and expectations suddenly become more pessimistic.

"Man never reasons so much and becomes so introspective as when he suffers, since he is anxious to get at the cause of his sufferings." -Luigi Pirandello, *Six Characters in Search of an Author*, 1922

DEPRESSION'S VICIOUS CYCLE

Depression, as we have seen, is often brought on by stressful experiences—losing a job, getting divorced or rejected, suffering physical trauma—by anything that disrupts our sense of who we are and why we are worthy human beings. This disruption in turn leads

to brooding, which amplifies negative feelings. But being withdrawn, self-focused, and complaining can by itself elicit rejection (Furr & Funder, 1998; Gotlib & Hammen, 1992). In one study, researchers Stephen Strack and James Coyne (1983) noted that "depressed persons induced hostility, depression, and anxiety in others and got rejected. Their guesses that they were not accepted were not a matter of cognitive distortion." Indeed, people in the throes of depression are at high risk for divorce, job loss, and other stressful life events. Weary of the person's fatigue, hopeless attitude, and lethargy, a spouse may threaten to leave or a boss may begin to question the person's competence. (This provides another example of genetic-environmental interaction: People genetically predisposed to depression more often experience depressing events.) The losses and stress only serve to compound the original depression. Rejection and depression feed each other. Misery may love another's company, but company does not love another's misery.

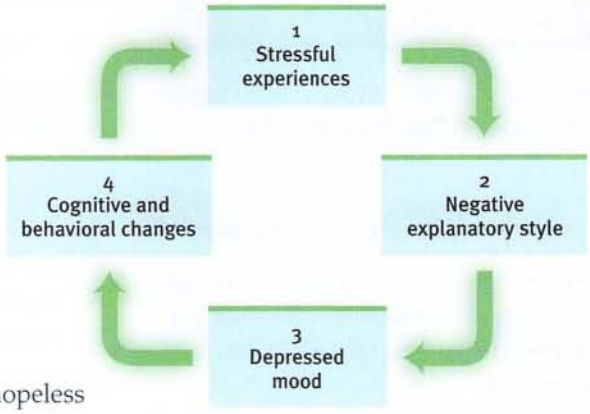


Figure 67.6
The vicious cycle of depressed thinking
Cognitive therapists attempt to break this cycle, as we will see in Module 71, by changing the way depressed people process events. Psychiatrists attempt to alter with medication the biological roots of persistently depressed moods.

"Some cause happiness wherever they go; others, whenever they go." -Irish writer Oscar Wilde (1854–1900)

We can now assemble some of the pieces of the depression puzzle (**FIGURE 67.6**): (1) Negative, stressful events interpreted through (2) a ruminating, pessimistic explanatory style create (3) a hopeless, depressed state that (4) hampers the way the person thinks and acts. This, in turn, fuels (1) negative, stressful experiences such as rejection.

None of us is immune to the dejection, diminished self-esteem, and negative thinking brought on by rejection or defeat. As Edward Hirt and his colleagues (1992) demonstrated, even small losses can temporarily sour our thinking. They studied some avid Indiana University basketball fans who seemed to regard the team as an extension of themselves. After the fans watched their team lose or win, the researchers asked them to predict the team's future performance and their own. After a loss, the morose fans offered bleaker assessments not only of the team's future but also of their own likely performance at throwing darts, solving anagrams, and getting a date. When things aren't going our way, it may seem as though they never will.

It is a cycle we can all recognize. Bad moods feed on themselves: When we *feel* down, we *think* negatively and remember bad experiences. On the brighter side, we can break the cycle of depression at any of these points—by moving to a different environment, by reversing our self-blame and negative attributions, by turning our attention outward, or by engaging in more pleasant activities and more competent behavior.

Winston Churchill called depression a "black dog" that periodically hounded him. Poet Emily Dickinson was so afraid of bursting into tears in public that she spent much of her adult life in seclusion (Patterson, 1951). As each of these lives reminds us, people can and do struggle through depression. Most regain their capacity to love, to work, and even to succeed at the highest levels.

Before You Move On

▶ ASK YOURSELF

Has your high school experience been a challenging time for you? What advice would you have for other students about to enter high school?

▶ TEST YOURSELF

What is the most common psychological disorder? What is the disorder for which people most often seek treatment?

Answers to the Test Yourself questions can be found in Appendix E at the end of the book.

Module 67 Review

67-1 What are mood disorders? How does major depressive disorder differ from bipolar disorder?

- *Mood disorders* are characterized by emotional extremes.
- A person with *major depressive disorder* experiences two or more weeks of seriously depressed moods and feelings of worthlessness, and takes little interest in, and derives little pleasure from, most activities.
- A person with the less common condition of *bipolar disorder* experiences not only depression but also *mania*—episodes of hyperactive and wildly optimistic, impulsive behavior.

67-2 How do the biological and social-cognitive perspectives explain mood disorders?

- The biological perspective on depression focuses on genetic predispositions and on abnormalities in brain structures and function (including those found in neurotransmitter systems).
- The social-cognitive perspective views depression as an ongoing cycle of stressful experiences (interpreted through negative beliefs, attributions, and memories) leading to negative moods and actions and fueling new stressful experiences.

67-3 What factors affect suicide and self-injury, and what are some of the important warning signs to watch for in suicide-prevention efforts?

- Suicide rates differ by nation, race, gender, age group, income, religious involvement, marital status, and (for gay and lesbian youth) social support structure.
- Those with depression are more at risk for suicide than others are, but social suggestion, health status, and economic and social frustration are also contributing factors.
- Environmental barriers (such as jump barriers) are effective in preventing suicides.
- Forewarnings of suicide may include verbal hints, giving away possessions, withdrawal, preoccupation with death, and discussing one's own suicide.
- Nonsuicidal self-injury (NSSI) does not usually lead to suicide but may escalate to suicidal thoughts and acts if untreated.
- People who engage in NSSI do not tolerate stress well and tend to be self-critical, with poor communication and problem-solving skills.

Multiple-Choice Questions

1. Which of the following is NOT a symptom of major depressive disorder?

a. Weight gain or loss
b. Auditory hallucinations
c. Sleep disturbance
d. Inappropriate guilt
e. Problems concentrating

2. Which of the following is true of depression?

a. Depression usually develops during middle age.
b. Depression usually happens without major cognitive or behavioral changes.
c. A major depressive episode usually gets worse and worse unless it's treated.
d. True depression is usually not related to stress in one's work or relationships.
e. Compared with men, nearly twice as many women have been diagnosed with depression.

3. Which of the following is true of suicide?

a. Marijuana use is related to suicide, but alcohol use is not.
b. Women are more likely to end their lives than men.
c. Suicide is a bigger problem among the poor than the rich.
d. In the United States, suicide is more common among Whites than Blacks.
e. Married individuals are more likely to commit suicide than single people.

4. Based on brain scans, which of the following is true of brain function and mood?

a. The brain is more active during manic episodes and less active during depressive episodes.
b. The brain is less active during manic episodes and more active during depressive episodes.
c. There is no consistent relationship between brain activity and mood.
d. The brain is more active than normal during both manic and depressive episodes.
e. The brain is less active than normal during both manic and depressive episodes.

5. Xavier, who has a negative explanatory style, is most likely to get depressed after failing a math test if he believes that he failed because

a. he is not good at math and never will be.
b. his teacher made it impossible to learn the material.
c. he was sick on the day he took the test.
d. his parents have been putting too much pressure on him and he panicked on the test.
e. the testing room was very hot and stuffy.

Practice FRQs

1. Christina became depressed after being laid off from her job. Her therapist thinks it's because she has a stable, global, and internal explanatory style. Illustrate each of these three attributes by writing a possible thought Christina might have for each one.

Answer

1 point: Stable thought (For example, "I have always had trouble holding down a job").

1 point: Global thought (For example, "Everything in my life is messed up").

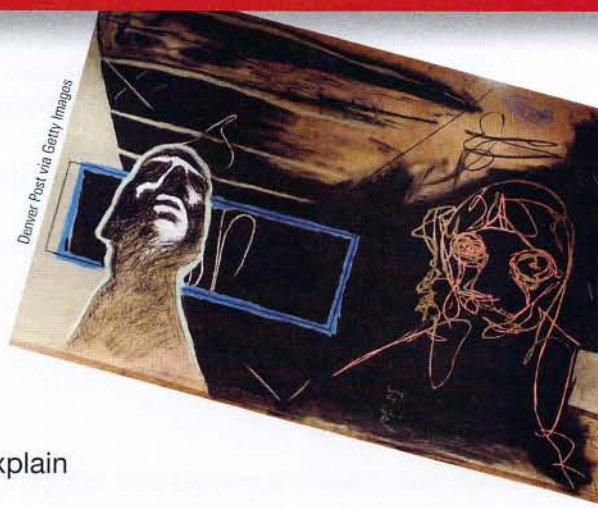
1 point: Internal thought (For example, "It's all my fault I lost this job").

2. Identify and describe the two major symptoms of bipolar disorder.

(4 points)

Module 68

Schizophrenia


Denver Post via Getty Images

Module Learning Objectives

68-1 Describe the patterns of thinking, perceiving, and feeling that characterize schizophrenia.

68-2 Contrast chronic and acute schizophrenia.

68-3 Discuss how brain abnormalities and viral infections help explain schizophrenia.

68-4 Discuss the evidence for genetic influences on schizophrenia, and describe some factors that may be early warning signs of schizophrenia in children.

schizophrenia a psychological disorder characterized by delusions, hallucinations, disorganized speech, and/or diminished or inappropriate emotional expression.

psychosis a psychological disorder in which a person loses contact with reality, experiencing irrational ideas and distorted perceptions.

delusions false beliefs, often of persecution or grandeur, that may accompany psychotic disorders.

AP® Exam Tip

It is common for the AP® exam to measure your awareness of various "media myths" about psychology. One of the most common of these myths is that schizophrenia means "split personality" or "multiple personality." Read this section carefully to achieve an accurate understanding of what schizophrenia is—and isn't.

Imagine trying to communicate with Maxine, a young woman with schizophrenia whose thoughts spill out in no logical order. Her biographer, Susan Sheehan (1982, p. 25), observed her saying aloud to no one in particular, "This morning, when I was at Hillside [Hospital], I was making a movie. I was surrounded by movie stars. . . . I'm Mary Poppins. Is this room painted blue to get me upset? My grandmother died four weeks after my eighteenth birthday."

