

# Anxiety and Obsessive-Compulsive Disorders

Chapter 5 discussed how stress can precipitate psychological and physiological disturbances, some of which clear up when the stressor is removed and some of which do not. Among the emotional consequences of stressors are fear and anxiety, although stress-related reactions may involve other emotional states as well. This chapter reviews the *DSM-5* disorders in which fear and anxiety are central to the diagnosis. One danger in following a system such as the *DSM* too uncritically is that it can leave the impression that mental diagnoses define a series of discrete and separate conditions, which is not always the case. People can, and often do, show mixtures of symptoms that suggest more than one disorder; the overlap of mood and anxiety symptom patterns is particularly common. Anxiety symptoms are quite frequent in the United States; based on epidemiological studies, anxiety disorders are the most common of the *DSM-5* diagnostic categories, with lifetime prevalence rates of over 31% of the population (Kessler et al., 2012).

## 6.1 Fear and Anxiety

Charles Darwin's description of fear, written in 1873, remains an excellent portrayal of this emotion:

Fear is often preceded by astonishment, and is so far akin to it, that both lead to the senses of sight and hearing being instantly aroused. In both cases the eyes and mouth are widely opened and the eyebrows raised. The frightened man at first stands like a statue motionless and breathless, or crouches down as if instinctively to escape observation.

The heart beats quickly and violently, so that it palpitates or knocks against the ribs; but it is very doubtful whether it then works more efficiently than usual, so as to send a greater supply of blood to all parts of the body; for the skin instantly becomes pale, as during incipient faintness. . . . In connection with the disturbed action of the heart, the breathing is hurried. The salivary glands act imperfectly; the mouth becomes dry and is often opened and shut. I have also noticed that under slight fear there is a strong tendency to yawn. One of the best-marked symptoms is the trembling of all the muscles of the body; and this is often first seen in the lips. From this cause, and from dryness of the mouth, the voice becomes husky or indistinct, or may altogether fail. (Darwin, 1873/1955, pp. 290–291)



“Terrified Cat from Darwin’s Expression of Emotions,” courtesy of Wellcome Collection Gallery, available under a CC by 4.0 International license via Wikimedia)

Humans, like other mammalian species, are born with the innate capacity to experience fear. Although neurophysiological systems in the brain are associated with this emotion, we ordinarily infer its existence more indirectly from three kinds of data: (1) reports

of subjective experiences of apprehension, such as dread, fright, tension, inability to concentrate, and the desire to flee a particular situation, as well as physical sensations, such as a pounding heart or



**What are the most common mental disorders in the United States?**

sinking feeling in the pit of the stomach (reports of this kind are, of course, limited to individuals who have the capacity to verbalize these experiences); (2) behavioral manifestations, such as flight, disorganization of speech, motor incoordination, impairment of performance on complex problem-solving tasks, or immobilization, as in being “paralyzed by fear”; and (3) measurable physiological responses, such as rapid and irregular heartbeat and breathing, palmar sweating, dry mouth, dilated pupils, and muscular trembling. The physiological responses largely reflect activation of the sympathetic nervous system; however, some responses, such as diarrhea and increased frequency of urination, are produced by parasympathetic arousal. It is perhaps more accurate to say that the autonomic nervous system is thrown out of balance, with both subdivisions showing wide swings in activation.

A variation that may occur in acute fear is **fainting**. The physiological component in the fainting response, in contrast to the mixed sympathetic-parasympathetic pattern just described, is largely parasympathetic, involving abrupt dilation of the blood vessels in the viscera, slowing of the heartbeat, a drop in blood pressure, and loss of muscle tone. These effects result in a sharp decrease in the blood supply to the brain and produce loss of consciousness. The parasympathetic-dominated fainting response is likely to occur only in strong, acute fear states.

Most of us have a pretty good idea of what an extreme fear response is like, either from our own experience or from observing others. Anyone who has seen the terror expressed by

a frightened young child who has not yet been taught by society to conceal fear can appreciate the reality and potential intensity of this emotion. In humans, the fear response, regardless of whatever unlearned tendencies exist for certain stimuli to elicit fear, is a highly learnable response that can become associated with almost any situation or stimulus (external or internal) that happens to be present when the fear occurs. It is also likely to be powerfully influenced by observational learning.

