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dvard Munch, The Dance of Life. National Gallery, Oslo, Norway/SuperStock, Inc. © 2007 Estate of Edvard Munch/Artists Rights Society (ARS), New York

Edvard Munch (1863-1944), a Norwegian artist most famous for his painting "The Scream" (1893), endured a lifetime of tragedy. Munch's mother died when he was five, his sister, only a year his elder, died soon after his mother, and his father died while Munch was a young adult. Though Munch's paintings tend to reflect themes of emotional pain and brooding introspection, he was not able to channel all of his distress into his artwork. In 1908, Munch was hospitalized for anxiety and treated with electroshock therapy. Despite his emotional troubles, Munch produced many significant paintings until the time of his death and played an instrumental role in the development of German Expressionism.

Anxiety and the Anxiety Disorders

CASE Vignettes

CHAPTÉR

Arthur, a 22-year-old community college student, visited his primary care physician complaining that he had been experiencing occasional "spells" over the past two months. During the episodes he felt anxious, dizzy, nauseous, had intense headaches, and sometimes had difficulty breathing. After having a "spell" Arthur worried about when the next one would occur. A thorough medical exam and a series of laboratory tests found that nothing was physically wrong with Arthur. The physician suspected that Arthur was suffering from panic attacks and asked if he had been experiencing increased stress in recent weeks. Arthur acknowledged that he was somewhat anxious about graduating from college in a month; however, he doubted that his "spells" could have an emotional basis since the symptoms were mostly physical. Arthur was the first person in his family ever to have to gone to college, and he had done very well in school despite being in a difficult engineering program. He had already been hired by a bioengineering firm near his hometown and was nervous about beginning his professional life. Arthur explained that his parents were extremely proud of his success and that his entire extended family was planning to attend his graduation.

Greg, a 35-year-old paralegal, decided to seek psychological help when his wife and children could no longer stand his cleaning habits. Greg had always been compulsive about straightening up his own possessions, but in recent years he had become increasingly picky about maintaining order in the entire house. Greg became agitated if the glasses in the kitchen cabinet were arranged in uneven rows, or if the throw pillows on the couch were not perfectly aligned with the couch's striped pattern. When stray hairs were left in the bathroom, he flew into a panic and insisted that the offender clean the area immediately. Greg also felt, superstitiously, that he had to repeatedly check, double-check, and triple-check that everything was clean. Greg acknowledged that these were "overreactions" but said that he could not control them and feared that something terrible would happen if he did not have everything in proper order. Greg's 7-year-old son stopped inviting friends over to the house because he knew that their play would irritate Greg, and his 12-year-old daughter reached the point where she would not follow any of her father's cleaning rules because she found them so ridiculous.

DEFINING ANXIETY AND ANXIETY DISORDERS

All of us know what it is like to feel anxious or scared. Anxiety and its close relative, fear, are normal parts of everyday life. **Anxiety** is usually defined as an unpleasant emotion associated with a general sense of danger—the feeling that something bad is going

CASE VIGNETTES

Defining Anxiety and Anxiety Disorders

- The Importance of Context in Defining Anxiety Disorders
- The Continuum Between Normal and Abnormal Anxiety

Classifying Anxiety Disorders

- The DSM-IV-TR Categories
- The Advantages and Limitations of the DSM-IV-TR Anxiety Disorder Diagnoses
- Classification in Demographic Context
- Cultural and Historical Relativism in Defining and Classifying Anxiety Disorders

Explaining and Treating Anxiety and Anxiety Disorders

- Biological Components
- Behavioral Components
- Cognitive Components
- Psychodynamic Components
- Humanistic and Existential
- ComponentsThe Multiple Causality of Anxiety
- Disorders
- The Connection Between Mind and Body in Anxiety Disorders

CASE VIGNETTES Treatment

Anxiety An unpleasant emotion characterized by a general sense of danger, dread, and physiological arousal.

to happen. In *fear*, the danger is more specific. Most of us have felt anxiety and fear when we've been in a minor car accident or had a near miss. You may have worried for a split-second that you would be seriously hurt. Perhaps you momentarily "froze" and felt unable to act quickly and appropriately. Whether or not you were aware of it, your pupils probably dilated, and your mouth may have become dry as a small burst of adrenaline was released into your bloodstream. After the danger passed, you may have noticed that your heart was pounding or that you had broken out in a sweat. In sum, the experience of fear and anxiety is not just emotional, but involves cognitive, behavioral, and physical components as well (see Table 4.1).

Fear and anxiety are normal human responses to threatening or dangerous situations. Indeed, the capacity for a hearty fear response is an evolutionary gift from our ancestors (Akiskal & Akiskal, 2005). The cave dwellers who didn't react to the presence of a saber-toothed tiger either by freezing (and thereby hiding themselves) or making an adrenaline-boosted sprint probably don't have too many descendants walking around today! But if fear and anxiety are normal and evolutionarily adaptive, on what basis do we decide that someone suffers from an anxiety *disorder*? When it comes to defining anxiety disorders, two core concepts are critical: the *context* in which the anxiety occurs, and the severity of the anxiety along the *continuum* from mild to severe.



The Importance of Context in Defining Anxiety Disorders

People with anxiety disorders experience anxiety and fear in *contexts* that do not warrant such feelings. Unlike the cave dwellers, people with anxiety disorders feel anxious or even terrified in the face of a minor threat or when no threat is present at all. For example, a person with an intense, persistent, and irrational fear of snakes (a *phobia*, which will be discussed in detail later in the chapter), might shake with fear and break out in a sweat when seeing a small garter snake in the woods. Even though the snake presents a miniscule threat, the person with the phobia experiences the danger as intense. Some people with anxiety disorders experience anxiety when *no* danger exists at all. For example, the phenomenon known as a *flashback* is a common symptom in *posttraumatic stress disorder* (also discussed in detail later in the chapter). During a flashback, people with posttraumatic stress disorder recall a previous traumatic experience with such intensity that they feel as if they are reexperiencing the event. For example, when a rape survivor experiences a flashback, she may feel as if she is being attacked again and experiences all of the terror she felt during the original attack, even if she is actually alone and in a safe place.



The Continuum Between Normal and Abnormal Anxiety

In addition to matters of context, anxiety disorders are also defined by the intensity of the anxiety. In other words, the *continuum between normal and abnormal behavior* has to be considered in order to define pathological anxiety. Although everyone expe-

TABLE 4.1 Common Components of Anxiety

EMOTIONAL	COGNITIVE	BEHAVIORAL	PHYSICAL
Fright	Hypervigilance	"Fight or flight" response ¹	Muscle tension
Nervousness	Poor concentration	Freezing up	Pounding heart
Irritability	Rumination	Avoidant behavior	Dry mouth

¹ An extreme sympathetic nervous system arousal that prepares humans to flee or attack when faced with danger (see Chapter 000).

Classifying Anxiety Disorders

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riences anxiety at times, some people feel anxious rarely and mildly while others feel anxious often and intensely. The continuum between low and high levels of anxiety applies to two kinds of anxiety studied by psychologists: trait and state anxiety (Endler & Kocovski, 2001). Trait anxiety reflects an individual's general tendency to respond to a wide variety of situations with more or less anxiety. People with high levels of trait anxiety feel anxious most of the time, regardless of external circumstances. In contrast, people low in trait anxiety rarely feel anxious, even when anxiety would be an expected response (see Box 4.1).

State anxiety is typically defined as an individual's level of anxiety in response to a specific situation (an impending exam, going to a job interview). Like trait anxiety, state anxiety occurs along a continuum. Imagine, for example, the various levels at which people might fear snakes. One person might feel a little nervous around

snakes but still be intrigued by the idea of seeing them at the zoo. Indeed, part of the fun of going to the zoo is getting to see potentially dangerous animals in a safe setting. Another person may decide to skip her visit to the snake house and agree to wait outside while her friends go in. A third person may feel so frightened of snakes that he refuses to go to the zoo with his friends and feels sorry that he missed the outing. The first two people share a mild fear of snakes, but the level of their anxiety does not appear to interfere with their functioning. The third person's state of anxiety can be considered pathological because his irrational fear of snakes causes intense distress and significantly impairs his ability to function.

Trait anxiety An individual's tendency to respond to a variety of situations with more or less anxiety.

State anxiety An individual's level of anxiety at a specific time.

BRIEF SUMMARY

- Fear and anxiety are normal emotions that have evolved to help people respond to danger.
- Pathological anxiety is defined as anxiety that occurs in an inappropriate *context* or is overly intense on the *continuum* between mild and extreme anxiety.

Critical Thinking Question

We have suggested that abnormal anxiety can be defined as anxiety that is relatively intense or inappropriate to its context. With this definition in mind, which of Greg's reactions (described at the beginning of the chapter) seem to be unusually intense? Does any of his anxiety seem to be appropriate to its context?

CLASSIFYING ANXIETY DISORDERS

Anxiety is a part of many different mental disorders, but the DSM-IV-TR category called anxiety disorders includes only those disorders in which anxiety is the main symptom, in keeping with the DSM-IV-TR descriptive classification philosophy explained in Chapter 3. Anxiety disorders are some the most common mental disorders among the U.S. population, affecting at least 18% of Americans in any given year and a much higher percentage over their lifetimes (Kessler et al., 2005; see Table 4.2). We'll begin with a description of the DSM-IV-TR anxiety disorders and then turn our attention to the core concepts of the *advantages and limitations* of the DSM-IV-TR anxiety disorder diagnoses and the issues of *cultural and historical relativism* in classifying anxiety disorders.



highly enjoyable and exhilarating for others. People with low levels of trait anxiety may seek out activities that people with high levels of trait anxiety would actively avoid.

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BOX 4.1 High-Risk Takers TOO LITTLE ANXIETY?

Ask a group of individuals how they would feel if they were hanging off the side of Mount Everest or chasing an armed criminal, and the majority would probably admit that they would feel scared or anxious. For a small percentage of individuals, however, these activities might be more exhilarating than anxiety provoking. Sometimes referred to as "high-risk takers," such individuals fall on the other end of the "anxiety continuum" from those suffering from the disorders discussed in this chapter. Rather than experiencing uncomfortably high levels of anxiety, high-risk takers may experience levels of anxiety that are actually lower than normal.

Compared to those who experience high levels of anxiety and are uncomfortable taking risks, risk takers are drawn to jobs in which they place themselves or others in physical jeopardy, are more likely to engage in physically risky sports, and are less likely to experience fear in typically frightening situations, such as being exposed to a spider or left alone in the dark. Such individuals may also not *anticipate* feeling anxious in situations, such as those described above, which would generally be expected to produce anx-

iety (Lissek et al., 2005). But can a person experience too little anxiety? From an evolutionary perspective, the answer appears to be "yes." As discussed earlier in the chapter, anxiety serves an important adaptive function (Akiskal & Akiskal, 2005). Though sometimes uncomfortable, the sensations associated with anxiety helped prepare our ancestors to fight in or flee from dangerous situations, thus promoting survival. And though most of us no longer need to protect ourselves from actual predators, the experience (or even the anticipation) of anxiety can help prepare us for situations that are potentially harmful. Because risk takers are less likely to experience or anticipate anxiety in dangerous situations, they are more prone to hurt themselves. For example, they are more likely to engage in potentially risky sexual practices, smoke cigarettes, abuse illegal drugs, and gamble (Zuckerman, 2000).

Some experts have also argued that anxiety actually *helps* most people learn socially appropriate behavior: we

behave appropriately partly in order to reduce the anxiety caused by the disapproval of others. Interestingly, low levels of anxiety and high levels of risk taking have been linked to antisocial personality disorder (APD), a disorder marked by chronic, pervasive impulsivity, deceitfulness, and lack of concern for the rights of others (Chapter 11). The low levels of anxiety exhibited by those with APD may make it difficult for them to learn to behave in socially acceptable ways. Indeed, one classic study showed that individuals with this disorder had difficulty learning to avoid incorrect responses to a laboratory game, even when these responses were paired with anxietyproducing stimuli, such as an electric shock (Lykken, 1957). If the experience of anxiety can be a useful teacher, those with APD appear to be at a learning disadvantage without it.

Individuals with APD are not the only ones who exhibit low levels of anxiety. While studies have found that those with APD, and convicted criminals, do exhibit low levels of anxiety (Langato-Stadler et al., 2002), others have found similarly low levels of anxiety among those training to be police officers (Lorr &

Strack, 1994). This appears to be one trait that police officers and criminals share.

So how does one become a highrisk taker with "too little anxiety?" Human beings may have a built-in optimal level of arousal: a moderate amount that is high enough to maintain focused attention, but low enough to maintain comfort. While the majority of individuals may be naturally close to this optimal level, risk takers appear to be chronically "underaroused" (Lissek et al., 2005). Their low levels of anxiety and chronic underarousal may lead them to seek out risky, highly stimulating situations that would be uncomfortably anxiety-provoking for most people, but serve to bring risk takers closer to the optimal state of arousal.

In other words, risk takers might be drawn to activities like mountain climbing as a corrective to their baseline underarousal. For those of us who do not experience chronically low levels of arousal and anxiety, it will probably be stimulating enough to watch such activities on TV!



Classifying Anxiety Disorders

TABLE 4.2 The DSM-IV-TR Anxiety Disorders

- **Generalized anxiety disorder** Chronic, debilitating nervousness (lifetime prevalence estimate: 5% of the population).
- **Panic disorder** Episodes of acute terror in the absence of real danger (lifetime prevalence estimate: between 1%–2%).
- **Phobias** Persistent, irrational fear and avoidance of particular objects or situations (lifetime prevalence estimate: between 9%–24%).
- **Obsessive-compulsive disorder** Anxiety producing, unwanted thoughts, usually leading to compulsive rituals (lifetime prevalence estimate: 1%–2.5%).
- **Posttraumatic stress disorder and acute stress disorder** Various, specific symptoms occurring in the way of a traumatic experience (lifetime prevalence estimate: over 8%).

Adapted from the DSM-IV-TR, APA, 2000

The DSM-IV-TR Categories

The DSM-IV-TR identifies six main anxiety disorders: generalized anxiety disorder, panic disorder, phobias, obsessive-compulsive disorder, posttraumatic stress disorder, and acute stress disorder.

Generalized Anxiety Disorder

People with **generalized anxiety disorder** (GAD) experience chronic and pervasive anxiety. They feel tense and worried most of the time, which causes them distress and interferes with their functioning (Table 4.3).

TABLE 4.3 Diagnostic Criteria for Generalized Anxiety Disorder (GAD)

- Pervasive anxiety for at least six months.
- Difficulty controlling the anxiety.
- The anxiety includes three or more of the following symptoms: restlessness, fatigue, difficulty concentrating, irritability, muscle tension, sleep disturbance.
- The anxiety, worry, or physical symptoms cause significant distress or impairment in normal functioning and are not due to the effects of a medication, drug, or medical condition.

Adapted from DSM-IV-TR, APA, 2000

CASE ILLUSTRATION

Sharon had always considered herself to be a "worrier," but when she took a position as a bank teller she felt for the first time that her anxiety was really interfering with her life. Sharon felt tense most of the time that she was at work because she worried that she'd be caught in a bank robbery. When she wasn't at work, Sharon worried that she would be mugged or that someone would hack into the bank's computers and drain her personal accounts. She also constantly worried that her aging mother would experience a stroke or a heart attack and be unable to call for help. Sharon worried so much that even when she was very tired it took hours for her to fall asleep because she would lie in bed ruminating about her financial security, her mother's health, or her own future. After beginning her job at the bank, Sharon began to experience painful tension headaches that made it difficult for her to concentrate and caused her to miss several days of work. Not surprisingly, she became worried that she would be fired because of her absences. These concerns only increased her general anxiety and contributed to more frequent headaches. Generalized anxiety disorder Chronic, pervasive, and debilitating nervousness.

Panic disorder Panic attacks that cause on-

Panic attack Discrete episode of acute terror

going distress or impairment.

in the absence of real danger.



What agoraphobics fear People suffering from agoraphobia avoid crowded places, like this New York subway platform, due to the fear that they would feel trapped or helpless if they were to experience a panic attack while surrounded by a large crowd. Sharon experiences many of the symptoms commonly found in GAD. She feels anxious most of the time, worries about almost everything, and has trouble sleeping. Her anxiety is not limited to a specific situation—it pervades most aspects of her life. For Sharon, the physical symptoms of anxiety (her tension headaches) have begun to interfere with her ability to go to work. Other people with GAD find that their constant worrying can contribute to a wide variety of physical symptoms (such as dry mouth, nausea, or sweating) that may prevent them from pursuing or enjoying social relationships and new experiences (Hoehn-Saric, 2005).

Panic Disorder

People with **panic disorder** (PD) experience discrete episodes of intense terror known as **panic attacks**—in which they feel overwhelmed by anxiety and have a strong urge to escape or get help. In contrast to generalized anxiety disorder (GAD), which involves *chronic* but milder anxiety, people with PD experience *acute* bursts of extreme anxiety (Table 4.4).

CASE ILLUSTRATION

While on an airplane flight for a business trip, Simon began to feel like he was having a heart attack even though he could not understand how this was possible, given that he was a healthy 25-year-old man. He felt an enormous sense of dread and doom, his heart began to pound, he broke out in a sweat, and his throat felt like it was closing. The other passengers did not seem to notice his intense distress, but Simon was sure that he was going to die if he did not receive immediate medical attention. Yet, 20 minutes later while still on the plane, Simon felt better and decided that he probably didn't need to go to the emergency room. In the next few weeks, Simon had similar episodes of excruciating, short-lived anxiety while at work, in his car, and grocery shopping. Simon's girlfriend finally insisted that he consult a doctor when he started making excuses not to go out of his apartment for fear that he would have another attack.