Nearly 1 in 100 people (about 60 percent men) develop schizophrenia, with an estimated 24 million across the world suffering from this dreaded disorder (Abel et al., 2010; WHO, 2011).

Symptoms of Schizophrenia

68-1 What patterns of thinking, perceiving, and feeling characterize schizophrenia?

Literally translated, **schizophrenia** means "split mind." It refers *not* to a multiple-personality split but rather to a split from reality that shows itself in disturbed perceptions, disorganized thinking and speech, and diminished, inappropriate emotions. As such, it is the chief example of a **psychosis,** a *psychotic disorder* marked by irrationality and lost contact with reality.

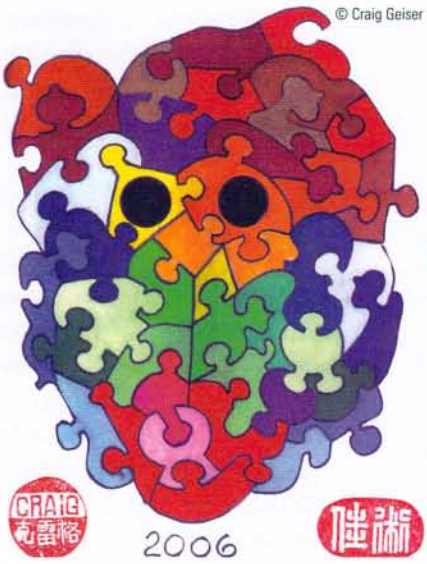
Disorganized Thinking and Disturbed Perceptions

As Maxine's strange monologue illustrates, the thinking of a person with schizophrenia is fragmented, bizarre, and often distorted by false beliefs called **delusions** ("I'm Mary Poppins"). Those with *paranoid* tendencies are particularly prone to delusions of persecution. Even within sentences, jumbled ideas may create what is called *word salad.* One young man

begged for "a little more allegro in the treatment," and suggested that "liberationary movement with a view to the widening of the horizon" will "ergo extort some wit in lectures."

A person with schizophrenia may have **hallucinations** (sensory experiences without sensory stimulation). They may see, feel, taste, or smell things that are not there. Most often, however, the hallucinations are auditory, frequently voices making insulting remarks or giving orders. The voices may tell the patient that she is bad or that she must burn herself with a cigarette lighter. Imagine your own reaction if a dream broke into your waking consciousness. When the unreal seems real, the resulting perceptions are at best bizarre, at worst terrifying.

Disorganized thoughts may result from a breakdown in *selective attention.* Recall from Module 16 that we normally have a remarkable capacity for giving our undivided attention to one set of sensory stimuli while filtering out others. Those with schizophrenia cannot do this. Thus, irrelevant, minute stimuli, such as the grooves on a brick or the inflections of a voice, may distract their attention from a bigger event or a speaker's meaning. As one former patient recalled, "What had happened to me . . . was a breakdown in the filter, and a hodge-podge of unrelated stimuli were distracting me from things which should have had my undivided attention" (MacDonald, 1960, p. 218). This selective-attention difficulty is but one of dozens of cognitive differences associated with schizophrenia (Reichenberg & Harvey, 2007).



Art by someone diagnosed with schizophrenia
Commenting on the kind of artwork shown here (from Craig Geiser's 2010 art exhibit in Michigan), poet and art critic John Ashbery wrote: "The lure of the work is strong, but so is the terror of the unanswerable riddles it proposes."

Diminished and Inappropriate Emotions

The expressed emotions of schizophrenia are often utterly inappropriate, split off from reality (Kring & Caponigro, 2010). Maxine laughed after recalling her grandmother's death. On other occasions, she cried when others laughed, or became angry for no apparent reason. Others with schizophrenia lapse into an emotionless state of *flat affect.* Most also have difficulty perceiving facial emotions and reading others' states of mind (Green & Horan, 2010; Kohler et al., 2010).

Motor behavior may also be inappropriate. Some perform senseless, compulsive acts, such as continually rocking or rubbing an arm. Others, who exhibit *catatonia,* may remain motionless for hours and then become agitated.

As you can imagine, such disorganized thinking, disturbed perceptions, and inappropriate emotions profoundly disrupt social relationships and make it difficult to hold a job. Even those with *dissociative identity disorder,* which we'll discuss later in this unit, may continue to function in everyday life, but less so those with schizophrenia. During their most severe periods, those with schizophrenia live in a private inner world, preoccupied with illogical ideas and unreal images. Given a supportive environment and medication, over 40 percent of schizophrenia patients will have periods of a year or more of normal life experience (Jobe & Harrow, 2010). Many others remain socially withdrawn and isolated or rejected throughout much of their lives (Hooley, 2010).

AP® Exam Tip

Are you clear about the difference between delusions and hallucinations? Delusions are false *thoughts.* Hallucinations are false *sensory experiences.*

"When someone asks me to explain schizophrenia I tell them, you know how sometimes in your dreams you are in them yourself and some of them feel like real nightmares? My schizophrenia was like I was walking through a dream. But everything around me was real. At times, today's world seems so boring and I wonder if I would like to step back into the schizophrenic dream, but then I remember all the scary and horrifying experiences." -Stuart Emmons, with Craig Geiser, Kalman J. Kaplan, and Martin Harrow, *Living With Schizophrenia,* 1997

hallucination false sensory experience, such as seeing something in the absence of an external visual stimulus.

Onset and Development of Schizophrenia

68-2 How do chronic and acute schizophrenia differ?

Schizophrenia typically strikes as young people are maturing into adulthood. Although it only afflicts 1 in 100 people, it knows no national boundaries, and it affects both males and females—though men tend to be struck earlier, more severely, and slightly more often (Aleman et al., 2003; Picchioni & Murray, 2007).

For some, schizophrenia will appear suddenly, seemingly as a reaction to stress. For others, as was the case with Maxine, schizophrenia develops gradually, emerging from a long history of social inadequacy and poor school performance (MacCabe et al., 2008). No wonder those predisposed to schizophrenia often end up in the lower socioeconomic levels, or even homeless.

We have thus far described schizophrenia as if it were a single disorder. Actually, it varies. Schizophrenia patients with *positive symptoms* may experience hallucinations, talk in disorganized and deluded ways, and exhibit inappropriate laughter, tears, or rage. Those with *negative symptoms* have toneless voices, expressionless faces, or mute and rigid bodies. Thus, positive symptoms are the *presence* of inappropriate behaviors, and negative symptoms are the *absence* of appropriate behaviors.

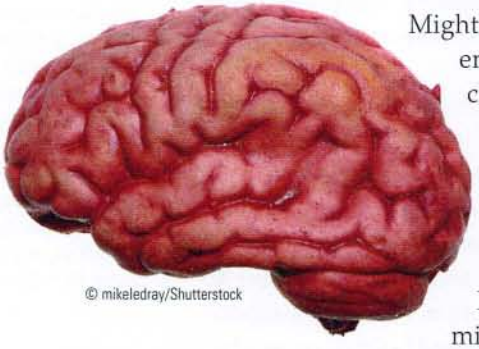
When schizophrenia is a slow-developing process (called *chronic,* or *process, schizophrenia*), recovery is doubtful (WHO, 1979). Those with chronic schizophrenia often exhibit the persistent and incapacitating negative symptom of social withdrawal (Kirkpatrick et al., 2006). Men, whose schizophrenia develops on average four years earlier than women's, more often exhibit negative symptoms and chronic schizophrenia (Räsänen et al., 2000). When previously well-adjusted people develop schizophrenia rapidly (called *acute,* or *reactive, schizophrenia*) following particular life stresses, recovery is much more likely. They more often have the positive symptoms that are responsive to drug therapy (Fenton & McGlashan, 1991, 1994; Fowles, 1992).

Understanding Schizophrenia

Schizophrenia is not only the most dreaded psychological disorder but also one of the most heavily researched. Most of the new research studies link it with brain abnormalities and genetic predispositions. Schizophrenia is a disease of the brain manifest in symptoms of the mind.

Brain Abnormalities

68-3 How do brain abnormalities and viral infections help explain schizophrenia?



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Might imbalances in brain chemistry underlie schizophrenia? Scientists have long known that strange behavior can have strange chemical causes. The saying "mad as a hatter" refers to the psychological deterioration of British hatmakers whose brains, it was later discovered, were slowly poisoned as they moistened the brims of mercury-laden felt hats with their tongue and lips (Smith, 1983). As we saw in Module 25, scientists are clarifying the mechanism by which chemicals such as LSD produce hallucinations. These discoveries hint that schizophrenia symptoms might have a biochemical key.

DOPAMINE OVERACTIVITY

Researchers discovered one such key when they examined schizophrenia patients' brains after death and found an excess of receptors for *dopamine*—a sixfold excess for the so-called D4 dopamine receptor (Seeman et al., 1993; Wong et al., 1986). They now speculate that such a hyper-responsive dopamine system may intensify brain signals in schizophrenia, creating positive symptoms such as hallucinations and paranoia (Grace, 2010). As we might therefore expect, drugs that block dopamine receptors often lessen these symptoms; drugs that increase dopamine levels, such as amphetamines and cocaine, sometimes intensify them (Seeman, 2007; Swerdlow & Koob, 1987).

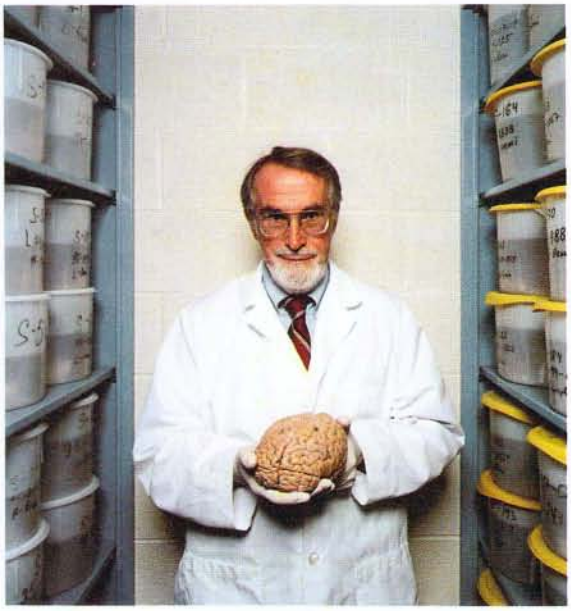
FYI

Most schizophrenia patients smoke, often heavily. Nicotine apparently stimulates certain brain receptors, which helps focus attention (Diaz et al., 2008; Javitt & Coyle, 2004).