A distinction is usually made between the responses of fear and anxiety. Perhaps Darwin would have agreed with the notion that **fear** is an adaptive state for dealing with a real threat or danger, while **anxiety** is a chronic fear sensation that is not clearly associated with any specific stimulus.



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### Fainting

Slowing of heart rate, drop in blood pressure, and loss of consciousness, often associated with acute fear states

### Fear

A sense of dread, terror, or fright

### Anxiety

A sense of worry, concern, or apprehension

### Panic attack

Rapidly developing sense of intense fear and anxiety

## 6.2 Anxiety Disorders

### 6.2a Characteristic Symptoms

The *DSM-5-TR* classifies the different anxiety disorders based in part on the occurrence of certain components of the anxiety symptom complex. One of these components is the **panic attack**, involving a rapid onset of at least four of the symptoms shown in Table 6–1 *DSM-5-TR* Symptoms of a Panic Attack, such as pounding heart, sensations of choking or suffocation, trembling, and fear of losing control. The attack progresses to a peak within 10 minutes of onset. People undergoing a panic attack feel intense discomfort; some think during the first such experience that they are dying. (Frequently, the sufferer describes the experience either as a “nervous breakdown” or as “losing one’s mind.”) Until children reach puberty, it is relatively rare for them to experience panic attacks; attacks are much more common among adults in the general population, where the 12-month prevalence is nearly 1 in 9 (American Psychiatric Association, 2013).

**Table 6-1** *DSM-5-TR* Symptoms of a Panic Attack

| Panic Attack                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• Heart palpitations or accelerated heart rate</li> <li>• Trembling or shaking</li> <li>• Sweating</li> <li>• Chest pain</li> <li>• Shortness of breath or sensation of suffocating</li> <li>• Feelings of choking</li> <li>• Dizziness</li> <li>• Numbness or tingling sensations</li> <li>• Chills or heat sensations</li> <li>• Nausea</li> <li>• Derealization or depersonalization</li> <li>• Fear of losing control</li> <li>• Fear of dying</li> </ul> |

Source: Adapted from American Psychiatric Association, 2022.

Panic attacks are not, themselves, a diagnosable disorder; however, they play a role in several anxiety disorders, depending on how they are experienced. Sometimes panic attacks are expected—that is, they are cued by or attached to situations—and a recurrence of the trigger (or its anticipation) can produce another attack. For example, specific phobias and social phobias may involve panic attacks associated with particular stimuli, such as blood or public attention. In other disorders (e.g., panic disorder), the attack is unexpected and seems to occur without a cue, or “out of the blue.” People who experience panic attacks, especially unexpected episodes, live in fear of having another panic attack. Many of the anxiety disorders in the *DSM-5* can involve panic attacks, but all involve intensely uncomfortable fear or anxiety among the main presenting symptoms. As is the case with all *DSM* conditions, the disorders cause interference with or impairment of normal functioning.

The reliability of anxiety disorder diagnoses improved under the *DSM-IV*, with “good” reliability noted for both panic disorder and generalized anxiety disorder (Brown et al., 2001). However, the *DSM-5* field trials produced a disappointing kappa of only .20 for generalized anxiety disorder; other anxiety disorders were not assessed (Regier et al., 2013). An overview of the main anxiety disorders in the *DSM-5* is listed in Table 6-2.

**Table 6-2** Summary of *DSM-5* Anxiety Disorders

| Disorder                                | Key Symptoms                                                                                                                        | Minimum Duration Required for Diagnosis               | Sex Ratio              |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|------------------------|
| Panic disorder                          | Recurrent unexpected panic attacks                                                                                                  | 1 month                                               | More common in females |
| Agoraphobia                             | Marked fear or anxiety of being in situations from which escape would be difficult if incapacitating or embarrassing symptoms occur | 6 months                                              | More common in females |
| Specific phobia                         | Marked fear or anxiety cued by specific objects or situations                                                                       | 6 months                                              | More common in females |
| Social anxiety disorder (social phobia) | Marked fear or anxiety cued by social or performance situations                                                                     | 6 months                                              | More common in females |
| Generalized anxiety disorder            | Excessive anxiety and worry about a number of events or activities                                                                  | 6 months                                              | More common in females |
| Separation anxiety disorder             | Excessive anxiety concerning separation from home or caregiver                                                                      | 4 weeks for children/adolescents, 6 months for adults | More common in females |
| Selective mutism                        | Consistent failure to speak in certain situations but not in others                                                                 | 1 month                                               | Equal                  |