Panic disorder is defined by the presence of panic attacks that lead to behavioral changes or worry about having future attacks. Panic attacks often seem to happen "out of the blue," but they may also be triggered by stressful circumstances (Starcevic, 2005). Regardless of what triggers a panic attack, the attacks themselves usually come on quickly, are experienced by their sufferers as terrifying and overwhelming, and last less than half an hour. After having had a panic attack, many people become preoccupied with the possibility of having future attacks and may find themselves in a distressing cycle of fearing fear itself (see Figure 4.1). Some people become so fearful of future panic attacks that they become housebound, a condition known as *agoraphobia*. Agoraphobia, a type of phobia that is a frequent consequence of panic disorder, is discussed in detail later in the chapter.

TABLE 4.4 Diagnostic Criteria for Panic Disorder (PD)

- Episodes of intense panic *(panic attacks)*, including at least four of the following symptoms: pounding heart, sweating, shaking, shortness of breath, feeling of choking, chest pain, nausea, dizziness, fear of losing control, fear of dying, numbness or tingling, chills or hot flashes.
- Persistent concern about having additional attacks, worry about consequences of an attack, or changes in behavior because of the attack.
- The panic attacks are not due to the direct physiological effects of a drug, medication, or medical condition.

Adapted from the DSM-IV-TR, APA, 2000

Classifying Anxiety Disorders

Panic attack sufferers often report feeling such intense anxiety and physical discomfort during the attacks that they are sure they are dying. In fact, one study estimated that nearly a quarter of all people who come to hospital emergency rooms complaining of severe chest pain are actually experiencing a panic attack (Lynch & Galbraith, 2003).

Phobias

Phobias, the most common of the DSM-IV-TR anxiety disorders, are persistent and exaggerated fears of particular objects or situations (Table 4.5). Most people with phobias go out of their way to avoid the thing they fear, even if such avoidance is inconvenient and disruptive. The DSM-IV-TR distinguishes among three subtypes of phobias:

- Social phobia
- Agoraphobia
- Specific phobia

In **social phobia**, fears are focused on social situations or other activities where there is a possibility of being observed and judged, such as speaking in public or meeting new people. People who suffer from social phobia feel sure that other people are watching them closely and looking for signs of inadequacy. They often recognize that their fears are excessive, and yet their worries interfere with their daily functioning and/or cause considerable emotional distress.

People with social phobia often worry that they will humiliate or embarrass themselves, and they tend to be "rejection sensitive." Often, their worries center on bodily functions, such as a fear of sweating or having one's stomach growl in public, which they fear will lead to humiliation or rejection. Those with fears of public speaking may anticipate being criticized by others if their hands shake or their voices tremble (Starcevic, 2005). As a result of their fears, people who suffer from social phobia may avoid speaking, eating, or drinking in public and may refuse to use public restrooms. When faced with a feared situation, people with social phobia may become so anxious that they experience a panic attack (APA, 2000). They often avoid social situations even at considerable economic or emotional expense.

TABLE 4.5 Diagnostic Criteria for Phobias

- Persistent, irrational fear of a specific object or situation.
- Exposure to the feared object or situation usually provokes an intense anxiety reaction.
- The person recognizes that the fear is excessive or unreasonable.
- The phobic object or situation is avoided or else endured with intense anxiety or distress.
- The avoidance, anxious anticipation, or worry about the feared object or situation interferes significantly with normal everyday functioning or there is substantial distress about having the phobia.

Adapted from the DSM-IV-TR, APA, 2000

Phobia An intense, persistent, and irrational fear and avoidance of a specific object or situation.

Social phobia A phobia in which fears are focused on social situations or other activities where there is a possibility of being observed and judged.



Figure 4.1 A panic attack cycle Here we see how fear of having a panic attack can actually contribute to future panic attacks. Unfortunately, the more scared people become of future panic attacks, the more likely they are to experience intensifying physical symptoms such as quickening heart beat and difficulty breathing, that lead to further attacks. (Based on Wells, 1997, p. 105)

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Disorders



Creepy crawlies Almost half of all children experience phobias at one time or another, the most common fears being of the animal or natural environment type.

Agoraphobia A fear of wide open spaces or crowded places.

Specific phobia Any phobia that is not a social phobia or agoraphobia.



Anxiety goes Hollywood In the movie As Good as it Gets (1997), Jack Nicholson's character has obsessivecompulsive anxieties and rituals. He also demonstrates many symptoms of obsessivecompulsive personality disorder, a disorder described in detail in Chapter 11.

CASE ILLUSTRATION

Manuel, a first-year law student, came to a college counseling center when he could no longer tolerate his fear of speaking in class. Manuel had never been comfortable with public speaking, but he spent his college years at a large university where he was rarely expected to talk in front of his peers. Now, while sitting in class, Manuel worried that his mind would go blank, that his voice would waver, or that his classmates would think that he was stupid. Manuel's fear that he would be called on interfered with his ability to take notes and listen to his classmate's questions. Increasingly he found that he preferred to get class notes from his roommate rather than putting himself through the torture of attending class. Though far less bothersome, Manuel also avoided having lunch with his classmates because he worried that they would secretly criticize his table manners or his contributions to the lunchtime conversation. Between avoiding class and lunch, Manuel felt alarmingly disconnected from the life of the law school.

The second subtype of phobia is known as **agoraphobia**, which comes from the Greek for "fear (phobia) of the marketplace (agora)." People who suffer from agoraphobia are afraid of wide-open or crowded places and are often reluctant to leave their own homes. As we mentioned earlier in discussing panic disorder, agoraphobia frequently develops after a person has experienced panic attacks. In general, people suffering from agoraphobia are not afraid of public places per se, but of having a panic attack in a public place where it might be difficult to escape or get help (Starcevic, 2005). For example, a woman who experiences a panic attack in a clothing store might develop an aversion to clothing stores and then soon find herself avoiding stores of any kind. Before long, she may feel uncomfortable in all public places. In this way, agoraphobia has a tendency to build over time until a person refuses to leave his or her own home or will only go out in public while in the company of a trusted companion. However, not all people who suffer from panic disorder develop agoraphobia, and in some comparatively rare circumstances people, such as Bill (described below), suffer from agoraphobia without a history of panic attacks.

CASE ILLUSTRATION

Just over a year ago Bill, age 28, heard about a mugging in his neighborhood, which was overall quite safe. At first, Bill began to feel nervous in crowded places. Soon, Bill was getting uneasy in any public place, and he felt increasingly reluctant to leave the safety of his apartment. He decided to quit his job as a mechanic and to try working from home as a telephone salesman. Rather than leaving his apartment to go shopping, he began to order the things he needed over the phone or over the Internet. On the occasions when Bill could not avoid leaving the house, such as when he needed to go to the dentist, he asked his older sister to accompany him.

The third type of phobia, **specific phobia**, refers to any phobia that is not a social phobia or an agoraphobia. Most often, specific phobias (formerly called *simple phobias*) fall into one of four common types described by the DSM-IV-TR: animal type (fear of spiders, snakes, dogs, etc.), natural environment type (heights, tornadoes, water), blood-injection-injury type (needles, injuries, the sight of blood), and situational type (enclosed spaces, flying in airplanes, elevators) (see Box 4.2). People who suffer from specific phobias, like Jenny (described below), usually recognize that their fears are excessive. However, they are usually unable to talk themselves out of being afraid and persistently avoid the feared object or situation.

CASE ILLUSTRATION

Jenny, a high school sophomore who enjoys a wide variety of activities and plays for her high school's field hockey team, is deathly afraid of hypodermic needles. She does not mind the sight of blood—indeed she sees blood regularly when she or a teammate is injured—but she cannot stand the sight, or even thought, of syringes. When Jenny's father was hospitalized with cancer, she was re-

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luctant to visit him for fear that she would accidentally see or come into contact with a hypodermic needle. Jenny finally got up the courage to visit her father but passed out immediately when a nurse came into her father's room carrying a syringe.

Obsessive-Compulsive Disorder

Obsessive-compulsive disorder (OCD) is a condition involving repetitive, unwanted, anxiety-producing thoughts and compulsive rituals intended to protect against anxiety. (See Box 4.3 for one person's struggle with OCD.) The terms **obsession** and **compulsion** have specific technical definitions here that are different from their colloquial uses: obsessions are defined as unwanted and upsetting thoughts or impulses, whereas compulsions are defined as irrational rituals that are repeated over and over again in an effort to control or neutralize the anxiety brought on by the obsessions (Table 4.6).

CASE ILLUSTRATION

Jackson constantly imagines that his wife will be killed in a gruesome car accident. This thought seems to "pop" into his head when he is trying to get work done at his office. Jackson knows that his fear is irrational—his wife is a good driver who has never had an accident—yet he feels very anxious when he imagines her fatal car accident. Jackson has found that he can reduce his anxiety about his wife's safety if he walks around his office in a particular pattern, touching certain pieces of furniture as he goes. He often has to repeat the pattern several times until it feels "right" before he can go back to doing his work. At home, Jackson feels anxiously compelled to perform a number of "checking" rituals, such as continually rechecking to make sure that the stove is turned off and that the doors are locked. On some days, Jackson must repeat his rituals several times in a row throughout the day in order to keep his anxiety under control.

BOX 4.2 Excessive Fears SOME COMMON AND NOT SO COMMON PHOBIAS

People develop phobias to a wide variety of objects or situations. Some phobias, like claustrophobia (the fear of confined spaces), are relatively common, while other phobias are highly idiosyncratic and occur very rarely. Consider the following lists of common and unusual phobias:

Common Phobias

- Acrophobia—Fear of heights
- Arachnophobia—Fear of spiders
- Claustrophobia—Fear of confined spaces
- Cynophobia—Fear of dogs



Hemophobia—Fear of blood

- Hydrophobia—Fear of water
- Myctophobia—Fear of darkness
- Pteromerhanophobia—Fear of flying
- Thanatophobia—Fear of death or dying

Unusual Phobias

- Ablutophobia—Fear of washing or bathing
- Botanophobia—Fear of plants
- Chaetophobia—Fear of hair
- Dromophobia—Fear of crossing streets
- Ereuthrophobia—Fear of blushing
- Francophobia—Fear of France, French culture
- Genuphobia—Fear of knees
- Linonophobia—Fear of string
- Melanophobia—Fear of the color black
- Ornithophobia—Fear of birds
- Peladophobia—Fear of bald people
- Scoptophobia—Fear of being seen or stared at
- Vestiphobia—Fear of clothing

(From www.phobialist.com)

Obsessive-compulsive disorder An anxiety disorder in which distressing and unwanted thoughts lead to compulsive rituals that significantly interfere with daily functioning.

Obsessions Unwanted and upsetting thoughts or impulses.

Compulsions Irrational rituals that are repeated in an effort to control or neutralize the anxiety brought on by obsessional thoughts.

TABLE 4.6 Diagnostic Criteria for Obsessive-Compulsive Disorder (OCD)

• The presence of obsessions and/or compulsions.

Obsessions

- Are recurrent, anxiety-producing thoughts, impulses, or images that are intrusive, unwanted, and inappropriate to the current context.
- Cause the sufferer to attempt to ignore or suppress the obsessional thoughts, impulses or images, or to neutralize them with some other thought or action.

Compulsions

- Are ritualized behaviors (for example, hand-washing) or mental acts (such as counting) that the person feels driven to perform in response to an obsession, or according to rules that must be applied rigidly.
- Are intended to magically prevent some dreaded event or situation.
- At some point in the disorder, the person has recognized that the obsessions or compulsions are excessive or unreasonable.
- The obsessions and compulsions cause significant distress, are time-consuming, and/or interfere with the person's normal routine.
- The obsessions or compulsions are not due to the effects of a medication, drug, or medical condition.

Adapted from the DSM-IV-TR (APA, 2000)



Written on their faces These children of the Hema ethnic group in northeastern Congo watched as members of their tribe were massacred during intertribal warfare for land and other resources. Their faces show the intense psychological distress associated with traumatic experiences.

Trauma An emotionally overwhelming experience in which there is a real or perceived possibility of death or serious injury to oneself or a loved one. Interestingly, obsessions usually focus on a few specific areas, such as fears of contamination, disarray, or aggressive/destructive, sexual, or socially inappropriate behavior (Allen & Hollander, 2005). For example, people with OCD may worry that they will contract a horrible disease from touching a doorknob (contamination), feel extremely uncomfortable if the books on their shelves are not perfectly aligned (disarray), fear that they have accidentally poisoned a loved one (aggression), or worry that they will blurt out obscene words in front of a boss (sexually or socially inappropriate). Obsessions may also take the form of repeated doubts, such as worrying that one has forgotten to turn off a stove or an iron. A person with OCD might check an iron repeatedly, unplug it from the wall, or even move it away from any electrical outlet and yet still have concerns that the iron has not been properly turned off.

The compulsive behaviors associated with OCD can involve seemingly logical, though irrationally excessive, attempts to reduce the anxiety associated with obsessive thoughts, such as when people with fears of contamination wash their hands several times after touching a doorknob. However, some compulsive behaviors lack any apparent connection with the obsessions they are designed to counteract. For example, people with OCD may have elaborate rituals such as counting to one hundred by fours, or reciting a meaningless phrase in order to "undo" an obsessional thought about harm coming to a loved one.

Posttraumatic Stress Disorder and Acute Stress Disorder

In everyday conversation, we often use the term *trauma* to describe any stressful or upsetting event, but for the purpose of diagnosing stress disorders a **trauma** is defined as an emotionally overwhelming experience in which there is a real or perceived possibility of death or serious injury to oneself or a loved one (APA, 2000). Following a traumatic experience, some people experience the symptoms described in Table 4.7. If these symptoms last more than two days, but less than a month, are accompanied by dissociative symptoms (a change in state of consciousness, such as feeling detached from

BOX 4.3 Living with OCD **PASSING FOR NORMAL**

In her book, Passing for Normal: A Memoir of Compulsion, Amy Wilensky describes her struggles with obsessive compulsive disorder. In addition to OCD, Ms. Wilensky also suffers from Tourette's syndrome, a disorder characterized by multiple motor tics (involuntary movements such as eye blinking or grimacing) and one or more vocal tics (such as making sounds, clicks, or grunts). Tourette's disorder co-occurs in about 5 to 7% of people with OCD (APA, 2000).

CASE

My senior year of high school my parents planned a family trip to Maui for us and my grandmother over Christmas vacation. . . . I've rarely been as convinced of anything as that I was doomed to die in that plane [to Hawaii]. I offered to stay home by myself, told my parents-and meant it-that I'd rather walk to California in bare feet and swim the Pacific Ocean than get on [the plane]. But my parents had little tolerance for my newfound fear of flying and even less for a child so spoiled as to be ungrateful for such an extravagant trip. . . As the date for our departure neared, the rituals that had become an integral part of my daily routine tripled. Like fractals, old ones spawned new ones, especially designed to prevent the plane from crashing, to keep me alive until I'd landed safely back in Boston. At first, I was not allowed to touch any (ground) cover-floor, carpet, grass-with my bare feet. After a few days I amended this and decided that I could not *have* bare feet, so I slept in my sneakers and socks; the sneakers were for insurance. I washed my hair in the bathtub faucet and my body with a washcloth so I wouldn't have to

shower or bathe with my shoes or socks on. Through it all, I twitched more than ever, as if I'd stuck my finger in an electrical socket and was holding it there. Then, one afternoon a week before we were scheduled to leave, when I was absentmindedly chewing a piece of gum, it struck me that chewing gum until the plane landed safely would be another terrific insurance policy against a crash. For the next week I kept that same piece of gum in my mouth, tucking it between my gum and the inside of my cheek whenever I had to eat or drink.

The truth is, even as I followed through with the most bizarre of these rituals-sweating in bed at night in my heavy wool socks, praying that I wouldn't choke on my gum in my sleep-I wasn't truly convinced they would have the intended protective effect. Today, when I occasionally tap the threshold of my apartment door twice each time I leave and enter, I know more than ever how unconnected the ritual is with anything at all, let alone my personal safety or happiness or success.

(Wilensky, 1999, pp. 88-91)

one's body; described in detail in Chapter 7), and cause significant distress or impairment, a diagnosis of acute stress disorder (ASD) is indicated according to the DSM-IV-TR. If stress symptoms continue for more than one month, or begin more than a month after the trauma, the diagnosis of posttraumatic stress disorder (PTSD) applies. The DSM-IV-TR distinguishes among three types of PTSD: acute, when symptoms last less than three months, *chronic*, when symptoms last more than three months, and with delayed onset, when at least six months pass between the traumatic event and the onset of symptoms.

Much of what we know about stress disorders comes from research on survivors of war trauma, but many different kinds of events can be traumatic, including natural disasters (such as earthquakes, tornadoes, and floods) and human-made disasters besides war (such as domestic violence and rape). Everyday events such as car accidents or the death of a loved one may be considered traumatic if they are accompanied by terror, horror, or helplessness. PTSD and ASD may also develop after witnessing a traumatic event, such as a parent who watches his or her child being hit by a car, or in bystanders who see horrible events like those who witnessed the collapse of the World Trade Center in the attacks of September 11, 2001. It has been estimated that as many as 90% of rape victims, prisoners of war, and concentration camp survivors (such as during the Holocaust) develop stress disorders. By contrast, 5 to 10% of people develop a stress disorder following a serious car accident. Initial studies indicated that about 20% of the residents of lower Manhattan experienced stress disorders in the wake of the September 11, 2001 attacks (Galea et al., 2002).