ABNORMAL BRAIN ACTIVITY AND ANATOMY

Modern brain-scanning techniques reveal that many people with chronic schizophrenia have abnormal activity in multiple brain areas. Some have abnormally low brain activity in the frontal lobes, which are critical for reasoning, planning, and problem solving (Morey et al., 2005; Pettegrew et al., 1993; Resnick, 1992). People diagnosed with schizophrenia also display a noticeable decline in the brain waves that reflect synchronized neural firing in the frontal lobes (Spencer et al., 2004; Symond et al., 2005). Out-of-sync neurons may disrupt the integrated functioning of neural networks, possibly contributing to schizophrenia symptoms.

One study took PET scans of brain activity while people were hallucinating (Silbersweig et al., 1995). When participants heard a voice or saw something, their brain became vigorously active in several core regions, including the thalamus, a structure deep in the brain that filters incoming sensory signals and transmits them to the cortex. Another PET scan study of people with paranoia found increased activity in the amygdala, a fear-processing center (Epstein et al., 1998).



Chris Mueller/Redux

Studying the neurophysiology of schizophrenia Psychiatrist E. Fuller Torrey has collected the brains of hundreds of those who died as young adults and suffered disorders such as schizophrenia and bipolar disorder.

Many studies have found enlarged, fluid-filled areas and a corresponding shrinkage and thinning of cerebral tissue in people with schizophrenia (Goldman et al., 2009; Wright et al., 2000). Some studies have even found such abnormalities in the brains of people who would *later* develop this disorder and in their close relatives (Karlsgodt et al., 2010). The greater the brain shrinkage, the more severe the thought disorder (Collinson et al., 2003; Nelson et al., 1998; Shenton, 1992). One smaller-than-normal area is the cortex. Another is the corpus callosum connection between the two hemispheres (Arnone et al., 2008). Another is the thalamus, which may explain why people with schizophrenia have difficulty filtering sensory input and focusing attention (Andreasen et al., 1994; Ellison-Wright et al., 2008). The bottom line of various studies is that schizophrenia involves not one isolated brain abnormality but problems with several brain regions and their interconnections (Andreasen, 1997, 2001).

Naturally, scientists wonder what causes these abnormalities. Some point to mishaps during prenatal development or delivery (Fatemi & Folsom, 2009; Walker et al., 2010). Risk factors for schizophrenia include low birth weight, maternal diabetes, older paternal age, and oxygen deprivation during delivery (King et al., 2010). Famine may also increase risks. People conceived during the peak of the Dutch wartime famine later displayed a doubled rate of schizophrenia, as did those conceived during the famine that occurred from 1959 to 1961 in eastern China (St. Clair et al., 2005; Susser et al., 1996).

MATERNAL VIRUS DURING MIDPREGNANCY

Consider another possible culprit: a midpregnancy viral infection that impairs fetal brain development (Patterson, 2007). Can you imagine some ways to test this fetal-virus idea? Scientists have asked the following:

- *Are people at increased risk of schizophrenia if, during the middle of their fetal development, their country experienced a flu epidemic?* The repeated answer is *Yes* (Mednick et al., 1994; Murray et al., 1992; Wright et al., 1995).
- *Are people born in densely populated areas, where viral diseases spread more readily, at greater risk for schizophrenia?* The answer, confirmed in a study of 1.75 million Danes, is *Yes* (Jablensky, 1999; Mortensen, 1999).
- *Are those born during the winter and spring months—after the fall-winter flu season—also at increased risk?* Although the increase is small, just 5 to 8 percent, the answer is again *Yes* (Fox, 2010; Torrey et al., 1997, 2002).

- *In the Southern Hemisphere, where the seasons are the reverse of the Northern Hemisphere, are the months of above-average schizophrenia births similarly reversed?* Again, the answer is *Yes,* though somewhat less so. In Australia, for example, people born between August and October are at greater risk—*unless* they migrated from the Northern Hemisphere, in which case their risk is greater if they were born between January and March (McGrath et al., 1995, 1999).
- *Are mothers who report being sick with influenza during pregnancy more likely to bear children who develop schizophrenia?* In one study of nearly 8000 women, the answer was *Yes.* The schizophrenia risk increased from the customary 1 percent to about 2 percent—but only when infections occurred during the second trimester (Brown et al., 2000). Maternal influenza infection during pregnancy also affects brain development in monkeys (Short et al., 2010).
- *Does blood drawn from pregnant women whose offspring develop schizophrenia show higher-than-normal levels of antibodies that suggest a viral infection?* In one study of 27 women whose children later developed schizophrenia, the answer was *Yes* (Buka et al., 2001). And the answer was again *Yes* in a huge California study, which collected blood samples from some 20,000 pregnant women during the 1950s and 1960s (Brown et al., 2004). Another study found traces of a specific retrovirus (HERV) in nearly half of people with schizophrenia and virtually none in healthy people (Perron et al., 2008).

These converging lines of evidence suggest that fetal-virus infections play a contributing role in the development of schizophrenia. They also strengthen the recommendation that "women who will be more than three months pregnant during the flu season" have a flu shot (CDC, 2003).

Why might a second-trimester maternal flu bout put fetuses at risk? Is it the virus itself? The mother's immune response to it? Medications taken (Wyatt et al., 2001)? Does the infection weaken the brain's supportive glial cells, leading to reduced synaptic connections (Moises et al., 2002)? In time, answers may become available.

Genetic Factors

68-4 Are there genetic influences on schizophrenia? What factors may be early warning signs of schizophrenia in children?

Fetal-virus infections do appear to increase the odds that a child will develop schizophrenia. But this theory cannot tell us why only 2 percent of women who catch the flu during their second trimester of pregnancy bear children who develop schizophrenia. Might people also inherit a predisposition to this disorder? The evidence strongly suggests that, *Yes,* some do. The nearly 1-in-100 odds of any person's being diagnosed with schizophrenia become about 1 in 10 among those whose sibling or parent has the disorder, and close to 1 in 2 if the affected sibling is an identical twin (**FIGURE 68.1**). Although only a dozen or so such cases are on record, the co-twin of an identical twin with schizophrenia retains that 1-in-2 chance even when the twins are reared apart (Plomin et al., 1997).

Remember, though, that identical twins also share a prenatal environment. About two-thirds also share a placenta and the blood it supplies; the other one-third have two single placentas. If an identical twin has schizophrenia, the co-twin's chances of being similarly afflicted are 6 in 10 if they shared a placenta. If they had separate placentas, as do fraternal twins, the chances are only 1 in 10 (Davis et al., 1995a,b; Phelps et al., 1997). Twins who share a placenta are more likely to

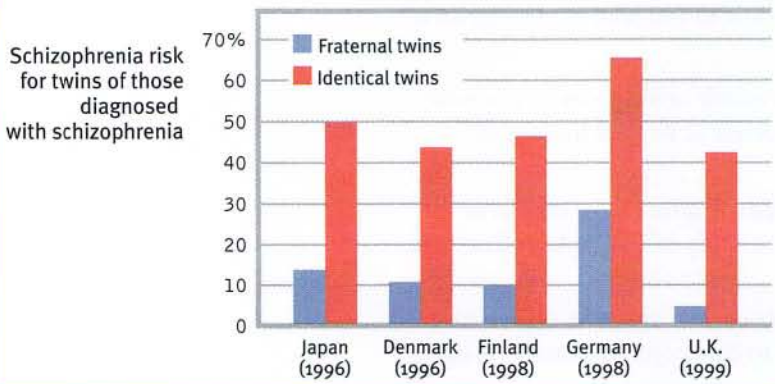


Figure 68.1
Risk of developing schizophrenia The lifetime risk of developing schizophrenia varies with one's genetic relatedness to someone having this disorder. Across countries, barely more than 1 in 10 fraternal twins, but some 5 in 10 identical twins, share a schizophrenia diagnosis. (Adapted from Gottesman, 2001.)

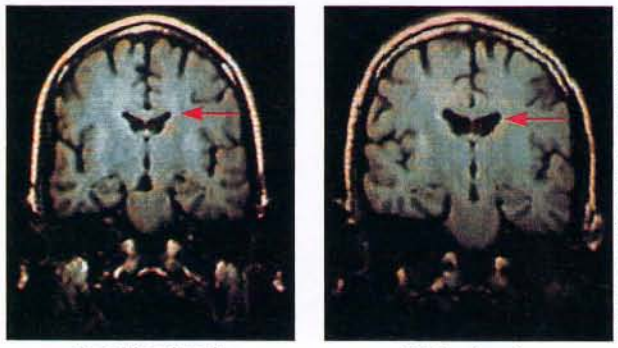
experience the same prenatal viruses. So it is possible that shared germs as well as shared genes produce identical twin similarities.

Adoption studies, however, confirm that the genetic link is real (Gottesman, 1991). Children adopted by someone who develops schizophrenia seldom "catch" the disorder. Rather, adopted children have an elevated risk if a *biological* parent is diagnosed with schizophrenia.

With the genetic factor established, researchers are now sleuthing specific genes that, in some combination, might predispose schizophrenia-inducing brain abnormalities (Levinson et al., 2011; Mitchell & Porteous, 2011; Vacic et al., 2011; Wang et al., 2010). (It is not our genes but our brains that directly control our behavior.) Some of these genes influence the effects of dopamine and other neurotransmitters in the brain. Others affect the production of *myelin,* a fatty substance that coats the axons of nerve cells and lets impulses travel at high speed through neural networks.