Source: Adapted from American Psychiatric Association, 2022.

## Gender Differences in Anxiety Diagnoses

As can be seen in Table 6–2, anxiety disorders are generally much more common among females than males. In the case of some subtypes (for example, panic disorder), the female-to-male ratio may be as high as 2:1 (American Psychiatric Association, 2022). Although biased application of the diagnostic label is possible, it is unlikely that this would explain persistent differences in prevalence of this magnitude or of similar gender differences in mood disorders. (Males have much higher prevalence rates of some disorders, such as those involving violent behavior and the sexual paraphilias.) It is possible that females with anxiety disorders come to the attention of therapists more often than males do or that males underreport the incidence of anxiety. Another possible explanation for the gender differences is that females are differentially subjected to more frequent traumas, such as rape or sexual abuse, that could provoke anxiety-related conditions. However, precipitating traumatic events do not form the basis of diagnosis for most of the anxiety disorders. Weich et al. (1998) did not find support for the proposal that gender differences in prevalence could be explained by the type of social roles (such as traditional caring and domestic ones) that females, rather than males, tend to occupy. It is, of course, possible that biological differences between males and females in terms of HPA reactivity confer different levels of stress and anxiety or that hormonal distinctions related to reproductive physiology are responsible for higher female prevalence in anxiety disorders (Howell et al., 2006).

An interesting evolutionary speculation for gender differences in anxiety disorders comes from Anne Campbell (1999). Along with other evolutionary theorists, she noted

that many male-female behavior differences may be related to differential parental investment during reproduction. Although the male contribution to reproduction can be as little as a few minutes, females must carry a pregnancy, nurse the child, and usually invest years into raising offspring. According to Campbell, in tribal societies similar to early human groups, the death of either parent increases the risk of death to offspring, but the death of the mother results in a much greater risk of infant mortality than the death of the father. For that reason, natural selection would more strongly favor females who avoid dangerous or harmful situations or direct conflict, since their children would be more likely to survive. One result, she suggested, is that women would be more prone than men to experience fear and anxiety, emotions that would tend to remove them from harmful and dangerous situations. Males, on the other hand, benefit reproductively from multiple partners and from successful battles over resources and access to females. These tenden-

cies might lead to male overrepresentation among disorders related to sexual behavior, dangerous activities, and physical aggression.

Whatever the reasons for gender differences in prevalence of mental disorders, they have been consistently reported since the *DSM-III* and will be noted as each mental disorder is described in the coming chapters. A closer examination of the anxiety disorders follows.

### 6.2b Panic Disorder

Panic disorder is characterized by recurrent, spontaneous, and unexpected panic attacks (see Table 6–1 *DSM-5-TR* Symptoms of a Panic Attack), along with anxiety about future attacks and their consequences, including having a heart attack, losing control, or “going crazy.” The panic attacks are not due to another medical condition or the effects of a substance, and they



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Male-female behavior differences may be related to differential parental investment during reproduction. Because natural selection favors females who avoid dangerous situations, females would be more prone than men to experience emotions that remove them from harmful and dangerous situations.

have been followed by 1 month or more of persistent concern that the attacks will recur. They may also be followed by maladaptive changes in behavior designed to avoid another attack. These behavioral changes might include avoiding certain activities (such as physical exertion) and responsibilities (such as going to work), in the hopes of reducing the chance of an attack. In some cases, the sufferer is anxious about being in places from which escape would be difficult should the next panic attack begin (see agoraphobia). Up to one third of sufferers experience nocturnal panic attacks, in which they wake from sleep in a panic state (American Psychiatric Association, 2022).