Acute stress disorder Significant posttraumatic anxiety symptoms that occur within one month of a traumatic experience.

Posttraumatic stress disorder Significant posttraumatic anxiety symptoms occurring more than one month after a traumatic experience.

Diagnostic Criteria for Posttraumatic StressTABLE 4.7Disorder (PTSD)

- The person experienced a traumatic event involving the possibility of death or serious injury *and* the person's response involved intense fear, helplessness, or horror.
- The traumatic event is persistently reexperienced in one or more of the following ways:
- Recurrent, intrusive, and distressing memories of the event.
- Recurrent distressing dreams about the event.
- Acting or feeling as if the traumatic event is recurring ("flashbacks").
- Intense psychological distress when exposed to internal or external cues that symbolize or resemble an aspect of the traumatic event.
- Physiological reactivity (for example, heart pounding, sweating) when exposed to internal or external cues that symbolize or resemble an aspect of the traumatic event.
- The person avoids reminders of the trauma and experiences a numbing of general responsiveness as indicated by three or more of the following:
- Efforts to avoid thoughts, feelings, or conversations associated with the trauma.
- Efforts to avoid activities, places, or people that arouse recollections of the trauma.
- Inability to recall important aspects of the trauma.
- Markedly diminished interest or participation in significant activities.
- Feeling detached or estranged from others.
- Restricted range of affect (such as dulled emotions, lack of certain feelings).
- Sense of a foreshortened future.
- The person experiences persistent symptoms of increased arousal as indicated by at least two of the following:
- Difficulty falling or staying asleep.
- Irritability or outbursts of anger.
- Difficulty concentrating.
- Hypervigilance.

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- Exaggerated startle response.
- The disturbance causes significant distress or impairment in normal functioning.

Adapted from DSM-IV-TR (APA, 2000)

CASE ILLUSTRATION

Mary, a 37-year-old mother of three, began to take business classes at her local community college once her youngest child started attending preschool. One day, while walking to her car after class, Mary was attacked by a stranger and pulled into an alley where she was raped. After the attack, Mary had the presence of mind to go to an emergency room where she was medically treated and then interviewed by the police. Later in the same week she was able to pick her attacker out of a book of photographs at the police station, and he was soon arrested and jailed. Though Mary's attacker was in jail, she could not seem to recover emotionally. For months following the attack, Mary had nightmares in which she was running away from a faceless man. She could not discuss the rape with anyone, and she quickly changed the subject if a friend or family member asked her how she was doing. Mary stopped

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taking her business classes because she lost interest in her studies and felt uncomfortable going back to the area where she was attacked. Even in the safety of her own home she could not concentrate and felt nervous and edgy. As time wore on, Mary's husband grew increasingly concerned about his wife and urged her to seek therapy.

Mary has all of the major symptoms associated with PTSD: reexperiencing the trauma in her mind (her nightmares), avoidance of events related to the trauma (stopping attending classes, not discussing the rape), emotional numbing (loss of interest in her business studies, difficulty feeling a range of emotions), and increased arousal (her nervousness and edginess).

While Mary reexperiences her attack through her nightmares, traumatic experiences can also be reexperienced in the form of intrusive thoughts that occur while awake, or by becoming very upset when reminded of the trauma. One of the most extreme forms of re-experiencing a traumatic event is the phenomenon known as a **flashback**. During a flashback, a person feels as if he or she is reliving the actual trauma, even when in a safe and familiar environment. For example, a walk through the woods on a particularly humid day may trigger a flashback for a Vietnam veteran reminded of the smell and feel of being in a Vietnamese jungle. Even though he is perfectly safe, he may believe that he is again under fire in Vietnam and relive all of the terror of that experience.

Most people with PTSD will try to avoid experiences, thoughts, and feelings associated with the traumatic experience. Just as Mary decided to stop taking her business classes after the rape, a war veteran might avoid discussing traumatic events from the war, or a survivor of a flood might begin to avoid water. Unfortunately, such efforts to avoid the thoughts and feelings associated with a past traumatic event often contribute to general feelings of emotional numbness and disengagement. Many trauma survivors report a loss of their "zest" for life and of their interest in relationships and the future. Paradoxically, many people who have experienced a trauma also feel overly aroused, irritable, edgy, or tense even while they are feeling emotionally numb. They may feel that they are constantly on guard, and they often develop a strong startle response that causes them to jump or flinch at the slightest surprise. They may have difficulty managing frustrations and can become chronically irritable or explosively angry.

Some experts have wondered whether the "jumpiness" frequently associated with PTSD occurs as a result of being traumatized, or whether PTSD is simply more likely to occur in a "jumpy" person who experiences a trauma. To answer this question, researchers located 130 combat veterans who had identical twins who had never been exposed to combat (Orr et al., 2003). The combat veterans (some of whom had PTSD) and their twins listened to a series of loud, startling tones while attached to machines that measured their heart rates. The combat-exposed twins who suffered from PTSD had significantly higher heart rates in response to the tones than their own twins, the veterans who did not suffer from PTSD, and the twins of veterans who did not suffer from PTSD. In other words, it seems that the "jumpiness" often observed in a traumatized person is, in fact, a symptom of PTSD, not a physiological (or familial) vulnerability factor that leads to PTSD.

Sadly, the symptoms of PTSD can last for years, if not entire lifetimes. In 1963, nearly 2000 Italians living in the Vajont valley were killed when a landslide caused a precariously located dam to fail. Several small villages were totally destroyed by flooding in one of the worst man-made disasters of all time. A follow-up study conducted *36 years later*, found that 26% of the surviors of the Vajont disaster continued to suffer from PTSD, while an additional 33% experienced partial PTSD symptoms (Favaro et al., 2004). People who suffer from PTSD have also been found to experience elevated rates of substance abuse, depression, and other anxiety disorders (Jacobsen, Southwick,



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Flashback A vivid and often overwhelming recollection of a past traumatic experience.



Posttraumatic repetitive play Children who have been traumatized, such as these boys who live in the war-torn region of Bosnia and Herzegovina, often repeat the traumatic experiences through their play. Some theorists suggest that by doing so, children hope to gain mastery over situations that left them feeling helpless and overwhelmed.

& Kosten, 2001). Research on PTSD and its effects has developed rapidly over the past two decades; the more we know about PTSD, the more we have come to appreciate the lasting and devastating effects of the disorder.

Studies have found that large-scale disasters such as earthquakes or major industrial accidents can lead to epidemics of PTSD affecting entire communities (Cao, Mc-Farlane, & Klimidis, 2003; Suar, Mandal, & Khuntia, 2002). In response to these findings, the American Psychological Association and the American Red Cross teamed up to create the Disaster Response Network in 1991. The Network sends groups of volunteer psychologists and relief workers to disaster sites—from natural disasters such as floods and hurricanes to human-made disasters such as the attack on the World Trade Center. Unfortunately, current research indicates that brief crisis interventions for trauma survivors do not appear to prevent the development of PTSD (Rose et al., 2002). In a study of police officers, researchers compared the stress symptoms of traumatized officers who did or did not participate in three debriefing sessions that included traumatic stress education (Carlier, Voerman, & Gersons, 2000). Interestingly, the officers who participated in the debriefing sessions reported significantly higher rates of PTSD symptoms than their non-debriefed peers one week after experiencing a trauma. Six months after experiencing a trauma, the debriefed and non-debriefed officers exhibited similar levels of posttraumatic symptoms.

Traumatic situations are not always single events; trauma can also be chronic, such as the experience of living in extreme poverty or in a dangerous neighborhood (Schwartz et al., 2005). Stress disorders are extremely prevalent in areas where many people are chronically exposed to traumatic events, such as in a war-torn country or in a violent inner-city neighborhood.

BRIEF SUMMARY

- The DSM-IV-TR recognizes six main anxiety disorders: generalized anxiety disorder, panic disorder, phobias (specific phobia, social phobia, and agoraphobia), obsessive-compulsive disorder, posttraumatic stress disorder, and acute stress disorder.
- Generalized anxiety disorder (GAD) involves chronic and pervasive nervousness.
- Panic disorder (PD) involves episodes of acute terror, known as panic attacks, which lead to worry about experiencing future panic attacks.
- Phobias are persistent and unreasonable fears of particular objects or situations.
- Obsessive-compulsive disorder (OCD) involves anxiety-producing, unwanted thoughts or impulses (obsessions), and/or uncontrollable rituals meant to decrease anxiety (compulsions).
- Posttraumatic stress disorder and acute stress disorder involve a variety of anxiety symptoms that occur in the wake of a traumatic experience.

BOX 4.4 Factors Associated with Heightened Risk for PTSD Among Individuals Who Experience a Trauma

- Having past experiences of being traumatized
- Having psychological problems prior to the trauma
- Having psychopathology in one's family of origin
- Being fearful of death during the trauma
- Receiving poor social support following the trauma
- Having an intensely negative emotional response during the trauma
- Having a dissociative experience (a disruption in conscious experience, memory, or identity) during or immediately after the trauma
- Having a high degree of exposure to the trauma
- Being female

(Galea, Nandi, & Vlahov, 2005; Ozer et al., 2003)

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> Critical Thinking Question

With the **continuum between normality and abnormality** in mind, can you come up with examples of mild versions of each of the anxiety disorders we've covered? In other words, what are the many ways in which people who do not warrant an anxiety disorder diagnosis experience anxiety?

The Advantages and Limitations of the DSM-IV-TR Anxiety Disorder Diagnoses

The DSM-IV-TR anxiety disorder diagnoses have a number of *advantages and limita*tions. One major advantage is that the reliability and validity of the DSM-IV-TR anxiety diagnoses are relatively good (Brown, 1996). In other words, two different clinicians are likely to apply the same DSM-IV-TR diagnosis to the same client (reliability), and the diagnosis is likely to be accurate (validity). However, the DSM-IV-TR anxiety disorders are also highly comorbid with other DSM-IV-TR diagnoses; clients often meet criteria for more than one disorder. Indeed, one study found that over half of all people with one anxiety disorder were diagnosed with at least one other anxiety or mood disorder (anxiety and mood disorders have especially high rates of comorbidity) (Brown et al., 2001). As you can see in Figure 4.2, 65% of the research participants with GAD and 92% of research participants with PTSD were also assigned another DSM-IV-TR anxiety or mood disorder diagnosis. While these people may simply have had multiple disorders, such findings also highlight the possibility that the DSM-IV-TR diagnostic categories artificially divide complex clinical conditions. Accordingly, clinicians frequently find that many clients with anxiety symptoms do not neatly fit into any of the DSM-IV-TR categories, and some experts generally oppose the descriptive DSM system for classifying anxiety disorders. They argue that since anxiety is present in almost all mental disorders it is arbitrary to classify some as anxiety disorders just because certain clients may emphasize their anxiety symptoms.

Classification in Demographic Context

While we have described the general features of anxiety disorders, we should be mindful that anxiety disorders occur in specific individuals and that every individual is unique. Demographic factors such as an individual's age, gender, and social class are among the variables that significantly influence how anxiety disorders are manifested.



Comorbidity The presence of two or more disorders in one person, or a general association between two or more different disorders.



Figure 4.2 Comorbidity rates for DSM-IV-TR diagnoses A high percentage of individuals diagnosed with an anxiety disorder also warrant at least one other anxiety or mood disorder diagnosis. (Adapted from Brown et al., 2001)

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18 CHAPTER FOUR Anxiety and the Anxiety Disorders

Age

Everyone experiences anxiety from time to time, but people of different ages tend to experience anxiety differently. Adults often describe their anxiety in terms of their emotional experience (feeling nervous, tense, or on edge), cognitive experience (mind going blank, thoughts racing), or physiological reactions (heart beating faster, palms sweating). Children, on the other hand, may not be able to verbalize their experience of anxiety and instead may express fear and anxiety behaviorally by crying, having tantrums, freezing up, or clinging to a caretaker. Children may also experience and express anxiety through physical complaints such as stomachaches and headaches (Muratori & Picci, 2005). In addition, children may not be distressed by their own anxious behavior. For example, children who have OCD are often not bothered by their repetitive rituals. Indeed, they may see them as "solutions" to the problem of otherwise uncontrollable anxiety. Although adults who suffer from phobias are often distressed by the very fact of having a phobia, children rarely appreciate that their phobic fears are excessive. In fact, childhood phobias are fairly common and usually transitory, with roughly 5% of all children experiencing a phobia at one time or another (Ollendick, King, & Muris, 2002).

Young children with PTSD often reexperience traumatic events through their play. Lenore Terr (1983; 1990; 1991; Terr et al., 1999) has written extensively about the repetitive, joyless, and solitary play often seen in children who have been traumatized. For example, she described the play of several children who survived the harrowing experience of having their school bus hijacked and then buried in a cave. For months after surviving the kidnapping, a number of the children repeatedly played out scenes in which toy buses and cars were "stolen" and buried away.

Most of the anxiety disorders described in this chapter can occur at any age, but there is one anxiety disorder known as *separation anxiety disorder (SAD)* that occurs exclusively in children. SAD is discussed in detail in Chapter 13. Traditionally, panic disorder has been described as occurring only in late adolescents and adults, but new information indicates that panic attacks may be more common among children than initially thought. While adults tend to describe panic attacks in terms of feeling that they are dying, going crazy, or losing control, children often describe fears of suddenly becoming ill or of unexpectedly throwing up. Adolescents, whose cognitive abilities are more like those of adults, tend to describe panic attacks in the same terms that adults do. Interestingly, early investigations indicate that panic attack onset seems to be correlated with pubertal development, occurring more often as teens make their way through puberty (Albano, Chorpita, & Barlow, 2003).

Anxiety disorders are believed to be widely underdiagnosed among older adults despite the general recognition that declining health, monetary resources, personal relationships, and mental capacities often contribute to heightened anxiety. Research suggests that geriatric anxiety disorders are especially associated with negative life events (such as the death of a spouse), difficulties with daily living, and comorbid depression (Flint & Rifat, 2002). Anxiety disorders in older adults often differ from anxiety disorders in young and middle-aged adults (Lauderdale, Kelly, & Sheikh, 2006). For example, older adults are more likely to suffer from situational phobias, such as fearing heights or driving, while younger adults are more likely to suffer from animal or bloodinjection-injury phobias. Social phobia appears to occur less often, and GAD occurs more often in older adults than in young and middle-aged adults; OCD occurs at roughly the same rates for middle-aged and older adults. Older adults who suffer from panic disorder tend to have less severe symptoms than their younger counterparts; panic disorder sufferers over the age of 60 report better overall functioning, less intense panic attacks, and lower levels of overall anxiety than panic sufferers under the age of 60 (Sheikh et al., 2004). Not surprisingly, anxiety frequently accompanies dementia (neu-

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rological degeneration often associated with aging, discussed in detail in Chapter 14) and can easily be confused with or exacerbate dementia symptoms such as agitation, irritability, and the presence of unusual physical movements (Porter et al., 2003).

Critical Thinking Question

Given that heightened anxiety might be an understandable result of some of the negative aspects of aging, how would you decide when an older adult suffers from an anxiety disorder that warrants concern and treatment?

Gender

One of the most striking demographic facts about anxiety disorders is that they occur disproportionately in women. Generalized anxiety disorder, panic disorder (with or without agoraphobia), specific phobias, and PTSD are all two to three times more common in women than they are in men (Pigott, 2003; Yonkers & Kidner, 2002). Epidemiological studies also indicate that social phobia occurs somewhat more often in women, but men tend to seek treatment for social phobia more often than women do; of all the DSM-IV-TR anxiety disorders, only OCD occurs at roughly equal rates among men and women (Yonkers & Kidner, 2002).

Sociocultural explanations of the disproportionate rates of anxiety disorders in women have noted that traditional female gender roles have not typically emphasized assertion and self-sufficiency—skills that are important for overcoming anxiety. Support for the gender-role explanation of anxiety comes from studies in which the presence or severity of anxiety disorders in women appears to be inversely correlated with scores on measures of stereotypically "masculine" traits such as independence and leadership (e.g., Moscovitch, Hofmann, & Litz, 2005; Palapattu, Kingery, & Ginsburg, 2006). In other words, the more stereotypically masculine the woman, the less likely she will suffer from an anxiety disorder.

Gender differences in panic disorder have been linked to genetic and hormonal differences between men and women. Among first-degree relatives of people with panic disorder (children, parents, and siblings), women are three times more likely than men to also develop panic disorder, while men are more likely to suffer from alcoholism (which may be an effort to "self-medicate" undiagnosed anxiety symptoms) (Crowe et al., 1983). Further evidence for a genetic basis of panic disorder in women comes from studies finding that panic disorder tends to co-occur with two medical disorders that are more common in women than they are in men: mitral valve prolapse (in which the mitral valve in the heart fails to close completely causing blood to backflow into the left ventricle) and hyperthyroidism (elevations of the hormones produced by the thyroid gland) (Yonkers & Kidner, 2002; Zaubler & Katon, 1996). These medical conditions may contribute to panic disorder by producing physical and psychological symptoms associated with anxiety.

Fluctuating hormonal levels in menstruating women are believed to influence neurotransmitter balances and other physiological systems associated with the onset of panic symptoms (Smith, Friedman, & Paradis, 2002). Some empirical evidence supports the hypothesis that women are more vulnerable to panic at specific stages of their menstrual cycle (Sigmon et al., 2000).