Although the genetic contribution to schizophrenia is beyond question, the genetic formula is not as straightforward as the inheritance of eye color. Genome studies of thousands of individuals with and without schizophrenia indicate that schizophrenia is influenced by many genes, each with very small effects (International Schizophrenia Consortium, 2009; Pogue-Geile & Yokley, 2010). Recall from Module 14 that *epigenetic* (literally "in addition to genetic") factors influence gene expression. Like hot water activating the tea bag, environmental factors such as prenatal viral infections, nutritional deprivation, and maternal stress can "turn on" the genes that predispose schizophrenia. Identical twins' differing histories in the womb and beyond explain why only one of them may show differing gene expressions (Walker et al., 2010). As we have so often seen, nature and nurture interact. Neither hand claps alone.

Schizophrenia in identical twins
When twins differ, only the one afflicted with schizophrenia typically has enlarged, fluid-filled cranial cavities (right) (Suddath et al., 1990). The difference between the twins implies some nongenetic factor, such as a virus, is also at work.



No schizophrenia **Schizophrenia**

Both photos: From Daniel Weinberger, M.D., CBDB, NIMH

Thanks to our expanding understanding of genetic and brain influences on maladies such as schizophrenia, the general public more and more attributes psychiatric disorders to biological factors (Pescosolido et al., 2010). In 2007, one privately funded new research center announced its ambitious aim: "To unambiguously diagnose patients with psychiatric disorders based on their DNA sequence in 10 years' time" (Holden, 2007). In 2010, $120 million in start-up funding launched a bold new effort to study the neuroscience and genetics of schizophrenia and other psychiatric disorders (Kaiser, 2010). So, can scientists develop genetic tests that reveal who is at risk? If so, will people in the future subject their embryos to genetic testing (and gene repair or abortion) if they are at risk for this or some other psychological or physical malady? Might they take their egg and sperm to a genetics lab for screening before combining them to produce an embryo? Or will children be tested for genetic risks and given appropriate preventive treatments? In this brave new twenty-first-century world, such questions await answers.

FYI

The odds of any four people picked at random all being diagnosed with schizophrenia are 1 in 100 million. But genetically identical sisters Nora, Iris, Myra, and Hester Genain all have the disease. Two of the sisters have more severe forms of the disorder than the others, suggesting the influence of environmental as well as biological factors.

Psychological Factors

If prenatal viruses and genetic predispositions do not, by themselves, cause schizophrenia, neither do family or social factors alone. It remains true, as Susan Nicol and Irving Gottesman (1983) noted almost three decades ago, that "no environmental causes have been discovered that will invariably, or even with moderate probability, produce schizophrenia in persons who are not related to" a person with schizophrenia.

Hoping to identify environmental triggers of schizophrenia, several investigators are following the development of "high-risk" children, such as those born to a parent with schizophrenia or exposed to prenatal risks (Freedman et al., 1998; Olin & Mednick, 1996; Susser, 1999). One study followed 163 teens and early-twenties adults who had two relatives with schizophrenia. During the 2.5-year study, the 20 percent who developed schizophrenia displayed some tendency to withdraw socially and behave oddly before the onset of

the disorder (Johnstone et al., 2005). By comparing the experiences of high-risk and low-risk children who do versus do not develop schizophrenia, researchers have so far pinpointed the following possible early warning signs:

- A mother whose schizophrenia was severe and long-lasting
- Birth complications, often involving oxygen deprivation and low birth weight
- Separation from parents
- Short attention span and poor muscle coordination
- Disruptive or withdrawn behavior
- Emotional unpredictability
- Poor peer relations and solo play

* * *

Most of us can relate more easily to the ups and downs of mood disorders than to the strange thoughts, perceptions, and behaviors of schizophrenia. Sometimes our thoughts do jump around, but in the absence of disorder we do not talk nonsensically. Occasionally we feel unjustly suspicious of someone, but we do not fear that the world is plotting against us. Often our perceptions err, but rarely do we see or hear things that are not there. We have felt regret after laughing at someone's misfortune, but we rarely giggle in response to bad news. At times we just want to be alone, but we do not live in social isolation. However, millions of people around the world do talk strangely, suffer delusions, hear nonexistent voices, see things that are not there, laugh or cry at inappropriate times, or withdraw into private imaginary worlds. The quest to solve the cruel puzzle of schizophrenia therefore continues, and more vigorously than ever.

Before You Move On

► ASK YOURSELF

Do you think the media accurately portray the behavior of people suffering from schizophrenia? Why or why not?

► TEST YOURSELF

How do researchers believe that biological and environmental factors interact in the onset of schizophrenia?

Answers to the Test Yourself questions can be found in Appendix E at the end of the book.

Module 68 Review

68-1 What patterns of thinking, perceiving, and feeling characterize schizophrenia?

- *Schizophrenia* is a disorder that typically strikes during late adolescence, affects men slightly more than women, and seems to occur in all cultures.
- Symptoms are disorganized and delusional thinking, disturbed perceptions, and diminished or inappropriate emotions.
- *Delusions* are false beliefs; *hallucinations* are sensory experiences without sensory stimulation.

68-2 How do chronic and acute schizophrenia differ?

- Schizophrenia symptoms may be positive (the presence of inappropriate behaviors) or negative (the absence of appropriate behaviors).
- In chronic (or process) schizophrenia, the disorder develops gradually and recovery is doubtful.
- In acute (or reactive) schizophrenia, the onset is sudden, in reaction to stress, and the prospects for recovery are brighter.

68-3 How do brain abnormalities and viral infections help explain schizophrenia?

- People with schizophrenia have increased dopamine receptors, which may intensify brain signals, creating positive symptoms such as hallucinations and paranoia.
- Brain abnormalities associated with schizophrenia include enlarged, fluid-filled cerebral cavities and corresponding decreases in the cortex.
- Brain scans reveal abnormal activity in the frontal lobes, thalamus, and amygdala.
- Interacting malfunctions in multiple brain regions and their connections may produce schizophrenia's symptoms.
- Possible contributing factors include viral infections or famine conditions during the mother's pregnancy and low weight or oxygen deprivation at birth.

68-4 Are there genetic influences on schizophrenia? What factors may be early warning signs of schizophrenia in children?

- Twin and adoption studies indicate that the predisposition to schizophrenia is inherited, and environmental factors influence gene expression to enable this disorder, which is found worldwide.
- No environmental causes invariably produce schizophrenia.
- Possible early warning signs of later development of schizophrenia include both biological factors (a mother with severe and long-lasting schizophrenia; oxygen deprivation and low weight at birth; short attention span and poor muscle coordination) as well as psychological factors (disruptive or withdrawn behavior; emotional unpredictability; poor peer relations and solo play).

Multiple-Choice Questions

1. Which of the following is the best term or phrase for a false belief, often of persecution, that may accompany psychotic disorders?

a. Psychosis
b. Schizophrenia
c. Delusion
d. Split mind
e. Dissociative identity disorder

2. Which of the following is true?

a. Those born during winter and spring are less likely to develop schizophrenia later in life.
b. People born in densely populated areas are less likely to develop schizophrenia later in life.
c. Fetuses exposed to flu virus are more likely to develop schizophrenia later in life.
d. Maternal influenza during pregnancy does not affect brain development in monkeys.
e. The retrovirus HERV is found more often in people who do not develop schizophrenia.

3. According to research, which of the following has been identified as an early warning sign of schizophrenia?

a. Emotional predictability
b. Poor peer relations and solo play
c. Long attention span
d. Good muscle coordination
e. High birth weight

Practice FRQs

1. Name three possible warning signs of schizophrenia.

Answer

Score 1 point for any of the following (up to 3) possibilities.

- A mother whose schizophrenia was severe and long-lasting
- Birth complications, often involving oxygen deprivation and low weight
- Separation from parents
- Short attention span and poor muscle coordination
- Disruptive or withdrawn behavior
- Emotional unpredictability
- Poor peer relations and solo play

2. Name and explain two brain abnormalities that help us understand schizophrenia.

(4 points)

Module 69

Other Disorders

Mary Evans/C20TH FOX/TWENTIETH CENTURY FOX/
Ronald Grant/Everett Collection

Module Learning Objectives

69-1 Describe somatic symptom and related disorders.

69-2 Describe dissociative disorders, and discuss why they are controversial.

69-3 Explain how anorexia nervosa, bulimia nervosa, and binge-eating disorder demonstrate the influence of psychological and genetic forces.

68-4 Contrast the three clusters of personality disorders, and describe the behaviors and brain activity that characterize the antisocial personality.

Somatic Symptom and Related Disorders

69-1 What are somatic symptom and related disorders?

Among the most common problems bringing people into doctors' offices are "medically unexplained illnesses" (Johnson, 2008). Ellen becomes dizzy and nauseated in the late afternoon—shortly before she expects her husband home. Neither her primary care physician nor the neurologist he sent her to could identify a physical cause. They suspect her symptoms have an unconscious psychological origin, possibly triggered by her mixed feelings about her husband. In a **somatic symptom disorder** such as Ellen's, the distressing symptoms take a somatic (bodily) form without apparent physical causes. One person may have a variety of complaints—vomiting, dizziness, blurred vision, difficulty in swallowing. Another may experience severe and prolonged pain.

somatic symptom disorder a psychological disorder in which the symptoms take a somatic (bodily) form without apparent physical cause. (See *conversion disorder* and *illness anxiety disorder.*)

Culture has a big effect on people's physical complaints and how they explain them (Kirmayer & Sartorius, 2007). In China, psychological explanations of anxiety and depression are socially less acceptable than in many Western countries, and people less often express the emotional aspects of distress. The Chinese appear more sensitive to—and more willing to report—the physical symptoms of their distress (Ryder et al., 2008). Mr. Wu, a 36-year-old technician in Hunan, illustrates one of China's most common psychological disorders (Spitzer & Skodol, 2000). He finds work difficult because of his insomnia, fatigue, weakness, and headaches. Chinese herbs and Western medicines provide no relief. To his Chinese clinician, who treats the bodily symptoms, he seems not so much depressed as exhausted. Similar, generalized bodily complaints have often been observed in African cultures (Binitie, 1975).

conversion disorder a disorder in which a person experiences very specific genuine physical symptoms for which no physiological basis can be found. (Also called *functional neurological symptom disorder.*)

illness anxiety disorder a disorder in which a person interprets normal physical sensations as symptoms of a disease. (Formerly called *hypochondriasis.*)

dissociative disorders disorders in which conscious awareness becomes separated (dissociated) from previous memories, thoughts, and feelings.