Not uncommonly, those with panic disorder overreact to mild physical symptoms and often expect those symptoms to develop into serious or catastrophic events such as a stroke. Worry and apprehension about health can extend to comorbid problems including depression, generalized anxiety, and illness anxiety disorder. Sufferers may view their situation as the result of personal failure or weakness. Median onset is between ages 20 and 24 in the US, and the course is highly variable. Although almost any pattern of attacks is possible, the most common appears to be a chronic one of waxing and waning symptoms (American Psychiatric Association, 2022). However, these fluctuations are not random, but instead are predicted by the presence of life stressors, especially those related to physical well-being or interpersonal difficulties (Teachman et al., 2021).

Panic disorder appears to be fairly common, affecting perhaps 4%–5% of the population at some point in life (Kessler et al., 2012; Roy-Byrne et al., 2006). As noted earlier, panic disorder affects more women than men, by a factor of about 2:1. Especially in men, incidence appears to be much higher among gay and bisexual individuals than among heterosexual individuals (Cochran et al., 2003). The *DSM-5-TR* cites a 12-month prevalence estimate of 2%–3% in adults and adolescents, with higher rates among American Indians and non-Latino Whites than other ethnic groups. Prevalence appears to peak in adulthood and decline thereafter (American Psychiatric Association, 2022).

## Causal Factors

Several biological factors may increase the risk of developing panic disorder. It is known to run in families, with increased risk in offspring of parents with anxiety, depressive, and bipolar disorders (American Psychiatric Association, 2022). Twin studies also support a modest genetic component, although any genetic mechanism remains unknown (Roy-Byrne et al., 2006). Panic attacks involve intense activity in parts of the brain involved in fear and emotional arousal, such as the amygdala. Thus, a possible biological hypothesis involves an oversensitivity of the brain's fear network in those who are most susceptible to the disorder, although the evidence for this as a causal factor is indirect. Another possible factor involves the inhibitory neurotransmitter GABA, which inhibits anxiety. GABA activity is low in some parts of the cortex among those with panic disorder (Goddard et al., 2004). Panic attacks can be triggered in individuals with panic disorder more easily than in other individuals by infusion of sodium lactate (resembling the lactate that is produced by the body during muscular exertion), by ingestion of stimulants such as caffeine, or by inhaling carbon dioxide (Barlow, 2002). These “physical challenge” data have been used to argue for a biological foundation for panic disorder, although the likelihood of cueing a panic attack through biological challenge is mediated by other biological and psychological vulnerabilities, such as respiratory hypersensitivity and anxiety sensitivity (Teachman et al., 2021). Increased risk of panic disorder also exists for smokers and for those with respiratory disturbances such as asthma (American Psychiatric Association, 2022).

Cognitive models (e.g., Beck & Emery, 1985) propose that panic disorder stems from a tendency to make catastrophic misinterpretations of physiological sensations. The susceptible individual may become aware of increased heart rate, which he or she then misinterprets negatively as the early signs of an onset of a panic attack. Engaging in these catastrophic



thoughts and expectations then serves to generate the full-blown panic attack, in turn justifying the original catastrophic interpretation. A general attributional style reflecting the belief that outcomes are uncontrollable also seems to be a risk factor for panic disorder (Teachman et al., 2021).

Bouton et al. (2001) proposed that, although catastrophic thinking may occur, a conditioning model of panic disorder more readily accounts for both the challenge study outcomes and the cognitive misinterpretations. Panic attacks are preceded by early internal physiological (**interoceptive**) cues, such as arousal and increased heart rate, as well as **exteroceptive** cues in the environment (e.g., crowds or specific social situations). The anxiety associated with the attack becomes conditioned to those early cues, especially in people with an associative history of uncontrollable or unpredictable negative events. The conditioned anxiety elicited by the early interoceptive and exteroceptive cues serves to both predict and potentiate the developing panic symptoms. Anxiety then becomes a conditioned stimulus predicting the next panic attack, which further increases anxiety, spiraling into panic disorder.