Although OCD occurs at equal rates in men and women, the disorder appears to manifest itself somewhat differently in each sex. Females tend to develop OCD later in life (between ages 26–35) than males do (between ages 5–15), and they are more likely to experience depression along with OCD symptoms. Also, cleaning rituals and worries related to aggression are found more often among women than men (Pigott, 2003).



A universal language The experience of intense anxiety is often accompanied by muscle tension and a fearful facial expression.

As noted earlier, PTSD occurs twice as often in women as in men. While women and men are exposed to traumatic events at similar rates, men are more likely to experience trauma related to combat, crime, or kidnapping, whereas women are more likely to be victims of rape and/or physical assault (Wong & Yehuda, 2002). However, even when the type of traumatic event is taken into consideration, women are significantly more likely to develop PTSD than men. For example, a study of 122 men and women who experienced a serious motor vehicle accident found that women were 4.7 times more likely to experience avoidance and numbing and 3.8 times more likely to experience increased arousal (for example, hypervigilance and startle response) than men (Fullerton et al., 2001). Another study found that 36% of women who were victims of assault developed PTSD as compared to 6.2% of men (Breslau et al., 1998). Gender differences in the rates of PTSD after exposure to trauma seem to be related

to rates of preexisting anxiety or depression (which tend to be much higher among women), and possibly to a heightened vulnerability to anxiety as a function of normal hormonal fluctuations in women (Wong & Yehuda, 2002).

Studies have also found that generalized anxiety disorder (GAD) is two to three times more common in women than in men. In addition to suffering from GAD at dramatically higher rates than men, women with GAD are also more likely to suffer from additional psychological disorders, such as depression, than men with GAD (Pigott, 2003). Recent evidence suggests that, for women, genetic factors may contribute to the development of GAD and that there may be some overlap in genetic vulnerability to GAD and depression (Hettema, Neale, & Kendler, 2001). Furthermore, some of the so-ciocultural and biological factors described above may contribute to the disparity between men and women with regard to GAD.

Class

People living in poor urban environments are at increased risk for developing PTSD. There are at least two reasons for this: (1) they are more likely to have traumatic experiences than people living in other environments, and (2) they are more likely to experience additional psychological and sociocultural risk factors for PTSD (Buka et al., 2001). For example, inner-city residents witness more violence (gun fights, murders, etc.) than their middle-class counterparts, and they are also more likely to be the victims of violent crime (Hien & Bukszpan, 1999). A large community-based study in Baltimore found that inner-city adolescents with high rates of exposure to violence were more fearful, anxious, and likely to suffer from PTSD than their peers who had been exposed to lower rates of violence (Cooley-Quille et al., 2001). In addition, researchers have found that high levels of psychological stress prior to a trauma and a lack of social support afterward significantly increase the likelihood of developing a stress disorder in the wake of a traumatic experience (Ozer et al., 2003). Unfortunately, chronic psychological stress and inadequate social support are more often the rule than the exception in poor urban communities. For instance, one study found that urban, ethnic minority males with high levels of family conflict and low levels of family support were at greatest risk for developing PTSD when exposed to community violence (Buka et al., 2001). Evidence of heightened levels of anxiety among poor minority populations extends beyond elevated rates of PTSD. For example, the inherently stressful nature of being poor likely contributes to findings that low socioeconomic status is associated with high rates of panic disorder, phobias, and generalized anxiety disorder (Muntaner et al., 2004).

Classifying Anxiety Disorders



Cultural and Historical Relativism in Defining and Classifying Anxiety Disorders

The core concept of *cultural and historical relativism* highlights some additional challenges for the DSM-IV-TR system of classifying anxiety disorders. Anxiety disorders do not have universally agreed upon features; different cultures experience, define, and classify anxiety problems differently (Lopez & Guarnaccia, 2000). For example, Latino populations in Latin America and in the United States frequently use the term nervios (NER-vee-ose) to describe a range of symptoms of nervous distress similar to those listed in the DSM-IV-TR diagnosis of GAD (APA, 2000). Nervios may be characterized by headaches, irritability, stomachaches, and difficulty sleeping or concentrating. In some cases, it is accompanied by feelings of being nervous, but nervios may also involve subjective feelings of depression or dissociation (Chapter 7). The phrase **ataque** de nervios (ah-TAH-kay duh NER-vee-ose) is also used in some Latino cultures to describe an episode of intense anxiety similar to a panic attack (APA, 2000). Symptoms associated with an ataque de nervios include a feeling of being out of control, shaking, unrestrained shouting or crying, heat in the chest rising into the head, and aggressive verbal or physical behavior. Such ataques may also include feelings of faintness, dissociation, or suicidal thoughts and gestures. Unlike panic attacks which tend to occur "out of the blue," ataques de nervios are usually associated with an upsetting precipitating event (such as learning about the death of a loved one). Also, they do not typically involve the dread of experiencing another such attack, which is one of the diagnostic criteria for panic disorder.

The Chinese Classification of Mental Disorders recognizes a syndrome known as **shenjing shuairuo** (shen-jing shwai-row), which shares similarities with the DSM-IVTR descriptions of both anxiety and mood disorders (APA, 2000). Symptoms of shenjing shuairuo include difficulty sleeping and concentrating, physical or mental exhaustion, physical pains, and neurological symptoms such as dizziness, headaches, and memory loss. The Japanese diagnostic system includes a disorder known as **taijin kyofusho** (TIE-jean kyo-FOO-show), which is characterized by anxiety that one's body or aspects of one's body will be displeasing or offensive to others in terms of appearance, smell, or physical movement. This disorder has much in common with social phobia, although taijin kyofusho focuses specifically on concerns about bodily appearance or functioning.

As you may have already noted, members of Latino and Asian cultures often experience and describe anxiety mainly in terms of physical, not emotional, distress. This is related to the fact that emotional distress is highly stigmatized in some cultures and the expression of such distress to anyone outside of the immediate family is discouraged (Anand & Cochrane, 2005). Thus, in working with people from different cultures, clinicians need to be aware that anxiety is experienced and expressed differently in clients from different cultural contexts.

Anxiety disorders that are often assumed to have universal basic features, such as OCD, are also shaped by cultural factors. For example, a study of OCD sufferers in Bali, Indonesia, found that their most frequent obsessional concerns involved anxiety about the size of their social networks, concern about the identity and rank of passersby, and thoughts related to witchcraft and the spirit world (Lemelson, 2003).

As with cultural diversity, historical changes in the classification of anxiety disorders suggest that classification systems are always limited by the knowledge, values, and concerns of their particular historical settings. For example, the diagnosis of PTSD was not included in the DSM until 1980 with the publication of the DSM-III (APA, 1980), in spite of the fact that posttraumatic stress symptoms were commonly recognized in soldiers fighting in the American Civil War and both world wars (see Figure 4.3). During these wars, posttraumatic combat stress was often viewed as a sign of



Nervios A term used by Latino populations in Latin America and in the United States to describe a range of symptoms of nervous distress.

Ataque de nervios A term used in some Latino cultures to describe an episode of intense anxiety.

Shenjing shuairuo An anxiety syndrome recognized in China including symptoms of physical or mental exhaustion, difficulty sleeping and concentrating, physical pains, dizziness, headaches, and memory loss.

Taijin kyofusho An anxiety disorder recognized in Japan characterized by worry that one's body or aspects of one's body will be displeasing or offensive to others.



Learning from experience Studies of Vietnam War veterans have contributed significantly to our modern understanding of posttraumatic stress disorder (PTSD) and played a crucial role in the inclusion of PTSD as a diagnosis in the DSM-III in 1980.

Figure 4.3 PTSD: Evolution of a diagnosis The current form of the diagnosis of PTSD evolved over many decades. As you can see, advances in the understanding of the disorder have often occurred at times of war when clinicians are able to observe large numbers of traumatized veterans and civilians.

(Adapted from Goode, 2001, p. D1)

	1871	Jacob Mendes Da Costa, an Army surgeon in the Civil War, describes "irritable heart" in soldiers, characterized by shortness of breath, chest pains, dizziness, disturbed sleep, irritability and depression.
	1883	Herbert Page, an English physician, asserts that "railway spine," the wide array of symptoms displayed by some train accident survivors, is a result of "nervous shock."
	1895	Sigmund Freud and Josef Breuer publish <i>Studies on Hysteria</i> , arguing that mental disorders are sometimes rooted in psychological traumas.
World War I In 19 War		In 1919, Sir Thomas Lewis, a British cardiologist, notes "soldier's heart" in World War I veterans, with symptoms similar to those described by Da Costa.
		Other World War I surgeons identify "shell shock," blaming it on concussions from exploding shells. The symptoms—breakdown in battle, a dazed or detached manner, severe anxiety, and an exaggerated startle response—are now considered hallmarks of PTSD.
		Dr. William Rivers, a psychiatrist at a military hospital in Scotland, becomes one of the first doctors to treat returning veterans by having them recall traumatic events. The poet and war hero Siegfried Sassoon was one of his patients.
World War II In 1941, Abraham Ka neurosis" or "battle fa		In 1941, Abraham Kardiner, an American psychologist, suggests that "war neurosis" or "battle fatigue" has a physiological as well as a psychological basis.
		Twenty-five percent of evacuations from the front during World War II are for psychiatric reasons. Doctors find that soldiers treated promptly and near their combat units are better able to return to battle.
	Korean War	Psychiatric casualties are often treated near the battlefield. In some cases, sodium amytal, or "truth serum," is used to aid recall of trauma.
	1960s	Studies of Holocaust and Hiroshima survivors by Dr. Robert Jay Lifton and others document the impact of trauma on civilians.
	Vietnam War	Troops frequently rotated in tours of duty often lack the bonds of earlier veterans, whose units were kept together. Many develop "post–Vietnam syndrome," the diagnostic forerunner to PTSD.
	Late 1970s, 1980s	Pesearchers recognize that survivors of rape, earthquakes, and other nonmilitary traumas show many of the same symptoms as traumatized combat veterans.
	1980	Posttraumatic stress disorder first appears in the American Psychiatric Association's Diagnostic and Statistical Manual.

malingering and cowardice rather than as a legitimate disorder, and the soldiers were often punished rather than given treatment. The addition of the PTSD diagnosis to the DSM-III was prompted by clinicians who specialized in the treatment of Vietnam War veterans. These clinicians argued that the psychological effects of war trauma were genuine, common, severe, and persistent. In fact, studies have found that up to 30% of Vietnam War veterans experienced significant PTSD symptoms, and 15% continued to have symptoms for at least 15 years after returning from the war (Friedman, 2004; Thompson, Gottesman, & Zalewski, 2006).

Few questions remain about whether PTSD is a legitimate diagnosis, but much controversy remains about whether PTSD is best classified as an anxiety disorder. Although there are compelling arguments that anxiety is the major symptom of PTSD, some experts argue that PTSD would be better classified as a dissociative disorder (Chapter 7) since it often involves significant and persistent changes in states of consciousness such as flashbacks and extreme emotional detachment (Briere, Scott, & Weathers, 2005). Other experts have called for the creation of an entirely new diagnostic category of posttraumatic stress spectrum disorders that considers trauma type, stress symptom severity, and accompanying features such as depression, anxiety, and dissociative (e.g., Moreau & Zisook, 2002).

BRIEF SUMMARY

- There are important advantages and limitations of the DSM-IV-TR anxiety disorder diagnoses. While the reliability and validity of these diagnoses are relatively high, different anxiety disorders often co-occur, and they are also highly comorbid with disorders in other diagnostic categories.
- Children tend to express anxiety behaviorally (for example, crying, clinging) or in the form of physical complaints (stomachaches, headaches) and may be less bothered than adults by compulsive rituals or phobic behavior.
- Anxiety disorders are widely underdiagnosed among older adults and may differ in form and frequency than anxiety disorders in young and middle-aged adults.
- With the exception of OCD (which occurs equally in men and women) anxiety disorders are two to three times more common in females than in males.
- The gender differences in the rates of anxiety disorders may be explained by: sociocultural factors (for example, women are taught to be less assertive and selfsufficient), hormonal factors (panic attacks appear to be linked to hormonal fluctuations), and genetic factors (panic disorder is linked to mitral valve prolapse and hyperthyroidism, which are found more frequently in women).
- People who live in poor and violent neighborhoods are more likely to experience posttraumatic and acute stress disorders. Economically disadvantaged racial minorities have been found to have the highest rates of GAD.
- The core concept of *cultural and historical relativism* highlights some additional challenges for the DSM-IV-TR system of classifying anxiety disorders. Anxiety disorders do not have universally agreed upon features; different cultures experience, define, and classify anxiety problems differently. Furthermore, the classification of anxiety disorders has changed substantially over time, as in the relatively recent inclusion of PTSD in the DSM.

Critical Thinking Question Attempts to be culturally sensitive to the various presentations of anxiety disorders risk engaging in cultural stereotyping. Does specifying cultural patterns (such as that Asian individuals tend to express anxiety through physical symptoms) seem helpful, to be an example of stereotyping, or both?

EXPLAINING AND TREATING ANXIETY AND ANXIETY DISORDERS

All of the major theoretical perspectives in abnormal psychology offer concepts relevant to the explanation and treatment of anxiety disorders. We'll begin by describing the biological, behavioral, cognitive, psychodynamic, humanistic, and existential components of the etiology (causes) and treatment of anxiety disorders. Then, we'll turn our attention to the core concepts of the principle of *multiple causality* and the *connection between mind and body* to emphasize the ways in which theoretical components complement, interact, and overlap with each other.

Biological Components

For all of us, the experience of anxiety involves important physiological reactions. As we discussed at the beginning of this chapter, the human body has an extensive set of reactions to danger situations. It should come as no surprise, then, that the biological 23



A threatened mountain lion The fight-or-flight response is an adaptive, primitive reflex shared by all animals, humans included.

Autonomic nervous system (ANS) The part of the central nervous system that regulates involuntary bodily systems, such as breathing and heart rate; it is made up of the sympathetic and parasympathetic nervous systems.

Sympathetic nervous system The part of the autonomic nervous system that activates the body's response to emergency and arousal situations.

Parasympathetic nervous system The part of the autonomic nervous system that regulates the body's calming and energy-conserving functions.

Fight-or-flight response Extreme sympathetic nervous system arousal that prepares animals to flee or attack when faced with danger.

Limbic system A group of subcortical structures involved in the experience and expression of emotions and the formation of memories.

Amygdala A brain structure which registers the emotional significance of sensory signals and contributes to the expression of emotion. **Hippocampus** A brain structure involved in

the formation of memories. Hypothalamus A subcortical brain structure

that controls the endocrine, or hormonal, system.

perspective has much to contribute to the explanation and treatment of anxiety disorders.

The Autonomic Nervous System

The experience of fear and anxiety, whether pathological or normal, is almost always accompanied by the mobilization of the **autonomic nervous system** (which regulates involuntary bodily systems) (see Figure 2.5 in Chapter 2) and its two divisions: the **sympathetic** and **parasympathetic systems**. The sympathetic division activates survival responses to perceived threats. Under the direction of the sympathetic nervous system, the adrenal glands secrete stress hormones (adrenaline/epinephrine and noreadrena-line/norepinephrine), the heart beats faster, pupils dilate, muscles tense, and breathing speeds up and deepens. An extreme version of sympathetic nervous system arousal is known as the **fight-or-flight response**, which prepares animals to flee or attack when faced with danger. The existence of the fight-or-flight response reminds us that anxiety reactions are primitive and evolutionarily based. When the danger has passed, the parasympathetic system reverses the work of the sympathetic nervous system and returns the body to its resting, pre-anxiety state.

From a biological perspective, panic attacks can be viewed as an activation of the fight-or-flight response that occurs in the absence of any real threat. In other words, people who repeatedly experience panic attacks suffer from a fight-or-flight response that is triggered inappropriately. Researchers have shown that when the sympathetic nervous system is artificially stimulated (for example, by asking research participants to deliberately hyperventilate), people who have previously experienced panic attacks will often develop a full-blown panic attack while people with no history of panic attacks will not (Nardi et al., 2001).

The Limbic System

Located beneath the cerebral cortex, the **limbic system** includes the **amygdala** (uh-MIG-duh-la), **hippocampus**, and **hypothalamus** (see Figure 4.4). The limbic system plays an integral part in emotional reactions (such as anxiety), motivation, learning, and certain aspects of memory. The amygdala registers the emotional significance of the sensory signals it receives from the cortex, and the formation of memories appears to involve changes in the neural pathways of the amygdala and hippocampus (Weyandt, 2006). The amygdala sends information along to the hypothalamus, an area of the brain believed to play an important role in the development of conditioned emotional re-

Figure 4.4 The limbic system The limbic system, located near the center of the brain, includes the amygdala, hippocampus, and parts of the hypothalamus. The amygdala, in particular, plays a crucial role in recognizing the emotional significance of a stimulus.



sponses. When a person with a spider phobia sees a spider, the relevant sensory information (the visual image of the spider) is processed by the amygdala, which works in concert with the hippocampus to remember the emotional significance of the spider, and then send a signal to the hypothalamus saying "Danger! Activate emergency responses!"

Neurotransmission

The neurotransmitter **gamma-aminobutyric acid** (**GABA**) serves an inhibitory function in the central nervous system, meaning that it works to suppress nervous system activity. The limbic system is particularly rich with GABA receptors, and researchers believe that GABA works to calm the limbic system when it becomes overly excited (Sibille et al., 2000). For reasons that are not well understood, GABA does not seem to work effectively in the brains of people who suffer from high levels of chronic anxiety (as in GAD). It remains unclear whether highly anxious people have insufficient levels of the neurotransmitter, whether other neurochemicals interfere with GABA functioning, or whether they have problems with their GABA receptors. Substances such as Valium (a benzodiazapine) and alcohol are known to exert their relaxing effects by binding to GABA receptors.