Even to people in the West, somatic symptoms are familiar. To a lesser extent, we have all experienced inexplicable physical symptoms under stress. It is little comfort to be told that the problem is "all in your head." Although the symptoms may be psychological in origin, they are nevertheless genuinely felt.

One rare type of disorder, more common in Freud's day than in ours, is **conversion disorder** (also known as *functional neurological symptom disorder),* so called because anxiety presumably is converted into a physical symptom. (As we noted in Module 55, Freud's effort to treat and understand psychological disorders stemmed from his puzzlement over ailments that had no physiological basis.) A patient with a conversion disorder might, for example, lose sensation in a way that makes no neurological sense. Yet the physical symptoms would be real; sticking pins in the affected area would produce no response. Other conversion disorder symptoms might be unexplained paralysis, blindness, or an inability to swallow. In each case, the person would be strangely indifferent to the problem.

As you can imagine, somatic symptom and related disorders send people not to a psychologist or psychiatrist but to a physician. This is especially true of those who experience **illness anxiety disorder** (formerly called *hypochondriasis*). In this relatively common disorder, people interpret normal sensations (a stomach cramp today, a headache tomorrow) as symptoms of a dreaded disease. Sympathy or temporary relief from everyday demands may reinforce such complaints. No amount of reassurance by any physician convinces the patient that the trivial symptoms do not reflect a serious illness. So the patient moves on to another physician, seeking and receiving more medical attention—but failing to confront the disorder's psychological root.

Before You Move On

▶ ASK YOURSELF

Can you recall (as most people can) times when you have fretted needlessly over a normal bodily sensation?

▶ TEST YOURSELF

What does *somatic* mean?

Answers to the Test Yourself questions can be found in Appendix E at the end of the book.

Dissociative Disorders

69-2 What are dissociative disorders, and why are they controversial?

Among the most bewildering disorders are the rare **dissociative disorders.** These are disorders of consciousness, in which a person appears to experience a sudden loss of memory or change in identity, often in response to an overwhelmingly stressful situation. Chris Sizemore's story, told in the book and movie *The Three Faces of Eve,* gave early visibility to what is now called *dissociative identity disorder.* One Vietnam veteran who was haunted by his comrades' deaths, and who had left his World Trade Center office shortly before the 9/11 attack, disappeared en route to work one day and was discovered six months later in a Chicago homeless shelter, reportedly with no memory of his identity or family (Stone, 2006). In such *fugue state* cases, the person's conscious awareness is said to *dissociate* (become separated) from painful memories, thoughts, and feelings. (Note that this explanation presumes the existence of repressed memories, which, as we noted in Modules 33 and 56, have been questioned by memory researchers.)

Dissociation itself is not so rare. Now and then, many people may have a sense of being unreal, of being separated from their body, of watching themselves as if in a movie.

Sometimes we may say, "I was not myself at the time." Perhaps you can recall getting up to go somewhere and ending up at some unintended location while your mind was preoccupied elsewhere. Or perhaps you can play a well-practiced tune on a guitar or piano while talking to someone. Facing trauma, dissociative detachment may actually protect a person from being overwhelmed by emotion.


AP/Wide World Photos

The "Hillside Strangler" Kenneth Bianchi is shown here at his trial.

Dissociative Identity Disorder

A massive dissociation of self from ordinary consciousness characterizes those with **dissociative identity disorder (DID),** in which two or more distinct identities are said to alternately control the person's behavior. Each personality has its own voice and mannerisms. Thus the person may be prim and proper one moment, loud and flirtatious the next. Typically, the original personality denies any awareness of the other(s).

People diagnosed with DID (formerly called *multiple personality disorder*) are usually not violent, but cases have been reported of dissociations into a "good" and a "bad" (or aggressive) personality—a modest version of the Dr. Jekyll/Mr. Hyde split immortalized in Robert Louis Stevenson's story. One unusual case involved Kenneth Bianchi, accused in the "Hillside Strangler" rapes and murders of 10 California women. During a hypnosis session with Bianchi, psychologist John Watkins (1984) "called forth" a hidden personality: "I've talked a bit to Ken, but I think that perhaps there might be another part of Ken that . . . maybe feels somewhat differently from the part that I've talked to. . . . Would you talk with me, Part, by saying, 'I'm here'?" Bianchi answered "Yes" and then claimed to be "Steve."

Speaking as Steve, Bianchi stated that he hated Ken because Ken was nice and that he (Steve), aided by a cousin, had murdered women. He also claimed Ken knew nothing about Steve's existence and was innocent of the murders. Was Bianchi's second personality a ruse, simply a way of disavowing responsibility for his actions? Indeed, Bianchi—a practiced liar who had read about multiple personality in psychology books—was later convicted.

dissociative identity disorder (DID) a rare dissociative disorder in which a person exhibits two or more distinct and alternating personalities. Formerly called *multiple personality disorder.*

Understanding Dissociative Identity Disorder

Skeptics question whether DID is a genuine disorder or an extension of our normal capacity for personality shifts. Nicholas Spanos (1986, 1994, 1996) asked college students to pretend they were accused murderers being examined by a psychiatrist. Given the same hypnotic treatment Bianchi received, most spontaneously expressed a second personality. This discovery made Spanos wonder: Are dissociative identities simply a more extreme version of our capacity to vary the "selves" we present—as when we display a goofy, loud self while hanging out with friends, and a subdued, respectful self around grandparents? Are clinicians who discover multiple personalities merely triggering role-playing by fantasy-prone people? Do these patients, like actors who commonly report "losing themselves" in their roles, then convince themselves of the authenticity of their own role enactments? Spanos was no stranger to this line of thinking. In a related research area, he had also raised these questions about the hypnotic state. Given that most DID patients are highly hypnotizable, whatever explains one condition—dissociation or role playing—may help explain the other.

"Pretense may become reality."
-CHINESE PROVERB

Skeptics also find it suspicious that the disorder is so localized in time and space. Between 1930 and 1960, the number of DID diagnoses in North America was 2 per decade. In the 1980s, when the DSM contained the first formal code for this disorder, the number of reported cases had exploded to more than 20,000 (McHugh, 1995a). The average number of displayed personalities also mushroomed—from 3 to 12 per patient (Goff & Simms, 1993). Outside North America, the disorder is much less prevalent, although in other cultures some people are said to be "possessed" by an alien spirit (Aldridge-Morris, 1989; Kluft, 1991). In Britain, DID—which some have considered "a wacky American fad" (Cohen, 1995)—is rare. In India and Japan, it is essentially nonexistent (or at least unreported).

"Would it be possible to speak with the personality that pays the bills?"

Such findings, skeptics say, point to a cultural phenomenon—a disorder created by therapists in a particular social context (Merskey, 1992). Rather than being provoked by trauma, dissociative symptoms tend to be exhibited by suggestible, fantasy-prone people (Giesbrecht et al., 2008, 2010). Patients do not enter therapy saying "Allow me to introduce myselves." Rather, note these skeptics, some therapists go fishing for multiple personalities: "Have you ever felt like another part of you does things you can't control? Does this part of you have a name? Can I talk to the angry part of you?" Once patients permit a therapist to talk, by name, "to the part of you that says those angry things," they begin acting out the fantasy. Like actors who lose themselves in their roles, vulnerable patients may "become" the parts they are acting out. The result may be the experience of another self.

Other researchers and clinicians believe DID is a real disorder. They find support for this view in the distinct brain and body states associated with differing personalities (Putnam, 1991). Handedness, for example, sometimes switches with personality (Henninger, 1992). Ophthalmologists have detected shifting visual acuity and eye-muscle balance as patients switched personalities, changes that did not occur among control group members trying to simulate DID (Miller et al., 1991). Dissociative disorder patients also have exhibited heightened activity in brain areas associated with the control and inhibition of traumatic memories (Elzinga et al., 2007).

"Though this be madness, yet there is method in 't." -William Shakespeare, *Hamlet*, 1600

Researchers and clinicians have interpreted DID symptoms from psychodynamic and learning perspectives. Both views agree that the symptoms are ways of dealing with anxiety. Psychodynamic theorists see them as defenses against the anxiety caused by the eruption of unacceptable impulses; a wanton second personality enables the discharge of forbidden impulses. Learning theorists see dissociative disorders as behaviors reinforced by anxiety reduction.

Other clinicians include dissociative disorders under the umbrella of posttraumatic stress disorder—a natural, protective response to "histories of childhood trauma" (Putnam, 1995; Spiegel, 2008). Many DID patients recall suffering physical, sexual, or emotional abuse as children (Gleaves, 1996; Lilienfeld et al., 1999). In one study of 12 murderers diagnosed with DID, 11 had suffered severe, torturous child abuse (Lewis et al., 1997). One was set afire by his parents. Another was used in child pornography and was scarred from being made to sit on a stove burner. Some critics wonder, however, whether vivid imagination or therapist suggestion contributes to such recollections (Kihlstrom, 2005).

So the debate continues. On one side are those who believe multiple personalities are the desperate efforts of the traumatized to detach from a horrific existence. On the other are the skeptics who think DID is a condition contrived by fantasy-prone, emotionally vulnerable people, and constructed out of the therapist-patient interaction. If the skeptics' view wins, predicted psychiatrist Paul McHugh (1995b), "this epidemic will end in the way that the witch craze ended in Salem. The [multiple personality phenomenon] will be seen as manufactured."

Before You Move On

▶ ASK YOURSELF

In a more normal way, do you ever flip between displays of different aspects of your personality?

▶ TEST YOURSELF

The psychodynamic and learning perspectives agree that dissociative identity disorder symptoms are ways of dealing with anxiety. How do their explanations differ?

Answers to the Test Yourself questions can be found in Appendix E at the end of the book.

Eating Disorders

69-3 How do anorexia nervosa, bulimia nervosa, and binge-eating disorder demonstrate the influence of psychological and genetic forces?

Our bodies are naturally disposed to maintain a steady weight, including stored energy reserves for times when food becomes unavailable. Yet sometimes psychological influences overwhelm biological wisdom. This becomes painfully clear in three eating disorders.