Psychodynamic models of panic disorder emphasize internal conflicts rather than biological predispositions or learning history as critical to the development of panic disorder, as they do with all of the

anxiety disorders. Freud's original focus was on the sexual and aggressive impulses that produced anxiety in the ego. Ego defenses normally contain the anxiety through defense mechanisms, but these are overwhelmed if the unconscious conflict is too threatening. Because functions involving the unconscious are difficult to test empirically, little research exists to support a psychodynamic model of panic disorder.



How do different paradigms attempt to explain the development of anxiety disorders?

## Treatment for Panic Disorder

From the biological perspective, treatments for panic disorder have included minor tranquilizers such as the benzodiazepines, which are GABA enhancers and reduce anxiety and panic symptoms. However, medications such as diazepam (Valium®) and alprazolam (Xanax®) may produce **dependence**, and most patients experience a **relapse** when the medications are discontinued. Sometimes a “rebound effect” occurs (Chouinard, 2004), in which the relapse following drug discontinuation can involve anxiety more severe than that at the time treatment began. Antidepressant medications, especially the SSRIs and SNRIs, have been used effectively in treating panic disorder without the risk of dependence associated with the benzodiazepines. They are typically recommended as first-line medication therapies, owing to their relatively comparable efficacy and lower risk of dependence (Teachman et al., 2021). However, they do not work as quickly, requiring a few weeks before benefits are experienced. Side effects and relapse after discontinuation remain as problems.

Psychotherapy for panic disorder is effective. A meta-analysis of 17 controlled treatment studies conducted between 1990 and 1999 showed that 63% of patients who completed therapy improved, and up to 54% remained improved 2 years later (Westen & Morrison, 2001). Behavioral and cognitive-behavioral therapies typically involve exposure to feared interoceptive or exteroceptive stimuli (including bodily sensations that have predicted panic attacks), sometimes through intentional hyperventilation, exercise, or holding one's breath, with the goal of extinguishing the anxiety response and the catastrophic expectations that accompany it. Controlled breathing exercises and relaxation techniques are often included, as well as various other stress-reduction, education, and self-control skills. These treatments have been quite successful and appear to be more effective and less subject to relapse than pharmacological methods (Barlow, 2002). Combination of CBT and medication produces mixed results. Adding the antidepressant imipramine to CBT provides some limited additional benefit but also increases relapse rate (Barlow et al., 2000). Acceptance and commitment

### Interoceptive

Relating to internal, physiological stimuli

### Exteroceptive

Relating to external, environmental stimuli

### Dependence

A persistent pattern of drug use involving tolerance, withdrawal, or inability to cut down dosage

### Relapse

Reoccurrence of symptoms after a period of improvement

therapy (ACT) has also been used effectively in the treatment of panic disorder. Gloster et al. (2015) provided treatment-resistant panic disorder patients with eight sessions of ACT consisting of efforts to promote psychological flexibility by noticing and accepting anxiety and other unpleasant emotions without struggle, while also engaging in important aspects of their lives. Compared to wait-list controls, ACT-treated patients showed significant improvement in panic symptoms and global functioning, with outcomes maintained or improved at 6-month follow-up.

## 6.2c Agoraphobia

A second anxiety disorder is agoraphobia (see Table 6–3 Summary of *DSM-5-TR* Diagnostic Criteria for Agoraphobia). Literally from the Greek for “fear of the marketplace,” it involves fear and anxiety about being in places or situations from which escape would be difficult, embarrassing, or impossible in the event of having a panic attack or panic-like symptoms. Individuals might fear getting on a bus or airplane or traveling in the car because something very embarrassing (such as a bout of diarrhea) or a full-blown panic attack could occur. The fear can cause people to be reluctant to leave home (or another place where they are safe from such possibilities) or to be afraid of being at home alone when help might be needed. Obviously, agoraphobia could interfere with normal occupational, academic, and social activities and functions.