Norepinephrine, another neurotransmitter, plays an active role in the functioning of the **locus coeruleus** (LO-cus sew-REEL-yus), a part of the brain stem associated with activation of the sympathetic nervous system (Figure 4.5). The locus coeruleus helps regulate arousal: monkeys with underactivated neurons in the locus coeruleus seem inattentive and drowsy, while monkeys with excessive neural firing in the locus coeruleus are distracted and disorganized (Berridge & Waterhouse, 2003). Once conditioned to a fear response, the neurons in the locus coeruleus become hypersensitive, firing even with minimal stimulation. Hypersensitive norepinephrine pathways in the locus coereleus seem to be involved in panic attacks and PTSD (Shekhar et al., 2002). Norepinephrine has been found at unusually high levels in people who have experienced extreme stress, and it appears that chronic exposure to uncontrollable stress may increase the sensitivity of norepinephrine receptors in the brain (Southwick et al., 1999).

Serotonin can have anxiogenic (anxiety-producing) or anxiolytic (anxiety-reducing) effects based on the region of the brain in which serotonin is released and the particular type of receptor activated by the serotonin (Charney & Drevets, 2002). Some research has found reduced serotonin functioning in people who suffer from repeated panic attacks, leading to the proposal that serotonin deficiencies cause the fight-or-flight system in the brain to fire at the slightest provocation (e.g., Neumeister et al., 2004). However, the balance of research on the relationship between serotonin and panic dis-



Gamma-aminobutyric acid (GABA) A neurotransmitter that inhibits nervous system activity.

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Norepinephrine A neurotransmitter associated with the activation of the sympathetic nervous system; involved in depression and panic attacks.

Locus coeruleus A part of the brain stem associated with activation of the sympathetic nervous system.

Serotonin A neurotransmitter associated with depression and anxiety.

Figure 4.5 Brain structures involved in panic attacks, PTSD, and OCD Hypersensitive norepinephrine pathways in the locus coereleus (Part a), a brain structure that regulates physiological arousal, appear to play a role in the generation of anxiety symptoms associated with panic attacks and PTSD. Overactive primitive brain structures, such as the caudate nucleus and the orbital frontal cortex (Part b), have been implicated in the intrusive, unwanted thoughts associated with OCD.

order has yet to find a systematic relationship between serotonin function and panic symptoms (Charney & Bremner, 2004). Serotonin has also been implicated in OCD, although the relationship between the two is not well understood (Micallef & Blin, 2001). The link between serotonin and obsessive-compulsive symptoms was discovered when clients with OCD who were taking serotonin-stimulating drugs for other reasons (primarily depression) reported a reduction in their obsessions and compulsions.

Another interesting line of speculation about the biological basis of OCD (which overlaps with psychodynamic explanations) suggests that we all have constant sexual or violent urges in the "primitive" part of our brains, but these impulses normally do not "break through" to consciousness and are therefore not usually problematic. There is evidence that primitive brain structures (for example, the caudate nuclei and the orbital frontal cortex; Figure 4.5) that may give rise to such "forbidden" impulses are overly active in people who suffer from OCD, causing unwanted and disturbing thoughts to make their way into consciousness (Beutel, Stern, & Silbersweig, 2003).

Autoimmune Disorders

Not long ago, Dr. Susan Swedo and her colleagues identified a disorder they named Pediatric Autoimmune Neuropsychiatric Disorders Associated with Streptococcal infections, or PANDAS for short (Swedo et al., 1998). PANDAS describes an unusual condition in which children who recently suffered from strep throat develop OCD symptoms. While OCD usually develops gradually and may have periods in which it is more or less severe, the OCD symptoms associated with PANDAS often begin literally overnight, and then disappear before returning periodically. The cause of PANDAS is still under active investigation, but researchers believe that antibodies that develop in response to a streptococcal infection attack the **basal ganglia** and the caudate nucleus, thus causing OCD symptoms. Indeed, the exacerbation of OCD appears to be more likely to occur when antistreptococcal antibodies are present, and brain imaging studies have found swelling in the basal ganglia and caudate nucleus when antibody levels are high (Swedo & Grant, 2005).

PANDAS is typically treated with a combination of medications and cognitivebehavioral therapy. Plasma transfusions or intravenous immunoglobulin (to counter the effects of antistreptococcal antibodies) have also been found to effectively reduce OCD symptoms in PANDAS sufferers (Perlmutter et al., 1999). While PANDAS is (thankfully) an extremely rare disorder, researchers are hopeful that further study of the disease's mechanisms and brain effects will shed light on the neurological processes involved in non-PANDAS OCD.

Genetic Factors

Genetic vulnerabilities appear to play a role in most of the anxiety disorders. Concordance rates in monozygotic (identical) versus dyzygotic (fraternal) twins demonstrate that genetic factors account for 30 to 50% of an individual's vulnerability to developing any anxiety disorder (Gordon & Hen, 2004). However, the amount of genetic influence varies considerably among the different DSM-IV-TR disorders. Panic disorder appears to be significantly heritable; lifetime rates of panic disorder among the firstdegree relatives of people known to have the disorder range between 7.7 and 17.3% compared to a range from 0.8 to 4.2% among first-degree relatives of people who do not have panic disorder (Noyes & Hoehn-Saric, 1998). Genetic factors also play a significant role in OCD, phobias, and GAD (Hettema, Neale, & Kendler, 2001; Weyandt, 2006). Recent research suggests that early-onset OCD may result from a very specific genetic anomaly that contributes to irregularities in the neurotransmission of glutamic acid (Dickel et al., 2006). Interestingly, genetically based disruptions in the transmission of glutamic acid appear to contribute to OCD in men only.

Basal ganglia A subcortical brain structure involved in the regulation of movement.

Biological Interventions

Barbiturates, powerful sedating drugs such as Amytal, were widely used to treat anxiety symptoms until the 1950s when it became apparent that they were dangerously addictive (Chapter 9). **Benzodiazepines** (such as Valium, Xanax, and Ativan), which enhance the functioning of the inhibitory neurotransmitter GABA, seemed at first to be a much safer alternative to barbiturates. However, it has since been recognized that the benzodiazepines are also physically addictive, often have undesirable side effects (such as drowsiness and loss of coordination), and do not provide long-term relief from anxiety. Furthermore, the benzodiazepines heighten the effects of other depressant drugs, such as alcohol, and are potentially lethal when taken in combination with other depressants. However, benzodiazepines are widely and safely used for the short-term treatment of anxiety.

Panic Disorder and Agoraphobia

Researchers discovered in the 1960s that certain antidepressant drugs could reduce or eliminate panic attacks—even in clients who were not depressed—although the same drugs did not generally help with other anxiety disorders (Klein, 1964). This evidence led to the hypothesis that the biological basis of panic might be different from that of other forms of anxiety, a hypothesis that remains a focus of research. In any case, antidepressant medications are the leading biological treatment for panic disorder. Antidepressants, especially **SSRIs** (selective serotonin reuptake inhibitors such as Prozac, Zoloft, and Paxil) and tricyclic antidepressants (such as Tofranil, Elavil, and Sinequan), affect levels of key neurotransmitters such as serotonin and norepinephrine (Chapter 5). These medications are a very effective treatment for panic disorder. Over 80% of clients in one study reported relief from panic attacks while taking antidepressants (Perna et al., 2001). Research indicates that some clients may be helped by a selective norepinephrine reuptake inhibitor (selective NRI) antidepressant known as reboxetine (brand name Edronax). A recent study found that reboxetine significantly reduced panic attacks, anxiety, and depression in clients who had not responded well to SSRI treatment (Dannon, Iancu, & Grunhaus, 2002). Unfortunately, most clients taking antidepressants for the treatment of panic attacks relapse when they stop taking the medication.

Obsessive-Compulsive Disorder

The SSRIs are also widely prescribed to reduce OCD symptoms: while only about half of OCD sufferers respond well to the first SSRI they try, as many as 80% will ultimately be helped by at least one of the many SSRI medications (Swedo & Snider, 2004). When necessary, benzodiazepines and neuroleptics (medications that are typically used to treat psychosis—Chapter 12) can be used to augment the efficacy of SSRIs in the treatment of OCD (Walsh & McDougle, 2004). Neuroleptics appear to be especially useful when OCD symptoms are accompanied by a tic disorder, as in the case featured in Box 4.3.

Posttraumatic and Acute Stress Disorders

Some, but not all, of the SSRIs have been found to aid in the management of anxiety and and intrusive thoughts in PTSD and ASD (Yehuda et al., 2002). A non-SSRI antidepressant known as bupropion (brand name Wellbutrin) appears to treat PTSD by inhibiting the reuptake of norepinephrine in the central nervous system, thus reducing the firing rates of norepinephrine neurons (Dong & Blier, 2001). As you'll recall, hypersensitivity of the norepinephrine system is thought to contribute to the symptoms found in PTSD (Goddard et al., 2004).



Medicating anxiety

Benzodiazepines, such as Xanax and Valium, can be useful in the treatment of anxiety. However, because they are highly addictive, benzodiazepines should only be used to treat anxiety on a temporary basis.

Barbiturates Sedative drugs sometimes used to treat anxiety.

Benzodiazepines Sedative drugs that treat anxiety by increasing the activity of gammaaminobutyric acid (GABA).

Selective serotonin reuptake inhibitors (**SSRIs**) A "second generation" class of antidepressant medications that block the reuptake of serotonin from the synapse; used in the treatment of depression and other disorders.

Tricyclic antidepressants A "first generation" class of antidepressant medications which increases the availability of both serotonin and norepinephrine.

27



Diagram of the Sympathetic and Parasympathetic Nervous System in Action

Step Two

Mobilization of the sympathetic nervous system to prepare body for fight-or-flight

Step One Exposure to an anxietyproducing threat



Cobra about to attack.



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he experience of fear and anxiety, whether pathological or normal, is almost always accompanied by the mobilization of the **autonomic nervous system** (which regulates involuntary bodily systems) and its two divisions: the **sympathetic** and **parasympathetic systems**. The sympathetic division activates survival responses to perceived threats.

Under the direction of the sympathetic nervous system, the adrenal glands secrete stress hormones (adrenaline/epinephrine and noreadrenaline/norepinephrine) and the heart beats faster and harder while pupils dilate to improve distance vision. The mouth dries up, and digestion slows while blood is directed away from the stomach toward the muscles in case they need oxygen for fast action. Sweating increases and breathing speeds up and deepens as the lung airways widen. The physiological processes activated by the sympathetic nervous system prepare animals to flee or attack when faced with danger, a phenomenon known as the **fight-or-flight response**. The existence of the fight-or-flight response in humans reminds us that anxiety reactions are primitive and evolutionarily based.

When the danger has passed, the parasympathetic system reverses the work of the sympathetic nervous system and returns the body to its resting, pre-anxiety state sometimes known as the rest-and-digest response. The parasympathetic nervous system is responsible for maintaining the bodyís energy stores, and does so by regulating blood sugar levels and heart rate, stimulating the secretion of saliva, and eliminating bodily wastes.

Step Four

Mobilization of the parasympathetic nervous system to return body to its relaxed rest-and-digest state



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30 CHAPTER FOUR Anxiety and the Anxiety Disorders

Social Phobia

Beta-blockers Drugs that treat anxiety by decreasing the activity of norepinephrine.

Azaspirones Drugs that treat anxiety by regulating serotonin.

Classical conditioning Learning that takes place via automatic associations between neutral stimuli and unconditioned stimuli.

Operant conditioning A form of learning in which behaviors are shaped through rewards and punishments.

Modeling Learning based on observing and imitating the behavior of others; see also **social/observational learning**.

SSRIs are currently considered to be the most effective medical treatment for social phobia, though they only appear to work in about half of the people to whom they are prescribed (Goddard et al., 2004). **Beta-blockers** (such as Inderal), which decrease the activity of norepinephrine and benzodiazapines, are sometimes prescribed when social phobias are limited to circumscribed situations (such as public speaking) and the medications can be taken on a limited basis. Given that social phobia is associated with high rates of alcoholism and other forms of substance abuse, responsible clinicians are cautious when prescribing benzodiazapines to social phobia sufferers (Kessler, 2003).

Generalized Anxiety Disorder

The SSRI paroxetine (brand name Paxil) and the serotonin-norepinephrine reuptake inhibitor (or SNRI) venlafaxine (brand name Effexor) are two antidepressants that are commonly used to treat GAD (Pollack et al., 2001). In general, antidepressant medications have helped to ease, but not eliminate, the symptoms of GAD. Recent studies suggest that venlafaxine, a relatively new treatment option for GAD, may be able to substantially reduce, and in some cases eliminate, GAD symptoms (Sheehan, 2001). **Azaspirones** (such as BuSpar), which help regulate serotonin, are sometimes used to treat GAD when paroxetine and venlafaxine have been insufficiently effective (Goddard et al., 2004).

BRIEF SUMMARY

- The biological perspective emphasizes the role of the autonomic nervous system, the limbic system, neurotransmitters, autoimmune, and genetic factors in anxiety disorders.
- Presently, antidepressants are the preferred biological treatment for panic disorder, obsessive-compulsive disorder, posttraumatic and acute stress disorder, social phobia, and generalized anxiety disorder.
- Benzodiazepines and neuroleptics are sometimes also prescribed for the treatment
 of obsessive-compulsive disorder; beta-blockers and benzodiazepines can be used
 to diminish situation-specific social phobia; and azaspirones can be prescribed to
 aid in the treatment of generalized anxiety disorder when antidepressants are insufficiently effective.

Behavioral Components

Behavioral approaches to anxiety disorders draw on the three forms of learning described in Chapter 2:

- Classical conditioning: learning based on automatic mental associations
- **Operant conditioning:** learning based on reinforcement
- Modeling: learning based on observation of others

We will focus on the behavioral explanation of phobias, since it best illustrates the use of behavioral concepts to explain an anxiety disorder. According to classical conditioning theory, an irrational fear (a phobia) can be created when a neutral stimulus that does not usually cause fear happens to be present during a strong fear response to a naturally frightening stimulus. As you recall from Chapter 2, this theory was tested in John Watson's famous "Little Albert" experiment in which an 11-month-old infant boy was taught to fear a white rat that he had initially liked (Watson & Raynor, 1920). To do this, Watson and his assistant presented the rat (a neutral stimulus) to Little Albert and waited until Albert expressed interest in playing with the animal. When Albert ea-

gerly reached for the rat, the experimenters banged a metal bar with a hammer, terrifying the boy with the loud noise. (To review, the noise is known as an unconditioned stimulus—UCS—because it auto- matically elicits a fear reflex without any conditioning.) The procedure was repeated several times and before long Little Albert became frightened of the rat by itself (now, the conditioned stimulus—CS—since conditioning was necessary to make the rat elicit fear). Little Albert had automatically associated the rat and the noise because they were present together in time, a situation known as **temporal contiguity.** In addition, Watson demonstrated that Little Albert generalized this fear to other similar-looking objects including a rabbit, a fur coat, and a Santa Claus beard. Although Watson's treatment of Little Albert is highly unethical by modern research standards, the experiment provides a vivid example of the original classical conditioning explanation of phobias.

Interestingly, operant conditioning also plays an important role in behavioral explanations. Once people develop a phobic response, they tend to avoid what they fear. According to the principles of operant conditioning theory, this avoidance behavior is negatively reinforced because it removes people from feared unpleasant situations. As you'll recall, negative reinforcement involves the removal of an unpleasant stimulus. The term *negative* refers to the removal of the stimulus, and *reinforcement* refers to the fact that the behavior that led to the removal of the stimulus will be more likely (as opposed to less likely) to recur in the future. Put simply, if a man with a dog phobia sees a dog, he'll feel better when he hurries away from the dog (removes the unpleasant stimulus); having felt better (reinforcement) after hurrying away, it's likely that he'll hurry away again the next time he sees a dog. Because people feel better when they avoid feared objects, they usually continue their avoidance which, unfortunately, reduces the opportunity for extinction (that is, deconditioning, or unlearning) of the phobia. In other words, a person who develops a dog phobia after being bitten (UCS) by a dog (CS) may actively avoid all dogs and never come into contact with warm and friendly hounds that might help counteract the phobia. Modeling, or vicarious conditioning (learning by watching others), is another possible behavioral mechanism for the acquisition of phobias. For example, the son of a father with a dog phobia who sees his father panic at the sight of dogs might soon develop a fear of dogs.

Modern behavioral theorists have noted that some phobias are acquired much more easily than others, possibly because of our genetic heritage (Ohman & Mineka, 2001). You may recall that most phobias involve potentially dangerous animals, or potentially risky natural situations, such as elevated or enclosed spaces, while few people have gun or knife phobias, even though guns are certainly more dangerous than spiders. Such observations lead to a theory of **prepared conditioning**, a modern revision of the original classical conditioning model (Seligman, 1971). According to this approach, humans may have a genetic predisposition to fear once-dangerous objects and situations such as snakes and heights because our ancestors who shared such fears are more likely to have survived to contribute to the gene pool. This could explain why phobias to these "prepared" stimuli can sometimes develop after a single conditioning experience without requiring repeated pairings of the UCS and CS.