- **Anorexia nervosa** typically begins as a weight-loss diet. People with anorexia—usually adolescents and 9 times out of 10 females—drop significantly below normal weight. Yet they feel fat, fear being fat, and remain obsessed with losing weight, and sometimes exercise excessively. About half of those with anorexia display a binge-purge-depression cycle.
- **Bulimia nervosa** may also be triggered by a weight-loss diet, broken by gorging on forbidden foods. Binge-purge eaters—mostly women in their late teens or early twenties—eat in spurts, sometimes influenced by friends who are bingeing (Crandall, 1988). In a cycle of repeating episodes, overeating is followed by compensatory purging (through vomiting or laxative use), fasting, or excessive exercise (Wonderlich et al., 2007). Preoccupied with food (craving sweet and high-fat foods), and fearful of becoming overweight, binge-purge eaters experience bouts of depression and anxiety during and following binges (Hinz & Williamson, 1987; Johnson et al., 2002). Unlike anorexia, bulimia is marked by weight fluctuations within or above normal ranges, making the condition easy to hide.
- Those who do significant binge eating, followed by remorse—but do not purge, fast, or exercise excessively—are said to have **binge-eating disorder.**

A national study funded by the U.S. National Institute of Mental Health reported that, at some point during their lifetime, 0.6 percent of people meet the criteria for anorexia, 1 percent for bulimia, and 2.8 percent for binge-eating disorder (Hudson et al., 2007). So, how can we explain these disorders?

Eating disorders do *not* provide (as some have speculated) a telltale sign of childhood sexual abuse (Smolak & Murnen, 2002; Stice, 2002). The family environment may provide a fertile ground for the growth of eating disorders in other ways, however.

- Mothers of girls with eating disorders tend to focus on their own weight and on their daughters' weight and appearance (Pike & Rodin, 1991).
- Families of bulimia patients have a higher-than-usual incidence of childhood obesity and negative self-evaluation (Jacobi et al., 2004).
- Families of anorexia patients tend to be competitive, high-achieving, and protective (Pate et al., 1992; Yates, 1989, 1990).

Those with eating disorders often have low self-evaluations, set perfectionist standards, fret about falling short of expectations, and are intensely concerned with how others perceive them (Pieters et al., 2007; Polivy & Herman, 2002; Sherry & Hall, 2009). Some of these factors also predict teen boys' pursuit of unrealistic muscularity (Ricciardelli & McCabe, 2004).

Genetics also influence susceptibility to eating disorders. Twins are more likely to share the disorder if they are identical rather than fraternal (Culbert et al., 2009; Klump et al., 2009; Root et al., 2010). Scientists are now searching for culprit genes, which may influence the body's available serotonin and estrogen (Klump & Culbert, 2007).

But these disorders also have cultural and gender components. Ideal shapes vary across culture and time. In impoverished areas of the world, including much of Africa—where plumpness means prosperity and thinness can signal poverty or illness—bigger

Jeff Kravitz/FilmMagic for MTV/Getty Images

Dying to be thin Anorexia was identified and named in the 1870s, when it appeared among affluent adolescent girls (Brumberg, 2000). Many modern-day celebrities, including Lady Gaga, have struggled publicly with eating disorders.

anorexia nervosa an eating disorder in which a person (usually an adolescent female) maintains a starvation diet despite being significantly (15 percent or more) underweight.

bulimia nervosa an eating disorder in which a person alternates binge eating (usually of high-calorie foods) with purging (by vomiting or laxative use), excessive exercise, or fasting.

binge-eating disorder significant binge-eating episodes, followed by distress, disgust, or guilt, but without the compensatory purging or fasting that marks bulimia nervosa.

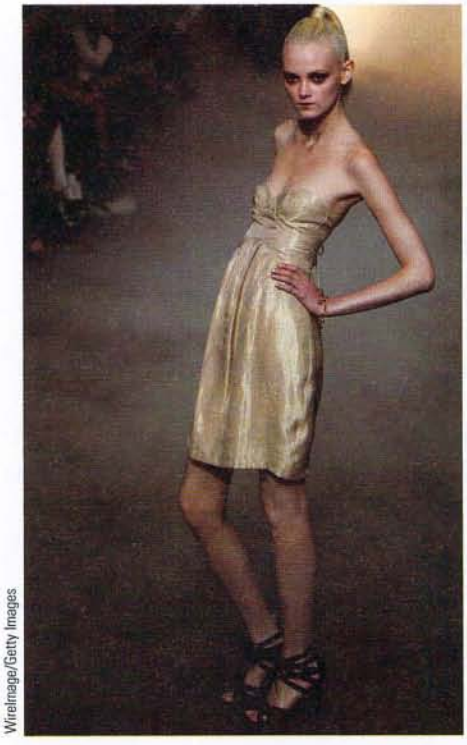
"Gee, I had no idea you were married to a supermodel."

seems better (Knickmeyer, 2001; Swami et al., 2010). Bigger does not seem better in Western cultures, where, according to 222 studies of 141,000 people, the rise in eating disorders over the last 50 years has coincided with a dramatic increase in women having a poor body image (Feingold & Mazzella, 1998).

Those most vulnerable to eating disorders are also those (usually women or gay men) who most idealize thinness and have the greatest body dissatisfaction (Feldman & Meyer, 2010; Kane, 2010; Stice et al., 2010). Should it surprise us, then, that when women view real and doctored images of unnaturally thin models and celebrities, they often feel ashamed, depressed, and dissatisfied with their own bodies—the very attitudes that predispose eating disorders (Grabe et al., 2008; Myers & Crowther, 2009; Tiggemann & Miller, 2010)? Researchers tested this modeling idea by giving some adolescent girls (but not others) a 15-month subscription to an American teen-fashion magazine (Stice et al., 2001). Compared with their counterparts who had not received the magazine, vulnerable girls—defined as those who were already dissatisfied, idealizing thinness, and lacking social support—exhibited increased body dissatisfaction and eating disorder tendencies. But even ultra-thin models do not reflect the impossible standard of the classic Barbie doll, who had, when adjusted to a height of 5 feet 7 inches, a 32–16–29 figure (in centimeters, 82–41–73) (Norton et al., 1996).

It seems clear that the sickness of today's eating disorders lies in part within our weight-obsessed culture—a culture that says, in countless ways, "Fat is bad," that motivates millions of women to be "always dieting," and that encourages eating binges by pressuring women to live in a constant state of semistarvation. If cultural learning contributes to eating behavior, then might prevention programs increase acceptance of one's body? Reviews of prevention studies answer *Yes,* and especially if the programs are interactive and focused on girls over age 15 (Stice et al., 2007; Vocks et al., 2010).

"Skeletons on Parade" A newspaper article used this headline in criticizing the display of superthin models. Do such models make self-starvation fashionable?



WireImage/Getty Images

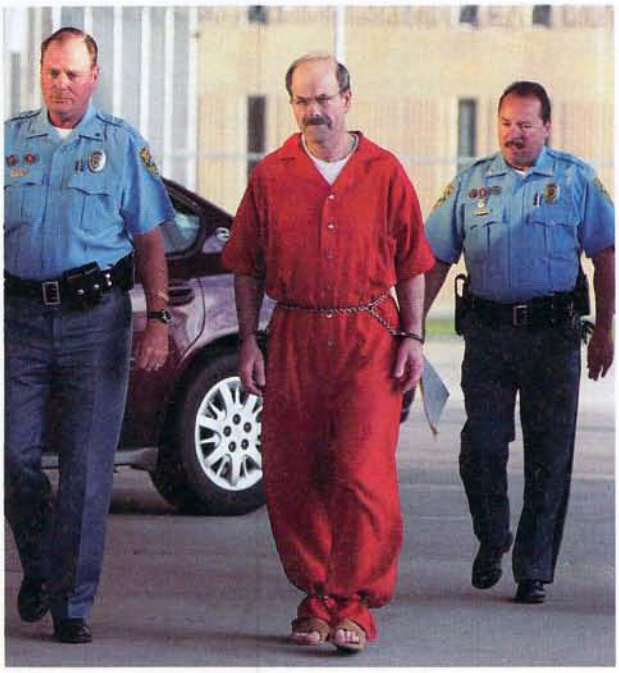
"Why do women have such low self-esteem? There are many complex psychological and societal reasons, by which I mean Barbie." -Dave Barry, 1999

Personality Disorders

69-4 What are the three clusters of personality disorders? What behaviors and brain activity characterize the antisocial personality?

Some dysfunctional behavior patterns impair people's social functioning without depression or delusions. Among them are **personality disorders**—disruptive, inflexible, and enduring behavior patterns that impair one's social functioning. Anxiety is a feature of one cluster of these disorders, such as a fearful sensitivity to rejection that predisposes the withdrawn *avoidant personality disorder.* A second cluster expresses eccentric or odd behaviors, such as the emotionless disengagement of the *schizoid personality disorder.* A third cluster exhibits dramatic or impulsive behaviors, such as the attention-getting *histrionic personality disorder* and the self-focused and self-inflating *narcissistic personality disorder.*

personality disorders psychological disorders characterized by inflexible and enduring behavior patterns that impair social functioning.



EPA/JEFF TUTTLE/Landov

No remorse Dennis Rader, known as the "BTK killer" in Kansas, was convicted in 2005 of killing 10 people over a 30-year span. Rader exhibited the extreme lack of conscience that marks antisocial personality disorder.

AP® Exam Tip

Notice how different antisocial personality disorder is from the other disorders you have studied in this unit. Because individuals with antisocial personality disorder so often behave badly, they tend to be viewed differently from people with disorders such as depression or phobia.

Antisocial Personality Disorder

The most troubling and heavily researched personality disorder is the **antisocial personality disorder.** The person (sometimes called a *sociopath* or a *psychopath*) is typically a male whose lack of conscience becomes plain before age 15, as he begins to lie, steal, fight, or display unrestrained sexual behavior (Cale & Lilienfeld, 2002). About half of such children become antisocial adults—unable to keep a job, irresponsible as a spouse and parent, and assaultive or otherwise criminal (Farrington, 1991). When the antisocial personality combines a keen intelligence with amorality, the result may be a charming and clever con artist, a ruthless corporate executive (*Snakes in Suits* is a book on antisocial behavior in business)—or worse.