**Table 6–3** Summary of *DSM-5-TR* Diagnostic Criteria for Agoraphobia

| Agoraphobia                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• Strong fear or anxiety about two of the following situations: <ul style="list-style-type: none"> <li>▶ Being on public transportation (such as airplanes, buses)</li> <li>▶ Being in open spaces (such as marketplaces, parking lots)</li> <li>▶ Being in enclosed places (such as shops, theaters)</li> <li>▶ Being in a crowd or standing in line</li> <li>▶ Being away from home, alone</li> </ul> </li> <li>• The person avoids or fears these situations out of concern that escape may not be possible if panic-like or other embarrassing symptoms, such as incontinence or falling, develop.</li> <li>• The agoraphobic situations nearly always provoke anxiety or fear, and so are actively avoided or endured with great discomfort.</li> <li>• The fear or anxiety is disproportionate to any actual dangers posed by the situations or, if a medical condition such as inflammatory bowel disease is present, the anxiety, fear, and avoidance are clearly excessive.</li> <li>• The agoraphobic response is persistent (lasting 6 months or more).</li> <li>• The disturbance causes significant impairment or distress in important areas of functioning, and is not better accounted for by other disorders such as PTSD, obsessive-compulsive disorder, or another anxiety disorder.</li> </ul> |

Source: Adapted from American Psychiatric Association, 2022.

In the *DSM-IV*, agoraphobia was not a separate diagnosis; rather, it was a specifier that could be linked to other anxiety conditions, such as panic disorder. The *DSM-5* elevated it to a free-standing diagnosis in part because of the recognition that many people with agoraphobia do not experience panic. In those cases where both sets of symptoms occur, both diagnoses (agoraphobia and panic disorder) are now given.

The 12-month prevalence rates for agoraphobia are approximately 1.7% for adolescents and adults and 0.4% for those older than 65. Childhood onset is rare; average age of onset is 21. Stressful events such as death of a parent or being mugged are associated with the onset of agoraphobia, but there is also a relatively strong genetic link to phobias. It is often associated with depression and other anxiety disorders and is more commonly diagnosed among females than among males, who tend to show higher comorbid rates of substance use (American Psychiatric Association, 2022).

Treatment for agoraphobia has most often been studied in patients with accompanying panic disorder, due to the historical linkage between these diagnoses. Promising results have been reported for behavioral and cognitive-behavioral interventions that involve controlled exposure to agoraphobic situations in an effort to promote habituation of the resulting anxiety. For example, Gloster and colleagues (2011) employed two variants of exposure-based CBT for agoraphobia in a large sample ( $N = 369$ ): one in which the exposure was discussed, planned, and experienced (the therapist accompanied the patient into the situation), and the other with similar interventions but without the therapist guiding the exposure. Compared to wait-list controls, both groups showed reduction in agoraphobic avoidance, with the greatest improvement in the therapist-guided group. Additional research has indicated that virtual reality exposure therapy alone may be as effective as exposure with CBT for agoraphobia (Malbos et al., 2013). Pharmacological treatment for agoraphobia usually involves SSRI antidepressants, with outcomes similar to that of CBT. For example, patients aged 60 and older in a small study ( $N = 49$ ) were randomly assigned to receive paroxetine (an SSRI), CBT, or a wait-list control. Both treatments were effective, although CBT showed somewhat better results for those with later onset of the condition (Hendriks et al., 2012).

## 6.2d Specific Phobia

Specific phobia involves intense and persistent fear triggered by specific objects or situations (refer to the diagnostic criteria for Specific Phobia in Chapter 4, Table 4-4). The fear reaction is excessive, resulting from either the presentation or the anticipation of the triggering stimulus. The onset of anxiety after exposure to the feared stimulus is usually immediate, includes many panic-like symptoms, and may meet the criteria for a cued panic attack. Because the fear is so distressing, individuals avoid or escape from the feared stimulus, which negatively reinforces the avoidance behavior and maintains the phobic response. Often, individuals with phobias realize that their reactions are excessive or unreasonable, but this realization does not reduce the phobic response, in part because they also overestimate the danger in their feared situations. Although many people have intense fears involving certain stimuli (such as snakes or spiders), specific phobia is not diagnosed unless it lasts at least 6 months and interferes significantly with a person's life or is associated with marked distress.