In recent years, behaviorists have added several layers of complexity to their theories in order to account for the fact that not everyone who experiences an unfortunate pairing of a CS (such as a dog) and an aversive UCS (such as a dog bite) goes on to develop an anxiety disorder. Modern behavioral theories of anxiety rely on the *principle of multiple causality* by incorporating variables that precede, accompany, and follow anxiety-provoking experiences (Mineka & Zinbarg, 2006).

Preceding Variables

Behavioral theories consider several variables that predispose a person to, or protect a person from, developing an anxiety disorder when faced with a harrowing experience:

Temporal contiguity Two events occuring closely together in time.

Negative reinforcement Increasing the probability of a behavior by removing an unpleasant stimuli when the behavior occurs.

Extinction The weakening of a connection between a conditioned stimulus and a conditioned response.

Prepared conditioning Classical conditioning based on an evolutionarily derived sensitivity to certain stimuli that were dangerous in an ancestral environment.

genetic factors, early life events, and previous learning experiences. With regard to genetic factors, research indicates that people who are extremely timid and shy beginning in early childhood—often a genetic trait referred to as *behavioral inhibition*—are more likely than their outgoing peers to develop anxiety disorders (e.g., Gladstone et al., 2005). In terms of early life events, people raised in predictable environments that foster a sense of control and mastery appear to be less likely to develop anxiety disorders when faced with a traumatic or uncontrollable event than children raised in unpredictable and frightening environments (e.g., Ozer et al., 2003). As for previous learning experiences, behaviorists now account for a phenomenon known as *latent inhibition* in which prior exposure to a CS in the absence of an aversive UCS decreases the likelihood of developing an anxiety disorder once the CS and UCS are paired (Craske & Waters, 2005). Put simply, a man with a friendly dog of his own is far less likely to develop a phobia after being bitten by a dog than a man who had minimal exposure to dogs before being bitten!

Accompanying Variables Factors that accompany a frightening experience, such as the degree to which a person feels he or she can control the event, may also influence whether the person goes on to develop an anxiety disorder. For example, a man who is attacked by a dog but manages to escape is less likely to go on to develop an anxiety disorder than a man who is attacked by a dog and rescued by someone else (Mineka & Zinbarg, 2006). Even in situations such as physical assault or political imprisonment or torture, people who feel that they were mentally defeated are more likely to go on to develop PTSD than people who felt that they maintained mental, if not physical, control of the experience (Dunmore, Clark, & Ehlers, 2001; Ehlers, Maercker, & Boos, 2000).

Postevent Variables Behaviorists have observed a phenomenon known as *inflation or reinstatement of fear* that sometimes occurs after a person has developed or recovered from a mild fear response. Research indicates that a person who has a mild fear of a CS, or has recovered from fearing a CS, might develop a heightened fear of the CS if faced with a totally unrelated aversive UCS (Hermans, 2005). For example, the man who develops a mild fear of dogs (CS) after being bitten (UCS) by a dog might suddenly find his fear of dogs intensified if he happens to be in a frightening car accident (unrelated UCS) in which no dogs are present. Another postevent variable that can heighten fear responses is a *reevaluation effect* that occurs when a person receives new information about a past traumatic experience. Mineka and Zinbarg (2006) give the example of a person with mild PTSD following an assault who later develops full-blown PTSD upon learning that the assailant had murdered other victims.

Behavioral Interventions Behavioral interventions are designed to extinguish (or unlearn) learned abnormal anxiety reactions. Although there are a number of behavioral approaches to treating anxiety, all rely on the principle that people must be *exposed* to the objects or situations that they fear in order to overcome their fears. In this way, fears can be unlearned in the same way they were learned in the first place.

Phobias One of the most widely used interventions for phobias, **systematic desensitization**, involves two critical components: **relaxation training** and the construction of a **fear hierarchy**. First, clients are taught to relax themselves by focusing on their breathing and on flexing and relaxing their muscles in a predetermined sequence. With practice, many clients develop the ability to achieve a deep state of relaxation very quickly. Next, the therapist and client work together to develop a fear hierarchy in which they rank frightening situations from least to most terrifying. For example, a woman with a spider phobia might create a fear hierarchy that ranges from looking at

Systematic desensitization Intervention involving gradually increasing exposure to a conditioned stimulus (such as a feared object) while practicing relaxation techniques.

Relaxation training Technique for teaching people to calm themselves by regulating their breathing and attending to bodily sensations.

Fear hierarchy In systematic desensitization, a list of feared situations ranging from least to most terrifying.

a picture of a spider in a magazine to holding a jar containing a spider, touching a spider, and allowing several spiders to crawl on her arm. Eventually, she would participate in each of these activities in sequence while using her relaxation training to keep her feelings of anxiety at bay. For example, when able to feel relaxed while looking at a picture of a spider in a magazine, she would move on to holding a jar containing a spider, and so forth. Because it is impossible to feel relaxed and fearful at the same time, systematic desensitization works by helping clients to unlearn the connection of the feared object (in this case, spiders) and the fear response. If **in vivo desensitization** (actual physical exposure to the feared object) is not possible or desired, **covert desensitization** can be used instead. In covert desensitization the client *imagines* the frightening object or situation, such as being trapped in a room full of spiders, while using relaxation techniques to combat anxiety.

Computer-generated environments, also known as *virtual reality*, can be used in place of actual exposure to feared objects or situations. Although research in this area is still quite new, early results suggest that virtual reality therapy can be an effective treatment for a wide variety of phobias, including fears of flying, driving, or being in social situations (Arbona et al., 2004; Klinger et al., 2005; Walshe et al., 2003).

Flooding is another form of exposure therapy in which clients are directly confronted with the object or situation that they fear, but without working through a fear hierarchy first. Ideally, such exposure extinguishes the phobia because the experience proves that the pairing of the UCS and CS was merely accidental and the phobic object is not dangerous by itself. Flooding typically involves prolonged exposure to the feared object or situation so that the client's anxiety has time to come to a peak and then decline. For example, one young man had an intense fear of the noise made by a popping balloon and avoided all situations in which he might possibly come into contact with balloons. In three flooding sessions on three consecutive days he participated in the popping of hundreds of balloons and soon after reported that his balloon phobia was substantially diminished (Houlihan et al., 1993). Although flooding can be an effective and efficient treatment for phobias, some clients prefer not to undergo the procedure there are ethical concerns about recommending it, given that it has the potential to make some clients more anxious.

Empirical research has found exposure-based therapies to be highly effective in the treatment of phobias (Barlow, Raffa, & Cohen, 2002). For example, a study evaluating the effectiveness of exposure interventions for people suffering from claustrophobia (fear of enclosed spaces) compared intensive exposure (similar to flooding), gradual exposure (like systematic desensitization), and interventions that drew on both cognitive and behavioral techniques (CBT) (Ost et al., 2001). Eighty percent of the participants who underwent a single 3-hour session of intensive exposure (containment in an enclosed space) reported significant improvement, as did 81% of the participants in the gradual (5-session) exposure group and 79% of the participants in the CBT group. One year later, 100% (intensive exposure), 81% (gradual exposure), and 93% (CBT) of the participants reported that the improvement had been maintained.

Panic Disorder Systematic desensitization can also be used to address panic disorder. Clients construct a hierarchy of situations in which they feel they are most likely to have a panic attack and then use *in vivo* or covert desensitization to expose themselves to such situations while remaining relaxed. Unfortunately, some people with panic disorder find that everyday bodily sensations become classically conditioned to trigger a panic attack. For example, a woman whose heart races during a panic attack may start to have a panic attack (or become terrified of having a panic attack) every time her heart rate become elevated. In behavioral terms, heart rate acceleration becomes a CS that can induce panic attack once it has been paired with an actual panic attack (UCS). In a

In vivo desensitization Behavioral desensitization training in which the client is actually confronted with the feared stimulus.

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Covert desensitization Behavioral desensitization intervention for phobias in which the client practices relaxation techniques while imagining being confronted with the feared stimulus.

Flooding Intensive exposure to a feared stimulus.

Interoceptive exposure Deliberate induction of the physiological sensations typically associated with a panic attack.

Exposure and response prevention A behavioral intervention in which clients are encouraged to confront a frightening thought or situation and then prevented from engaging in anxiety-reducing behaviors.

Covert response prevention Exposure and response prevention in obsessive-compulsive disorder for clients whose compulsions are mental processes (not behaviors).

Prolonged imaginal exposure A behavioral intervention in which clients suffering from posttraumatic stress disorder are encouraged to describe the traumatizing experience(s) in detail.

technique known as **interoceptive exposure**, clients are encouraged to run up and down stairs to increase their heart rates, spin themselves in chairs until they feel dizzy, or hyperventilate until they feel numb and tingly in order to induce panic-like symptoms. They are then encouraged to resist the impulse to overreact to their bodily sensations, and they consequently learn that the feared bodily sensations are normal and do not necessarily herald a panic attack (Meuret et al., 2005). Interoceptive exposure can be combined with cognitive interventions designed to correct panic-inducing, catastrophic misinterpretations of normal bodily sensations.

Obsessive-Compulsive Disorder According to behavioral theory, OCD develops when a compulsive ritual happens to reduce anxiety caused by a disturbing thought, thereby reinforcing the ritual behavior. Thus, in the leading behavioral intervention for OCD, clients are encouraged to entertain disturbing thoughts while they are prevented from carrying out their anxiety-reducing compulsive rituals—a process known as **exposure and response prevention.** For example, a man who feels compelled to constantly sort, clean, and organize in order to calm his disturbing thoughts that he will otherwise "lose control" of himself might be given the following instructions:

- Do not sort through the mail on the day it arrives—allow it to sit on the kitchen counter for two days.
- Do not make your bed for an entire week.
- Do not put your clothes away in the evening, lay them on your bedroom chair instead.

This intervention addresses both the compulsions and the obsessions. It interrupts the compulsive rituals and therefore keeps them from being reinforced by a reduction in anxiety. It also gives the client the chance to see that his anxiety (about losing control) is unfounded and tolerable, because he does not lose control. When both the obsessions and compulsions are mental processes—for example, an intrusive urge (obsession) to swear out loud in church countered by the ritual (compulsion) of silently reciting the Hail Mary exactly 55 times—**covert response prevention** may be used to break into the cycle. Such a person would be told to prevent herself from reciting the 55 Hail Marys after having the urge to swear out loud in church in order to create exposure to the anxiety and lead to its extinction. Exposure and response prevention therapy has been found to be a relatively effective intervention for the treatment of OCD (Franklin et al., 2000).

Posttraumatic Stress Disorder Behavioral explanations of PTSD assume that posttraumatic anxiety is maintained by the persistent avoidance of everything associated with the traumatic experience, which prevents exposure to the conditioned stimulus (CS) that could lead to extinction of the anxiety. In a technique known as **prolonged imaginal exposure**, clients are assisted in recounting all of the events surrounding the traumatic experience and describe the trauma as if it were happening all over again. By exposing themselves to their own memories of the traumatic event, clients learn that remembering the event is not the same as reliving it, and the link between the actual trauma and stimuli that evoke anxiety because they were associated with the trauma is weakened (Harvey, Bryant, & Tarrier, 2003). Training in relaxation techniques and the development of adequate coping mechanisms can help clients tolerate the anxiety that often accompanies the exposure process.

Consider how behavioral techniques were used to help a woman suffering from PTSD after the World Trade Center attacks:



Facing one's fears Using systematic desensitization, a therapist can help a client to feel relaxed in the presence of what had been a terrifying stimulus.

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CASE ILLUSTRATION

Normally buoyant and filled with energy, Ms. Mendez, who worked as a security guard at the World Trade Center, has been disabled by the horrors she experienced on September 11.

She feels dizzy and has heart palpitations. Plagued by insomnia she hardly sleeps; when she does, she has terrible nightmares. She is afraid of crowded places, startles at any loud noise and is reluctant to leave her apartment in Queens. Most upsetting, any reminder of the terrorist attacks sets off a cascade of terrifying mental images, like a movie she cannot turn off. . . .

In mid-October, Ms. Mendez, 59, sought help at a medical clinic in Midtown Manhattan and was referred to Dr. Jaime Carcamo, a psychologist in private practice who is also a researcher at Columbia University.

"The first session, she wasn't able to talk about what happened to her," Dr. Carcamo said. "She was very brief in what she talked about and there were a lot of things she didn't remember."

But on her second visit, Ms. Mendez was able to tell her story in great detail, how she had been standing on the plaza when the planes hit, how she ran through a dark cloud of dust and debris, how she sat on a fire hydrant on Varick Street, weeping as she watched the towers collapse.

At the end of that session, "she was actually very relieved," Dr. Carcamo said. In future sessions, he said, he will ask Ms. Mendez to recount her experience over and over in the present tense, periodically asking her to rate her anxiety level on a scale from 0 to 100. He will also teach her relaxation techniques to use when she becomes frightened, and give her assignments, like watching the news for one hour or telling a relative about her experience. At some point, he said, he may accompany her to a crowded place or some other situation she fears.

(Goode, 2001, pp. D1, D6)

Critical How do Ms. Mendez's symptoms demonstrate the *connection between mind* Thinking and body? Question

Cognitive Components

People with anxiety disorders tend to misinterpret events in three important ways: they fixate on perceived dangers and threats, they overestimate the severity of the perceived danger or threat, and they drastically underestimate their ability to cope with the dangers and threats they perceive (Wells, 1997). People are especially likely to misinterpret events when maladaptive beliefs and assumptions influence their thinking (Brown & Beck, 2002). Maladaptive beliefs are global negative thoughts about the self or the world that go unquestioned by the person who holds the belief (for example, "I'm dumb," or "I'm unlovable"). Maladaptive assumptions are negative expectations about the relationship between behaviors and outcomes (for example, "Unless I do things perfectly, people will think I'm an idiot") (Ellis, 1997).

Beliefs and assumptions are part of general thought patterns known as **cognitive Schemas** (Beck, Emery, & Greenberg, 2005). Dysfunctional cognitive schemas are more rigid, simplistic, and negative than healthy cognitive schemas. For example, when someone who is an adequate but reluctant public speaker is asked to speak in front of an audience, a dysfunctional cognitive schema might be: "I'm incompetent and will certainly fail." In contrast, the same hypothetical person with a more adaptive cognitive schema might think, "I generally succeed when I try."

Cognitive schemas Mental models of the world that are used to organize information.

Dysfunctional cognitive schemas give rise to negative automatic thoughts that fixate on the threat ("I can't stop thinking about that speech I have to give"), overestimate the threat involved ("I'll never recover from this failure"), and underestimate the individual's ability to cope with the threat ("I'm a totally incompetent public speaker"), all of which contribute to anxiety. On the day of her presentation, the reluctant public speaker described above might experience a further barrage of negative automatic thoughts that only exacerbate her anxiety:

- "I've flubbed my introduction, there's no point in continuing."
- "This talk is a total disaster!"
- "I'm such a fool."
- "That person looks distracted, she hates my presentation."

Cognitive theorists have identified several maladaptive cognitive schemas that contribute to specific anxiety disorders (see Table 4.8).

Cognitive theories of anxiety focus both on the *content* of anxious thinking dysfunctional cognitive schemas and negative automatic thoughts—and on the thought *processes* that generate anxiety-provoking themes. Cognitive theorists have identified several common **cognitive distortions**, or biased thought processes, that contribute to the maladaptive interpretation of events (see Table 4.9). If we return to our public speaker's negative automatic thoughts, we can see how each results from a cognitive distortion.

- "I've flubbed my introduction, there's no point in continuing." **Dichotomous** reasoning
- "This talk is a total disaster!" Catastrophizing
- "I'm such a fool." Labeling
- "That person looks distracted, she hates my presentation." Personalization

Anxiety-producing thoughts interfere with optimal functioning and create a vicious cycle. Returning once again to our public speaker, we can see how her negative automatic thoughts might interfere with her ability to give a good speech. Rather than thinking about her presentation, she's worrying about what the audience is thinking about her. When the presentation goes poorly, she will be even more convinced of her incompetence as a public speaker. While other people might understand that being anxious makes it hard to give a good speech, the cognitive distortions that shape our speaker's thinking may prevent her from considering that possibility.

As described in the section on Behavioral Components, an individual's anxious thoughts can lead to avoidance behaviors that prevent the extinction of anxiety and maintain anxious thinking. Consider, for example, a man who avoids elevators because he fears that the elevator will get stuck, causing him to experience a humiliating panic attack in front of his colleagues. Since he always takes the stairs, he never has experiences that could contradict his maladaptive beliefs that: (1) elevators are likely to get stuck, (2) his racing heartbeat while in a stuck elevator will cause a panic attack, and (3) if he has a panic attack in front of his colleagues, they will think less of him.

Empirical evidence supports several aspects of the cognitive explanation of anxiety disorders. To test whether highly anxious people do, in fact, focus their attention on dangerous situations, one research team presented research participants, some with generalized anxiety disorder (GAD) and some without GAD, with pictures of four kinds of faces: threatening, happy, sad, and neutral. They found that the participants with GAD were more likely to look at the threatening faces first and that, compared to the control group, they shifted their gaze quickly *toward* the threatening face rather than quickly *away* from it (Mogg, Millar, & Bradley, 2000).

Cognitive distortions Irrational beliefs and thinking processes.

Dichotomous reasoning A cognitive distortion involving thinking in terms of extremes and absolutes.

Catastrophizing A cognitive distortion involving the tendency to view minor problems as major catastrophes.

Labeling A cognitive distortion in which people or situations are characterized on the basis of global, not specific, features.

Personalization A cognitive distortion in which one wrongly assumes that he or she is the cause of a particular event.