"Thursday is out. I have jury duty."

Many criminals, like this one, exhibit a sense of conscience and responsibility in other areas of their life, and thus do not exhibit antisocial personality disorder.

Despite their remorseless and sometimes criminal behavior, criminality is not an essential component of antisocial behavior (Skeem & Cooke, 2010). Moreover, many criminals do not fit the description of antisocial personality disorder. Why? Because they actually show responsible concern for their friends and family members.

Antisocial personalities behave impulsively, and then feel and fear little (Fowles & Dindo, 2009). The results sometimes are horrifying, as they were in the case of Henry Lee Lucas. He killed his first victim when he was 13. He felt little regret then or later. He confessed that, during his 32 years of crime, he had brutally beaten, suffocated, stabbed, shot, or mutilated some 360 women, men, and children. For the last 6 years of his reign of terror, Lucas teamed with Elwood Toole, who reportedly slaughtered about 50 people he "didn't think was worth living anyhow" (Darrach & Norris, 1984).

Understanding Antisocial Personality Disorder

Antisocial personality disorder is woven of both biological and psychological strands. No single gene codes for a complex behavior such as crime, but twin and adoption studies reveal that biological relatives of those with antisocial and unemotional tendencies are at increased risk for antisocial behavior (Larsson et al., 2007; Livesley & Jang, 2008). Molecular geneticists have identified some specific genes that are more common in those with antisocial personality disorder (Gunter et al., 2010). The genetic vulnerability of people

antisocial personality disorder
a personality disorder in which a person (usually a man) exhibits a lack of conscience for wrongdoing, even toward friends and family members. May be aggressive and ruthless or a clever con artist.

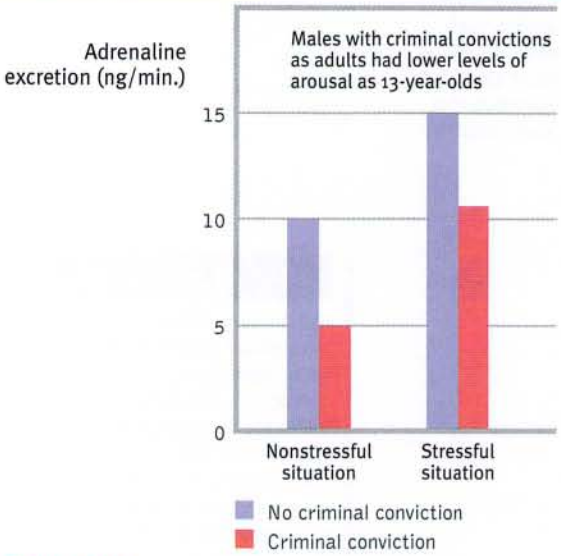


Figure 69.1

Cold-blooded arousability and risk of crime Levels of the stress hormone adrenaline were measured in two groups of 13-year-old Swedish boys. In both stressful and nonstressful situations, those who would later be convicted of a crime as 18- to 26-year-olds showed relatively low arousal. (From Magnusson, 1990.)

with antisocial and unemotional tendencies appears as a fearless approach to life. Awaiting aversive events, such as electric shocks or loud noises, they show little autonomic nervous system arousal (Hare, 1975; van Goozen et al., 2007). Long-term studies have shown that their levels of stress hormones were lower than average when they were youngsters, before committing any crime (**FIGURE 69.1**). Three-year-olds who are slow to develop conditioned fears are later more likely to commit a crime (Gao et al., 2010).

Other studies have found that preschool boys who later became aggressive or antisocial adolescents tended to be impulsive, uninhibited, unconcerned with social rewards, and low in anxiety (Caspi et al., 1996; Tremblay et al., 1994). If channeled in more productive directions, such fearlessness may lead to courageous heroism, adventurism, or star-level athleticism (Poulton & Milne, 2002). Lacking a sense of social responsibility, the same disposition may produce a cool con artist or killer (Lykken, 1995). The genes that put people at risk for antisocial behavior also put people at risk for substance use disorders, which helps explain why these disorders often appear in combination (Dick, 2007).

Genetic influences, often in combination with child abuse, help wire the brain (Dodge, 2009). Adrian Raine (1999, 2005) compared PET scans of 41 murderers' brains with those from people of similar age and sex. Raine found reduced activity in the murderers' frontal lobes, an area of the cortex that helps control impulses (**FIGURE 69.2**). This reduction was especially apparent in those who murdered impulsively. In a follow-up study, Raine and his team (2000) found that violent repeat offenders had 11 percent less frontal lobe tissue than normal. This helps explain why people with antisocial personality disorder exhibit marked deficits in frontal lobe cognitive functions, such as planning, organization, and inhibition (Morgan & Lilienfeld, 2000). Compared with people who feel and display empathy, their brains also respond less to facial displays of others' distress (Deeley et al., 2006).

A biologically based fearlessness, as well as early environment, helps explain the reunion of long-separated sisters Joyce Lott, 27, and Mary Jones, 29—in a South Carolina prison where both were sent on drug charges. After a newspaper story about their reunion, their long-lost half-brother Frank Strickland called. He explained it would be a while before he could come see them—because he, too, was in jail, on drug, burglary, and larceny charges (Shepherd et al., 1990).

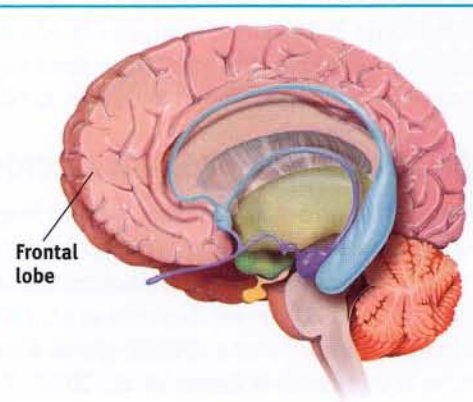
Genetics alone is hardly the whole story of antisocial crime, however. A study of criminal tendencies among young Danish men illustrates the usefulness of a complete biopsychosocial approach. Another Adrian Raine-led study (1996) checked criminal records on nearly 400 men at ages 20 to 22, knowing that these men either had experienced biological risk factors at birth (such as premature birth) or came from family backgrounds marked by

FYI

Does a full Moon trigger "madness" in some people? James Rotton and I. W. Kelly (1985) examined data from 37 studies that related lunar phase to crime, homicides, crisis calls, and mental hospital admissions. Their conclusion: There is virtually no evidence of "Moon madness." Nor does lunar phase correlate with suicides, assaults, emergency room visits, or traffic disasters (Martin et al., 1992; Raison et al., 1999).

Figure 69.2

Murderous minds Researchers have found reduced activation in a murderer's frontal lobes. This brain area (shown in a left-facing brain) helps brake impulsive, aggressive behavior (Raine, 1999).



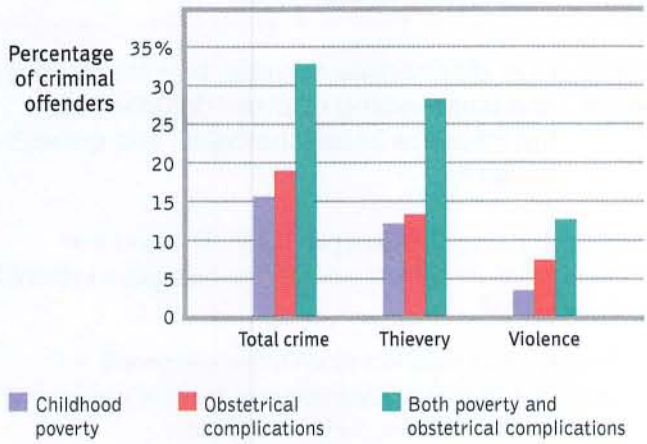


Figure 69.3

Biopsychosocial roots of crime Danish male babies whose backgrounds were marked both by obstetrical complications and social stresses associated with poverty were twice as likely to be criminal offenders by ages 20 to 22 as those in either the biological or social risk groups. (From Raine et al., 1996.)

poverty and family instability. The researchers then compared each of these two groups with a third *biosocial* group whose lives were marked by *both* the biological and social risk factors. The biosocial group had double the risk of committing a crime (**FIGURE 69.3**). Similar findings emerged from a famous study that followed 1037 children for a quarter-century: Two combined factors—childhood maltreatment and a gene that altered neurotransmitter balance—predicted antisocial problems (Caspi et al., 2002). Neither "bad" genes alone nor a "bad" environment alone predisposed later antisocial behavior. Rather, genes predisposed some children to be more sensitive to maltreatment. Within "genetically vulnerable segments of the population," environmental influences matter—for better or for worse (Belsky et al., 2007; Moffitt, 2005).

With antisocial behavior, as with so much else, nature and nurture interact and together leave their marks on the brain. To explore the neural basis of antisocial behavior, neuroscientists are identifying brain activity differences in criminals who display antisocial personality disorder. Shown emotionally evocative photographs, such as a man holding a knife to a woman's throat, they display lower heart rate and perspiration responses, and less activity in brain areas that typically respond to emotional stimuli (Harenski et al., 2010; Kiehl & Buckholtz, 2010). They also display a hyper-reactive dopamine reward system that predisposes their impulsive drive to do something rewarding, despite the consequences (Buckholtz et al., 2010). Such data provide another reminder: Everything psychological is also biological.

Before You Move On

▶ ASK YOURSELF

Given what we have learned in earlier units about the powers and limits of parental influence, how much do you think parental training might affect the risk of a child's developing antisocial personality disorder?

▶ TEST YOURSELF

What contribution do genes make to the development of antisocial personality disorder?

Answers to the Test Yourself questions can be found in Appendix E at the end of the book.

Module 69 Review

69-1 What are somatic symptom and related disorders?

- *Somatic symptom disorder* presents a somatic (bodily) symptom—some physiologically unexplained but genuinely felt ailment.
- With *conversion disorder* (also called functional neurological symptom disorder), anxiety appears converted to a physical symptom that has no reasonable neurological basis.
- The more common *illness anxiety disorder* is the interpretation of normal sensations as a dreaded disorder.

69-2 What are dissociative disorders, and why are they controversial?

- *Dissociative disorders* are conditions in which conscious awareness seems to become separated from previous memories, thoughts, and feelings.
- Skeptics note that *dissociative identity disorder,* formerly known as multiple personality disorder, increased dramatically in the late twentieth century, that it is rarely found outside North America, and that it may reflect role-playing by people who are vulnerable to therapists' suggestions. Others view this disorder as a manifestation of feelings of anxiety, or as a response learned when behaviors are reinforced by anxiety-reduction.

69-3 How do anorexia nervosa, bulimia nervosa, and binge-eating disorder demonstrate the influence of psychological and genetic forces?

- In these eating disorders, psychological factors may overwhelm the homeostatic drive to maintain a balanced internal state.
- Despite being significantly underweight, people with *anorexia nervosa* (usually adolescent females) continue to diet because they view themselves as fat.
- Those with *bulimia nervosa* (usually females in their teens and twenties) secretly binge and then compensate by purging, fasting, or excessively exercising.
- Those with *binge-eating disorder* binge but do not follow bingeing with purging, fasting, or exercise.
- Cultural pressures, low self-esteem, and negative emotions interact with stressful life experiences and genetics to produce eating disorders.

69-4 What are the three clusters of personality disorders? What behaviors and brain activity characterize the antisocial personality?

- *Personality disorders* are disruptive, inflexible, and enduring behavior patterns that impair social functioning.
- These disorders form clusters, based on three main characteristics: (1) anxiety; (2) eccentric or odd behaviors; and (3) dramatic or impulsive behaviors.
- *Antisocial personality disorder* is characterized by a lack of conscience and, sometimes, by aggressive and fearless behavior. Genetic predispositions may interact with the environment to produce the altered brain activity associated with antisocial personality disorder.

Multiple-Choice Questions

1. Adela regularly interprets ordinary physical symptoms like stomach cramps and headaches as serious medical problems. Her doctor is unable to convince her that her problems are not serious. Adela suffers from

a. illness anxiety disorder.
b. conversion disorder.
c. fugue state.
d. dissociative identity disorder.
e. anorexia nervosa.

2. Which of the following is the diagnosis given to people with multiple personalities?

a. Schizophrenia
b. Antisocial personality disorder
c. Fugue state
d. Conversion disorder
e. Dissociative identity disorder

3. Which of the following is the defining characteristic of antisocial personality disorder?

a. Violence
b. Lack of conscience
c. Mood swings
d. Unexplained physical symptoms
e. Committing serial murders

Practice FRQs

1. Name and briefly describe three eating disorders.

Answer

1 point: Anorexia nervosa is a disorder in which the individuals starve themselves despite being significantly underweight.

1 point: Bulimia nervosa is a disorder in which the individual alternates between bingeing and purging.

1 point: Binge-eating disorder is a disorder in which the individual binges without purging.

2. Dissociative identity disorder (DID) is among the most controversial of all psychological disorders. Briefly describe the disorder. Then, provide one piece of evidence that supports the existence of the disorder and one piece of evidence that would indicate the disorder might not be genuine.

(3 points)

Unit XII Review

Key Terms and Concepts to Remember

psychological disorder, p. 651
attention-deficit/hyperactivity disorder (ADHD), p. 652
medical model, p. 653
DSM-5, p. 654
anxiety disorders, p. 661
generalized anxiety disorder, p. 662
panic disorder, p. 662
phobia, p. 662
social anxiety disorder, p. 662
agoraphobia, p. 663
obsessive-compulsive disorder (OCD), p. 663
posttraumatic stress disorder (PTSD), p. 664
posttraumatic growth, p. 665
mood disorders, p. 671
major depressive disorder, p. 672
mania, p. 673
bipolar disorder, p. 673
rumination, p. 679
schizophrenia, p. 684
psychosis, p. 684
delusions, p. 684
hallucination, p. 685
somatic symptom disorder, p. 693
conversion disorder, p. 694
illness anxiety disorder, p. 694
dissociative disorders, p. 694
dissociative identity disorder (DID), p. 695
anorexia nervosa, p. 697
bulimia nervosa, p. 697
binge-eating disorder, p. 697
personality disorders, p. 698
antisocial personality disorder, p. 699

AP® Exam Practice Questions

Multiple-Choice Questions

1. Which of the following statements is *false?*

a. Many behavioral and cognitive changes accompany depression.
b. Someone suffering from depression will get better only with therapy or medication.
c. Compared with men, women are nearly twice as vulnerable to major depression.
d. Stressful events related to work, marriage, and close relationships often precede depression.
e. With each new generation, depression is striking earlier and affecting more people.

2. The risk of major depression and bipolar disorder dramatically increases if you

a. have suffered a debilitating injury.
b. have an adoptive parent that has the disorder.
c. have a parent or sibling with the disorder.
d. have a life-threatening illness.
e. have above-average intelligence.

3. What do mental health professionals call a clinically significant disturbance in an individual's cognition, emotion regulation, or behavior?

a. An interaction of nature and nurture
b. A physiological state
c. A genetic predisposition
d. A psychological factor
e. A psychological disorder

4. Adolescent mood swings might be misdiagnosed as which psychological disorder?

a. Schizophrenia
b. Temper tantrums
c. Oppositional defiant disorder
d. Bipolar disorder
e. ADHD

5. A split from reality that shows itself in disorganized thinking, disturbed perceptions, and/or diminished or inappropriate emotions is associated with which psychological disorder?

a. Schizophrenia
b. Phobias
c. Depression
d. Bipolar disorder
e. Anxiety

6. The nearly 1-in-100 odds of any person being diagnosed with schizophrenia become about 1 in 10 among those

a. who also suffer anxiety disorder.
b. whose sibling or parent has the disorder.
c. who have been diagnosed with depression.
d. who live with someone diagnosed with schizophrenia.
e. whose identical twin has schizophrenia.

7. Which of the following can be characterized as a compulsion?

a. Worry about exposure to germs or toxins
b. Fear that something terrible is about to happen
c. Concern with making sure things are in symmetrical order
d. Anxiety when objects are not lined up in an exact pattern
e. Checking repeatedly to see if doors are locked

8. Sensory experiences without sensory stimulation are called

a. word salads.
b. delusions.
c. paranoid thoughts.
d. ruminations.
e. hallucinations.

9. What is the most common reason people seek mental health services?

a. Depression
b. Bipolar disorder
c. Posttraumatic stress disorder
d. Dissociative identity disorder
e. Illness anxiety disorder

10. Brain-scanning techniques reveal what kinds of brain activity differences in people with chronic schizophrenia?

a. Abnormally high brain activity in the frontal lobes
b. An increase in the brain waves that reflect synchronized neural firing
c. Abnormal activity in multiple brain areas
d. Decreased activity in the amygdala
e. A lack of dopamine receptors

11. Which personality disorder is associated with a lack of regret over violating others' rights?

a. Antisocial personality disorder
b. Avoidant personality disorder
c. Schizoid personality disorder
d. Histrionic personality disorder
e. Narcissistic personality disorder

12. What term refers to thoughts about who or what we blame for our successes and failures?

a. Stability
b. Emotional memory
c. The social-cognitive perspective
d. Explanatory style
e. Dissociative reasoning

13. Although some psychological disorders are culture-bound, others are universal. Which of the following disorders is found in every known culture?

a. Bulimia nervosa
b. Anorexia nervosa
c. Susto
d. Schizophrenia
e. Taijin-kyofusho

14. Modern psychologists contend that all behavior, whether it is called normal or disordered, arises from the interaction of

a. genetics and physiology.
b. children and parents.
c. experience and wisdom.
d. inborn tendencies and drives.
e. nature and nurture.

15. Which of the following are symptoms of generalized anxiety disorder?

a. Unexplainable and continual tension
b. Sudden episodes of intense dread
c. Irrational and intense fear of a specific object or situation
d. Repetitive thoughts or actions
e. Nightmares for weeks after a severe, uncontrollable event

Free-Response Questions

1. After reading her AP® Psychology text, Jane starts to wonder if all young people have some kind of psychological disorder. First, briefly explain what you might say to Jane about the criteria psychologists use when diagnosing mental illnesses. Then, briefly explain the symptoms associated with the following diagnoses and how age might be related to each diagnosis:

- ADHD
- Anorexia nervosa
- OCD
- Bipolar disorder

Rubric for Free-Response Question 1

1 point: Psychologists define a disorder as a significant disturbance in thinking, emotion, and/or behavior that is maladaptive. Jane's general statement that all young people have a psychological disorder doesn't make sense in this context: It's not likely that all young people have significant disturbances that interfere with their day-to-day lives. page 651

1 point: ADHD: The symptoms of ADHD involve inattention, hyperactivity, and impulsivity. ADHD is diagnosed more often in young people, but some adults are also diagnosed with ADHD. page 652

1 point: Anorexia nervosa: The symptoms of anorexia nervosa involve a starvation diet that results in a person weighing at least 15 percent less than he or she should. Often the symptoms of anorexia nervosa appear in adolescence since body image is likely to be a focus during this time of life, but people of any age might suffer from this disorder. page 697

1 point: OCD: The symptoms of OCD involve unwanted repetitive thoughts (obsessions) and actions (compulsions). This disorder is more commonly diagnosed in teens and young adults. pages 663–664

1 point: Bipolar disorder: The symptoms of bipolar disorder involve alternating between mania and depression. Some psychologists think that adolescent mood swings might have caused the increase in this diagnosis among young people in recent years. pages 673–674

2. Describe what the terms *obsession* and *compulsion* refer to in the context of obsessive-compulsive disorder. Then, briefly explain

- an example of a common obsession experienced by individuals with obsessive-compulsive disorder.
- an example of a common compulsion experienced by individuals with obsessive-compulsive disorder.
- how the learning perspective explains compulsions.
- how the biological perspective explains compulsions.

(6 points)

3. Psychologists organize psychological disorders into categories (in publications such as the DSM-5) in order to communicate commonalities and differences among psychological disorders, and to imply appropriate treatment and encourage future research. For each of the psychological disorders below, explain what psychological disorder category it should be organized into, and why it "belongs" in that category.

- Major depressive disorder
- Dissociative identity disorder
- Panic disorder
- Phobias

(4 points)

Multiple-choice self-tests and more may be found at www.worthpublishers.com/MyersAP2e