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Maladaptive Cognitive Schemas Associated with Specific Anxiety Disorders				
DISORDER	MALADAPTIVE COGNITIVE SCHEMAS	TYPICAL NEGATIVE AUTOMATIC THOUGHTS		
Generalized anxiety disorder	 Overestimates dangerousness of situations Doubts coping abilities 	 "I forgot to lock the window—I'll certainly be robbed." "If my boyfriend breaks up with me, I'll fall apart." 		
Panic disorder	• Acute "fear of fear"—fearing that benign bodily sensations herald a panic attack	• "My heart is beating quickly. Oh no! I'm about to have a panic attack!"		
Specific phobia	 Overestimates dangerousness of feared object or situation Overestimates likelihood of negative outcomes in relation to feared object or situation 	 "All dogs are vicious." "If I am in a high place, I will certainly fall." 		
Social phobia	Fears performance failureFears negative evaluationSelf-focuses attention	 "My mind will go blank if someone asks me a question." "I can tell that he already hates me." "Everyone can see that I'm sweating." 		
Agoraphobia • Generalizes anxiety associated with having a panic attack to all external situations		• "If I go to the mall, I'll have a panic attack."		
Obsessive-compulsive disorder	 Exaggerates risk appraisals Holds maladaptive beliefs about the unacceptability of certain types of thoughts 	 "If I handle money, I might contract AIDS." "Only a horrible person would have thoughts about hurting a child." 		
Posttraumatic and acute stress disorders	 Exaggerates risk appraisals Over-generalizes emotional response 	 "I can't keep myself safe." "If I feel scared, I must be in danger." 		

TABLE 4.8 Malad

Adapted from Caballo, 1998; Leahy, 1997; and Wells, 1997

Cognitive Interventions

Cognitive interventions for anxiety disorders are generally goal-oriented and highly structured; cognitive therapists take an active, directive stance toward the client and his or her problems (Beck, Emery, & Greenberg, 2005). Early sessions are spent formulating goals and introducing the client to the idea that anxious feelings arise from

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Dichotom	nous reasoning ■ Seeing things in terms of two mutually exclusive
catego	ries with no "shades of gray" in between. Example: believing that one
<i>either</i> a	success <i>or</i> a failure and that anything short of a perfect performance
a total	failure.
Over-genera	eralization ■ Seeing a specific event as being characteristic of life in
genera	I rather than as one event among many. Example: concluding that an
inconsi	iderate response from one's spouse shows that she doesn't care desp
her hav	ring showed consideration on other occasions.
Selective a	abstraction Focusing on one aspect of a complex situation and
ignorin	g other relevant aspects of the situation. Example: focusing on the or
negativ	re comment in a performance evaluation received at work and
overloo	oking a number of positive comments.
Disqualify	ving the positive Discounting positive experiences that would confl
with th	e individual's negative views by declaring that they "don't count."
Examp	le: disbelieving positive feedback from friends and colleagues and
thinkin	g "They're only saying that to be nice."
Mind read	ding Assuming that others are reacting negatively without evidence
that th	is is the case. Example: thinking "I just <i>know</i> he thought I was an idiot
despite	e the other person's polite behavior.
Fortune-t	elling Reacting as though one's negative expectations about future
events	are established facts. Example: thinking "He'll leave me, I just know it
and ac	ting as though this is definitely true.
Catastrop	phizing Treating negative events that might occur as intolerable
catastr	ophes rather than being seen in perspective. Example: thinking "Oh r
God, w	<i>h</i> at if I faint?" without considering that, while fainting may be
unplea	sant or embarrassing, it is not terribly dangerous.
Minimiza	tion ■ Treating positive characteristics or experiences as insignificant.
Examp	le: thinking, "Sure I'm good at my job, but so what?"
Emotiona	I reasoning ■ Assuming that emotional reactions necessarily reflect t
truth. I	Example: deciding that because one feels hopeless, the situation must
really b	be hopeless.
"Should" shouldn	statements ■ Using <i>should</i> and <i>have-to</i> statements. Example: thinking <i>'t</i> feel aggravated. She's my mother, I <i>have-to</i> listen to her."
Labeling events blew th	Attaching a global label to oneself rather than referring to specific or actions. Example: thinking "I'm a failure!" rather than "Boy, I real nat one!"
Personali	zation Assuming that one is the cause of a particular external even
when,	in fact, other factors are responsible. Example: taking a supervisor's
lack of	friendliness personally rather than realizing that the supervisor is
upset a	bout something else.

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problematic thoughts and maladaptive thought processes. Next, the therapist usually helps the client to:

- Identify negative automatic thoughts and the cognitive schemas that underlie such thoughts
- Evaluate the evidence for and against the negative automatic thoughts and schemas
- Identify cognitive distortions (dichotomous thinking, mind reading, minimization, etc.) that cause the client to interpret information in anxiety-provoking ways.

Consider the following conversation between a cognitive therapist (T) and a patient (P) suffering from a social phobia:

- T: When you say that you might act foolish, what do you mean by that?
- P: People will think I'm foolish.
- T: What will happen to make people think that?
- P: I will do something and draw attention to myself.
- T: What will you do?
- P: I will get my words wrong and I won't know what to say.
- T: So your negative thought is that you will get your words wrong and people will think that you're foolish?
- P: Yes, I don't want people to think that.
- T: Do you have evidence that this will happen?
- P: It's happened before when I've been anxious in situations. I don't know what to say and my mind goes blank.
- T: It's true that your mind goes blank sometimes, but what makes you think that people see you as foolish?
- P: Well, I don't know for sure.
- T: How would people react to you if they thought you were foolish?
- P: I suppose they wouldn't talk to me and they would ridicule me.
- T: Is there any evidence that people do that to you?
- P: No. Some people might, but people usually don't do that.
- T: So it sounds as if there might be some counter-evidence, some evidence that people don't think you're foolish?
- P: Yes, I suppose there is when you look at it like that.
- T: What is the evidence that people don't think you're foolish?
- P: I have a couple of good friends and I get on well with people at work.
- T: What do you mean by getting on well with people at work?
- P: Some people ask my advice about jobs they are working on.
- T: Is that evidence that they think you are foolish?
- P: No, quite the opposite.

(From Wells, 1997, pp. 69-70)

Once clients have been taught to identify and challenge their own negative automatic thoughts, they are instructed to continue to do so on their own, using homework sheets like the one shown in Table 4.10.

A number of studies have found cognitive interventions to be effective in the treatment of anxiety disorders (e.g., Clark et al., 2003; Ehlers et al., 2005). Some outcome studies for the treatment of GAD, OCD, social phobia, specific phobia, and panic disorder suggest that cognitive interventions are most effective when used in combination with behavioral techniques such as relaxation exercises and exposure and response



Using reason to conquer anxiety In cognitive interventions for anxiety, clients are helped to evaluate the evidence for and against negative automatic thoughts and anxiety-provoking schemas. Therapists and fellow members of a therapy group can help anxious individuals to identify and challenge cognitive distortions.

TABLE 4.10		Homework for Challenging Negative Automatic Thoughts				
Situ	ation	Initial level of anxiety:	Negative automatic	Alternative	Subsequent	

Situation	Initial level of anxiety; rate on scale of 0–100	Negative automatic thought	Alternative thought	Subsequent level of anxiety
Touched the doorknob in a public restroom	75—felt panicked, started sweating	"I've touched horrible germs; I'm going to contract meningitis."	"There probably aren't meningitis germs on the doorknob. My immune system is healthy and capable of fighting off disease."	40—heart rate nearing normal, more relaxed

prevention techniques. Other studies, however, suggest that combined cognitive-behavioral treatments are not necessarily more effective than cognitive techniques alone (Nathan & Gorman, 2002).

BRIEF SUMMARY

• Behavioral explanations of anxiety disorders are based on the principles of classical conditioning, operant conditioning, and modeling.

According to the theory of prepared conditioning, common phobias may have an evolutionary basis. Humans may have a genetic predisposition to fear potentially dangerous animals and situations because our ancestors who had such fears are more likely to have survived and contributed to the gene pool.

- Modern behavioral theories of anxiety rely on the *principle of multiple causality* by incorporating variables that precede, accompany, and follow anxiety-provoking experiences in order to account for the fact that not everyone who experiences an unfortunate pairing of a CS and an aversive UCS goes on to develop an anxiety disorder.
- Behavioral interventions attempt to extinguish abnormal anxiety by providing exposure to the feared object or situation and preventing avoidance. Exposure may involve *in vivo* desensitization (actual exposure to the feared object or situation) or covert desensitization (imagined exposure), be modeled (watching therapists expose themselves to the feared object or situation), or it may occur in a massive dose, as in flooding.
- According to the cognitive perspective, anxiety disorders result from negatively distorted thinking. People with anxiety disorders tend to misinterpret events in three important ways: they fixate on perceived dangers and threats, they overestimate the severity of the perceived danger or threat, and they drastically underestimate their ability to cope with the dangers and threats they perceive.
- Cognitive interventions for anxiety involve two key components: (1) the identification of dysfunctional cognitive schemas and negative automatic thoughts and (2) the use of a collaborative logical approach (between therapist and client) to evaluate and challenge anxiety-producing assumptions, beliefs, and thoughts.

Critical The cognitive model proposes that thoughts determine feelings. How might this be true for Arthur, the man described at the beginning of the chapter? What other theoretical components help explain Arthur's anxiety?

Psychodynamic Components

Freud proposed two theories about the causes of anxiety. Early in his career, Freud was struck by the coexistence of anxiety symptoms and sexual abstinence or frustration among his clients. He developed a theory that the energy of repressed sexual urges transforms into anxiety (Freud, 1895). Later on, he decided that this first theory had it backward—that anxiety is actually the cause of repression, not the result of it. Specifically, Freud's second theory argued that anxiety is the ego's reaction to perceived dangers (from the id, the superego, or reality), very much in keeping with the common-sense view of anxiety as a form of fear. For example, anxiety can be an indication that unacceptable impulses are on the verge of being expressed, and the anxiety is a "signal" to initiate defense mechanisms such as repressing these impulses (Freud, 1926). Later psychodynamic theorists expanded on Freud's view of the internal and external dangers that can cause extreme anxiety. Their ideas generally focus on traumatic childhood situations, such as losses or empathic failures in important relationships, abuse, and overstimulation (Greenberg & Mitchell, 1983; Kohut, 1977; Winnicott, 1965). Psychodynamic theorists propose specific explanations for different types of anxiety symptoms based on the defense mechanisms associated with them. We will illustrate this approach by focusing on two anxiety disorders-phobias and obsessivecompulsive disorder (OCD).

Phobias

Freud proposed that phobias result when the defense mechanism of displacement causes perceptions of danger to shift from a threatening situation onto a neutral object in an effort to reduce anxiety. Freud's approach to phobias was outlined in his famous case study, "Little Hans" (1909). Interestingly, Freud never worked directly with this 5-year-old boy, but he communicated regularly with Hans's father who acted as the therapist to his own son. Little Hans developed a severe phobia of horses after seeing an accident involving a horse. (Needless to say, having a horse phobia in Vienna in 1909 caused a great deal of trouble since horses were everywhere!) Based on reports from Hans's father, Freud speculated that Little Hans's fear of horses was a displacement of a fear of his father. The background for Freud's hypothesis was this: the horse phobia developed around the time that Hans was struggling with wishes to have an exclusive loving relationship with his mother. (Freud called this scenario, which he believed was a universal developmental stage occurring around ages 4 to 6, the **Oedipus complex**, after the Greek myth in which Oedipus kills his father and marries his mother.) Freud believed that Hans, thinking like a 5-year-old, began to fear that his father would be angered by his desire to monopolize his mother's affections. But to be scared of his father, who was big and powerful and whom he loved and needed, caused Hans even more anxiety. A defense mechanism, displacement, "solved" this problem. Rather than being afraid of his father, Hans's fear was displaced to horses. Freud theorized that horses became the focus of the displaced fear because Hans often played "horsey" with his father, and because he associated horses' muzzles with his father's moustache.

Subsequent psychodynamic theorists have also emphasized the role of the defense mechanism called **projection** in phobias. In projection, an internal feeling that seems dangerous or unacceptable is attributed to someone or something else (Chapter 2). For example, Hans was also very uncomfortable about his competitive anger toward his father. To reduce this discomfort, Hans projected his hostile feelings onto horses, perceiving horses to be dangerous and aggressive (he feared they would bite him). Then, by avoiding horses (his horse phobia), Hans could also "solve" the problem of his anger toward his father.

This theory highlights the *continuum between normal and abnormal behavior*. Hans was experiencing a more extreme version of the same process that often causes **Repression** A defense mechanism consisting of the forgetting of painful or unacceptable mental content.

Displacement A defense mechanism in which feelings about someone or something are unconsciously shifted to someone or something else.

Oedipus complex A phase during normal development when children desire an exclusive loving relationship with the parent of the opposite sex.

Projection A defense mechanism in which an individual attributes his or her own unacceptable emotions to someone or something else.

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Isolation of affect A defense mechanism in which thoughts occur without associated feelings.

Undoing A defense mechanism in which one action or thought is used to "cancel out" another action or thought.

young children to become temporarily afraid of angry robbers or mean ghosts just after they have had an angry tantrum. The much loved children's book *Where the Wild Things Are* by Maurice Sendak, in which a child imagines and then tames angry monsters after receiving a scolding and having a tantrum, beautifully illustrates the processes of displacing fears and projecting angry feelings. In summary, the psychodynamic explanation of phobias emphasizes that phobias result when feelings are shifted from one situation or person to another through the defense mechanisms of displacement and projection.

Obsessive-Compulsive Disorder Freud argued that obsessive-compulsive symptoms are based on the defense mechanisms called **isolation of affect** and **undoing** when they are used to manage anxiety- provoking thoughts and impulses. Through *isolation of affect*, unwanted thoughts and impulses are treated as if they were not connected to one's actual feelings and past experiences, but are simply disturbing intrusions. *Undoing*, the magical use of ritualized action to "undo" a troublesome thought or impulse, relates to the compulsions of OCD. For example, a person is employing the defense mechanism of undoing when he compulsively cleans his desk each afternoon, thinking that this will "undo" or cancel out his unacceptable angry thoughts about his boss.

Another of Freud's case studies, the "Rat Man" (1909), helped Freud formulate his theory of OCD-like symptoms. The Rat Man came to Freud for help with disturbing thoughts (that his fiancée and father were being tortured by rats), and the compulsive rituals (such as having to neatly arrange rocks on the roadside) he used to magically counteract these thoughts. Freud discovered that the Rat Man was unconsciously angry at his fiancée and his father, and that his anxiety about his anger led to the use of the defense mechanisms of isolation of affect and undoing. The isolation of affect transformed the unacceptable anger into thoughts of torture that the Rat Man could disavow, though his thoughts still caused enough anxiety to also require undoing rituals.

Other Sources of Anxiety

In addition to focusing on the role of defense mechanisms in the specific forms of anxiety described above, psychodynamic theorists believe that high levels of anxiety often result from disrupted or inadequate early parent-child relationships. Parents have the important job of helping their children learn how to manage normal, but sometimes disturbing, wishes and feelings. If parents are too harsh in response to id-based childhood behaviors, their child may grow to feel anxious about some of his or her own natural feelings. If parents protect and gratify a child too much, the child may not develop adequate defense mechanisms for dealing with id impulses (A. Freud, 1936).

For example, imagine a 5-year-old child who is always hungry a half-hour before dinnertime. If his parents tend to get very angry with him for whining about being hungry, he may grow up to feel quite uneasy with his wishes for satisfaction. He may begin to repress such wishes before they reach consciousness. If repressed too forcefully, he may lose awareness of his wants and desires and feel anxious whenever they are unconsciously aroused. At the other extreme, a parent may respond immediately to the child's request for food (or for anything else) to the point that the child fails to develop good skills for dealing with frustration, delayed gratification, or disappointment. As an adult, such a person may feel ill-equipped to manage his or her own powerful impulses and become quite anxious when faced with the frustration or disappointment of his or her desires.

Psychodynamic Interventions

Since psychodynamic therapists focus on pathological anxiety that arises from unconscious emotional conflicts, they tend to use basic psychodynamic techniques to address most anxiety disorders (Abend, 1996). Clients in psychodynamic therapy are encouraged to speak as freely as possible and to attend, with the therapist, to uncovering the roots of their anxieties. This includes exploring how the underlying emotional conflicts emerge in the form of resistance (for example, topics the client feels reluctant to explore) and transference (feelings from past relationships that are transferred into present relationships, including the relationship with the therapist) during the therapy process. The goal of psychodynamic therapy is to help clients understand the roots of their symptoms, gain greater self-acceptance, develop better solutions to emotional conflicts, and decrease needs for problematic defense mechanisms. Consider the following description by a psychoanalyst of a case involving a phobia:

CASE ILLUSTRATION

A divorced woman in her early thirties, a successful junior executive in a multinational corporate enterprise, sought treatment because a flying phobia threatened to limit her career advancement. . . . Despite many difficulties in immersing herself freely in the treatment, the patient's persistent and conscientious work gradually permitted a progressive unfolding of the many levels of meaning of her phobia, accompanied by relief to the point of full recovery. . . .

The first level of understanding to emerge was that the patient used her anxiety before and during flights as a way of tormenting and punishing herself unmercifully. This punishment came to be seen as related to her career ambitions, which she imagined would necessarily involve intense and deadly competition, especially with men. As this configuration became clearer, the patient became able to report a more precise description of her anxiety about flying. She was terrified that in the course of a flight her discomfort would grow so intense that she would lose control of herself and become hysterical. Such an outburst would be intensely humiliating to her, especially if it were to occur in the company of a male coworker. Eventually she was able to elaborate her view that such a hysterical loss of control as she imagined, and dreaded, would characterize her as a weak, contemptible female, destroying the image of the competent, firm, rational, and composed person (qualities she attributed to men) that she wished to present to the world. This disgrace would be a fit punishment for her ruthlessly defeating the males she competed with, which she imagined humiliated them terribly. In time it also became clear how these conflicts resonated with issues in her childhood relationship to her father, a successful businessman.

(Abend, 1996, pp. 407-408)

As you can see, the psychodynamic approach assumes that once the meaning of the anxiety symptoms can be articulated and understood, the symptoms will diminish. Empirical research on the effectiveness of psychodynamic interventions for anxiety is sparse and mixed. Some researchers suggest that other theoretical approaches offer quicker and more consistently positive results, but numerous case reports and a handful of studies support the effectiveness of psychodynamic interventions (Crits-Cristoph et al., 1996; Durham et al., 1994). Indeed, a recent study comparing relaxation training to psychodynamic psychotherapy for the treatment of panic disorder found that after 12 weeks only 39% of the clients who received relaxation training reported significant improvement as compared to 73% of the clients receiving psychodynamic psychotherapy (Milrod et al., 2007).

Humanistic and Existential Components

The humanistic perspective views anxiety, like all other emotions, as a useful source of feedback about the status of an individual's situation. In other words, anxiety is not seen as problematic per se; it can be an adaptive signal that something in one's life is not quite right. However, anxiety can also be unhelpful, especially when it is associated

Maladaptive emotional scheme A humanistic term for patterns of thought and feeling that emerge around salient emotional experiences (usually in childhood) and are activated in similar situations during adulthood. with a **maladaptive emotional scheme.** Returning to the explanation of the humanistic perspective provided in Chapter 2, parents who fail to provide their children with *unconditional positive regard* promote the development of *maladaptive emotional schemes.* For example, a person whose early efforts at closeness met with parental rejection might develop a *maladaptive emotional scheme* in which wishes for closeness becomes associated with fears of rejection. As an adult, the person might become panicked when faced with even the slightest possibility of being rebuffed (Greenberg, Korman, & Paivio, 2002).

The existential perspective views anxiety as useful when it is accepted and examined and destructive when avoided or ignored. In fact, the existential perspective assumes that most psychological symptoms arise from efforts to keep existential anxiety at bay (Walsh & McElwain, 2002). As you'll recall from Chapter 2, existential anxiety is generally thought to arise from the awareness that we are solely responsible for making meaning in our lives and from the fact that unwanted outcomes (death included) are inevitable. The existential perspective proposes that emotional suffering is often relieved when individuals face (and even embrace) their fears and the discomfort they provoke.

Humanistic and Existential Interventions

Humanistic interventions are based, first and foremost, on the development of a strong therapeutic alliance that allows for the recognition and exploration of painful emotional experiences. By being empathically attuned, humanistic clinicians can help their clients focus on here-and-now emotional experiences and the thoughts and beliefs that accompany these feelings (Greenberg, Korman, & Pavio, 2002). For example, a humanistic clinician might help a client recognize that his wishes for closeness trigger anxious fears of rejection and humiliation based on his early childhood experiences. The supportive therapeutic relationship would be used to develop a more adaptive emotional response to past experiences, such as sadness about early events and a belief in one's fundamental worth (Greenberg & Paivio, 1997).

Existential psychotherapy does not aim for specific behavioral or symptomatic changes, but focuses instead on fostering the client's curiosity and insight about his or her existence (May & Yalom, 1995). The therapeutic relationship is used to promote personal understanding, an appreciation for unnecessary self-limitations, and the courage to tolerate fears and explore new ways of being (Walsh & McElwain, 2002). Research on humanistic psychotherapies indicates that they are more effective than no treatment and as effective as other types of psychotherapy; empirical validation of existential approaches to psychotherapy remains scarce (Elliot, 2002).



The Multiple Causality of Anxiety Disorders

As you can tell from our review of the different theoretical perspectives on anxiety, the principle of *multiple causality* is highly relevant to anxiety disorders. Because the experience of anxiety involves emotional, behavioral, cognitive, and physical components, various perspectives can be combined in the explanation and treatment of anxiety disorders.

Cognitive and behavioral approaches can be integrated to explain and treat some anxiety disorders. For example, maladaptive cognitions ("I'm certain I'll have a panic attack if I leave the house!") are often reinforced by maladaptive behaviors (experiencing a reduction in anxiety by staying home). Although we presented the cognitive and behavioral components separately for the sake of clarity, the two approaches are almost always combined in the contemporary treatment of anxiety disorders. For instance, interventions for OCD often combine the correction of cognitive distortions that underlie obsessions with behavioral techniques that address the accompanying com-

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pulsions (exposure and response prevention). David Barlow and his colleagues (Barlow et al., 2000) have developed an extensive cognitive-behavioral technique for treating panic attacks that draws upon training in relaxation, planned exposure to anxiety-provoking situations, and cognitive interventions. This program has been found to be at least as effective as antidepressant medications in the treatment of panic, and to produce longer-lasting benefits.

Other theoretical perspectives can also be combined in explaining or treating anxiety disorders. Imagine, for example, a person who was frequently mistreated and humiliated by his family throughout his childhood and as an adult exhibits the symptoms of social phobia. Psychotherapy aimed at working through his childhood experiences and addressing maladaptive cognitions and behaviors might help, but he may feel so anxious in social situations that he cannot consider the possibility of discussing personal difficulties with a stranger (such as a therapist). In this case, it might be appropriate to use an antianxiety medication to reduce the man's anxiety so that he can engage in a psychotherapy. In everyday clinical practice, a variety of interventions are often combined in this fashion to treat anxiety disorders.

The various theoretical models of anxiety not only complement each other, but they often overlap. For example, despite their differences, the psychodynamic, behavioral, and cognitive perspectives all share the common belief that clients must face their fears in order to overcome them. Even some approaches that seem to be at odds with each other share common origins. John Watson's behavioral view of phobias was originally sparked by his interest in psychodynamic explanations of how fears could be shifted or displaced from one object to another, as is often the case with phobias (Rilling, 2000).

The Connection Between Mind and Body in Anxiety Disorders

In addition to noting the complementarity and overlap among the various theoretical perspectives, it is important to highlight how profoundly the psychological and biological realms influence each other in anxiety disorders. For example, there is considerable evidence that emotionally traumatic experiences can alter the functioning of components of the nervous system. The **HPA** (hypothalamic-pituitary-adrenal) **axis** responds to stressful experiences by releasing stress hormones such as adrenaline and cortisol into the bloodstream (see Figure 4.6). These stress hormones elevate emotional arousal and help prepare animals to fight or flee. Ideally, the response of the HPA axis is commensurate with the level of threat, and, when the threat ends, the HPA axis returns to its proper resting state. But some researchers suggest that sustained stress during critical periods of development may permanently damage the cells regulating the functioning of the HPA axis. One study compared HPA axis activity in women with and



Figure 4.6 The HPA axis The HPA (hypothalamic-pituitaryadrenal) axis is believed to play a key role in the transformation of psychological stress into a physiological response. Emotional experiences, as processed by the hypothalamus, activate the pituitary gland, which activates the adrenal gland, causing it to secrete adrenocortical hormones, such as adrenaline and cortisol. The release of adrenaline and cortisol causes subjective feelings of arousal and anxiety.



HPA axis A brain system involving the hypothalamus, pituitary gland, and adrenal cortex that regulates the release of stress hormones into the bloodstream.

without histories of childhood abuse by measuring stress hormone levels while the research participants engaged in a mildly stressful activity (such as speaking in front of a group). Women who had been abused as children released more than six times as many stress hormones as women who had not been abused (Heim et al., 2000). In other words, extremely stressful events such as early childhood traumas may predispose an individual to lifelong hyperactivity of the HPA axis and subsequent chronic anxiety (Bremner & Vermetten, 2001). This finding provides a powerful example of the core concept of the *connection between mind and body* insofar as emotional experiences have the potential to shape the structure and functioning of systems within the body.

Similarly, some studies (e.g., Vythilingam et al., 2002) have shown that PTSD can be associated with a reduction in the volume of the right hippocampus affecting both verbal memory and performance on neuropsychological tests. However, this finding has not been consistently replicated in other research studies (e.g., Jatzko et al., 2006). In addition, when people with PTSD experience flashbacks, the part of the brain responsible for using language to communicate past experiences (known as Broca's area) appears to be "turned off" (van der Kolk, 2006). Based on these findings, researchers believe that the brain stores memories of traumatic events differently than most other memories. This may partially account for the fact that traumatic memories are often reexperienced as flashbacks rather than simply remembered. With the advent of brain imaging techniques such as positron emission tomography (PET), researchers have been able to show that psychotherapies affect and change brain functioning. For example, studies have found that successful behavioral therapies for OCD can lead to reduced activity levels in the right caudate nucleus (Baxter et al., 1992; Nakatani et al., 2003). These changes are similar to those seen in OCD clients successfully treated with Prozac.

Finally, rapidly growing evidence demonstrates that activities that enhance physical well-being also reduce anxiety and increase resilience to stress. Relaxation techniques, physical exercise, meditation, and yoga all show promise as methods for treating anxiety (Jain, 2003; Kirkwood et al., 2005; Ost & Breitholtz, 2000; Salmon, 2001; Tacon et al., 2003).

BRIEF SUMMARY

- Freud developed two different explanatory models for anxiety. Originally, he proposed that anxiety is produced by the energy of repressed sexual impulses. Later, he concluded that anxiety is the ego's reaction to perceived internal or external dangers. Modern psychodynamic theorists also propose that high levels of anxiety often result from disrupted or inadequate early parent-child relationships. Psychodynamic treatment interventions focus on improved mastery of anxiety-causing psychological conflicts.
- The humanistic perspective suggests that anxiety arises from *maladaptive emotional schemes* established in response to painful emotional experiences. Humanistic psychotherapy aims to help their clients focus on here-and-now emotional experiences and the thoughts and beliefs that accompany these feelings in order to restructure *maladaptive emotional schemes*.
- The existential perspective views anxiety as useful when it is accepted and examined and destructive when avoided or ignored. Existential psychotherapy aims to promote personal understanding, an appreciation for unnecessary self-limitations, and the courage to tolerate fears and explore new ways of being.
- The various theoretical approaches to anxiety often overlap or complement each other, highlighting the principle of *multiple causality*. Cognitive and behavioral

techniques are often combined in interventions for anxiety disorders, and antianxiety medications are often used in combination with psychotherapies. In addition, changes in brain structure and function resulting from traumatic emotional experiences and from psychotherapy illustrate *the connection between mind and body* in anxiety disorders.

Critical Thinking Question

How does the *priniciple of multiple causality* help us to explain Arthur's and Greg's anxiety disorders?

CASE Vignettes Treatment

Arthur • Panic Disorder

Arthur, the 22-year-old student suffering from anxiety "spells," followed up on his physician's referral to a psychologist. In his first meeting with the psychologist, Arthur made it clear that he was doubtful that his physical symptoms had a psychological basis. The therapist noted Arthur's skepticism and offered him some information about the kinds of physical symptoms that often accompany panic attacks. Arthur was surprised to hear the therapist describe many of the symptoms he had experienced, and relieved to learn that something could be done to reduce his distress. By the end of the first session, Arthur agreed to try a cognitive-behavioral program for his panic attacks.

Over the next several sessions, the psychologist taught Arthur relaxation techniques, and Arthur practiced the techniques at home several times a week. Before long, Arthur was able to get his body into a deep state of relaxation in only a few minutes. Two weeks after he had started therapy Arthur felt like he was going to have a panic attack while standing in line at the grocery store. He immediately started to concentrate on his breathing and to tense and relax his muscles. His anxiety passed without ever developing into a full-blown panic attack. Arthur and his psychologist created a hierarchy of anxiety-provoking situations (such as studying for a final exam, or being caught in a large crowd of people), and Arthur practiced controlling his anxiety by using relaxation while he placed himself in increasingly difficult situations.

Next, Arthur and his psychologist worked on uncovering the thoughts that accompanied Arthur's panic attacks. Arthur kept a record of all the things that went through his mind when he felt like he was about to have a panic attack. Among his thoughts were the statements that he was sure he was going to die, and that this would be especially tragic since things in his life were going so well. Arthur and his psychologist evaluated his fearful thoughts that he would die and challenged them with the facts that Arthur was healthy and had already survived numerous panic attacks.

Within a few months of starting therapy, Arthur's panic attacks were well under control. Arthur's psychologist took this opportunity to point out how much success Arthur had had in understanding how his mind worked and suggested that Arthur might now want to explore what caused the panic attacks to begin when they did. Arthur agreed that he was curious about what had brought on his troubles, and decided to continue therapy, but with a new focus on gaining insight into the roots of his anxiety.

Arthur began speaking to his psychologist about how much pressure he felt from his family to succeed academically. Even though he welcomed his family's constant support, he hated feeling like it was his job to be the family "success story." He talked about being jealous of his classmates who came from families where everyone had gone to college, and about how he worried that his family would make a scene at his graduation because it was such a big deal for them. Arthur also recognized that his continuing success would leave him feeling more and more distant from his family. He worried that his potential earning power would lead him to develop tastes that they didn't approve of or understand. At the same time, he worried that it would be obvious to his employers and new colleagues that his background was very different from theirs. Arthur and his psychologist both noticed how much calmer he became as he allowed himself to explore these feelings. Arthur told the therapist that he had felt like a "bad person" for resenting his loving family, and that it was a relief to realize that he could continue to have an appreciation for his family even if he did feel angry and disappointed with them at times.

CASE DISCUSSION • Panic Disorder

Arthur's symptoms closely correspond with the DSM-IV-TR definition of panic attacks, but he never developed the behavior changes based on a fear of future attacks that can sometimes be part of the DSM-IV-TR criteria for panic disorder. Fortunately, he also never developed agoraphobia in reaction to his attacks. Arthur initially doubted that psychotherapy could be helpful to him. As a result, the psychologist began with *psychoeducation*—

meaning that he informed Arthur that his physical symptoms could result from an anxiety disorder. This helped Arthur to accept a psychological treatment, one that focused at first on controlling his panic attacks, not exploring their meaning. The therapy then proceeded to a psychodynamic exploration of how previously "unacceptable" thoughts had contributed to the onset of Arthur's anxiety.

Greg • Obsessive-Compulsive Disorder (OCD)

Greg, the 35-year-old paralegal, and his wife happened to see a news program on OCD. Afterward, Greg's wife suggested that he seek treatment, and he agreed with her suggestion. A social worker met with Greg and his wife, and heard from both of them about how Greg's "habits" had been causing problems at home. The social worker concurred that Greg likely suffered from OCD and referred Greg to a psychiatrist who prescribed Prozac. Greg was initially reluctant to consider medication for his problem, but his wife insisted that he try it "for the family." Greg was reassured by the social worker that it would probably help Greg to feel more in control of his worries about keeping the house clean. Within a few weeks, Greg and his family noticed that he was much more "laid back" about keeping order around the house. Even though Greg still liked things to be neat, he did not become upset when his son left his coat on a chair or when dishes sat in the sink. Greg's social worker recommended that Greg also consider beginning an exposure and response prevention therapy. She assisted Greg in gradually increasing his exposure to anxiety-producing situations, like dirt and messiness, without responding with cleaning and checking rituals. One year later, on a lower dose of Prozac and having occasional therapy sessions, Greg was described by his wife as "90% better."

CASE DISCUSSION • Obsessive-Compulsive Disorder

Initially, Prozac, which increases the availability of serotonin in the nervous system, was used to help bring Greg's obsessivecompulsive symptoms under control. Greg's social worker also suggested some cognitive-behavioral techniques to help Greg make further progress. Through exposure and response prevention, Greg was helped to tolerate situations that had previously made him extremely anxious and to resist his impulse to clean or to badger the offending family member. Over time, the cognitivebehavioral interventions helped Greg to adapt to normal levels of disarray, and he was able to reduce his dose of Prozac while maintaining his improvement.

Chapter Summary

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Chapter Summary

- Pathological anxiety is defined as anxiety that occurs in an inappropriate *context* or is toward the extreme end of the *continuum between normal and abnormal* anxiety.
- The DSM-IV-TR identifies six different anxiety disorders: generalized anxiety disorder, panic disorder, phobias, obsessive-compulsive disorder, posttraumatic stress disorder, and acute stress disorder.
- The DSM-IV-TR anxiety disorder diagnoses have important *advantages and limitations*. While the reliability and validity of the DSM-IV-TR anxiety diagnoses are relatively high, the DSM-IV-TR anxiety disorders are also highly comorbid, meaning that clients often meet criteria for more than one diagnosis.
- Demographic factors, such as age, gender, and social class, affect the prevalence and manifestation presentation of anxiety disorders.
- Various cultures and historical periods define and classify anxiety problems differently, highlighting the core concept of *cultural and historical relativism*.
- All of the major theoretical perspectives in abnormal psychology offer concepts relevant to the explanation and treatment of anxiety disorders. Furthermore, the different theoretical perspectives on anxiety often interact, overlap, or complement each other, highlighting the *principle of multiple causality*.
- Changes in brain structure and function resulting from traumatic emotional experiences and from psychotherapy are two illustrations of the *connection between mind and body* in anxiety disorders.