Phobic anxiety can become associated with a variety of objects or situations. Following are some common examples:

- Heights: cliffs, roofs, high windows, ladders
- Enclosed places: small rooms, closets, elevators, subways
- Open places: halls, wide streets, squares, parks, beaches
- Animals: dogs, cats, snakes, horses, spiders
- Weapons: guns, knives, axes
- Public gatherings: crowds, meetings, churches, theaters, stadiums
- Vehicles: airplanes, trains, automobiles, buses
- Natural dangers: storms, wind, lightning, darkness

The *DSM-5-TR* includes subtype specifiers in the diagnosis of specific phobias: animal type, natural environment type, blood-injection-injury type (e.g., fear of blood, mutilation, or medical procedures), situational type (e.g., fear of flying, closed spaces, or bridges), and other types (e.g., fear of choking, clowns, or noises). Multiple specific phobias are the norm: 75% of phobic individuals fear more than one object or situation (American Psychiatric



Association, 2022). The specific phobia diagnosis appears to be one of the most reliable in the anxiety disorder category. Brown and colleagues (2001) reported a kappa value of .86 when it was the principal *DSM-IV* diagnosis; its reliability was not assessed in the *DSM-5* field trials, however.

Phobias are relatively common disorders, with lifetime prevalence rates of over 12% of the population (Kessler, Chiu, et al., 2005). Prevalence rates in Asian, African, and Latin American countries appear to be about half of those in the US and Europe. Women are diagnosed with phobias twice as often as men. First symptoms of phobias tend to appear in childhood or early adolescence, and prevalence declines among the elderly (American Psychiatric Association, 2022). There are many different variations of phobias, as Table 6–4 illustrates. Certain phobias may be more easily acquired at different ages and may involve some differences in fear response patterns. For example, fear of heights and driving phobias appear to be associated with later age of onset, and blood/injection phobias may be more likely to involve fainting, relative to other phobias (Antony et al., 1997).



Phobic anxiety can become associated with a variety of objects or situations. A common example is heights, such as cliffs, roofs, high windows, and ladders.

**Table 6–4** Some Variations of Specific Phobias

| Name           | Object(s) Feared           | Name          | Object(s) Feared           |
|----------------|----------------------------|---------------|----------------------------|
| Acrophobia     | High places                | Monophobia    | Being alone                |
| Agoraphobia    | Open places                | Mysophobia    | Contamination              |
| Ailurophobia   | Cats                       | Nyctophobia   | Darkness                   |
| Algophobia     | Pain                       | Ochlophobia   | Crowds                     |
| Anthropophobia | People                     | Pathophobia   | Disease                    |
| Aquaphobia     | Water                      | Pyrophobia    | Fire                       |
| Astraphobia    | Storms, thunder, lightning | Syphilophobia | Syphilis                   |
| Claustrophobia | Closed places              | Thanatophobia | Death                      |
| Cynophobia     | Dogs                       | Xenophobia    | Strangers                  |
| Hematophobia   | Blood                      | Zoophobia     | Animals or a single animal |

Source: Adapted from *Abnormal Psychology: A New Look*, by M. Duke and S. Nowicki, 1986, Holt, Rinehart, and Winston.

## Causal Factors

Specific phobias are more common in families in which other members have phobias, and monozygotic twins show higher concordance rates than dizygotic twins; both of these points support a modest genetic risk factor (American Psychiatric Association, 2022). As noted before, differences in HPA activity can have a genetic basis, so it is reasonable to expect that some differences in phobic response are heritable. Still, there is wide latitude for environmental effects in the formation of phobias.

The behavioral model has proposed conditioning in the etiology of phobias since Watson's demonstration with Little Albert (see Chapter 3). Essentially, a phobia may result through classical conditioning when an object or situation is paired with a traumatic event or a strong sensation of fear. For example, some unfortunate children are “taught” to swim by



**How important are specific traumatic experiences in the development of phobias?**



Severe storms like Hurricane Sandy, which devastated parts of the US Eastern Seaboard, can produce phobic reactions.

parents who throw them into the water so that they learn “naturally.” A phobia of deep water might easily develop after such an episode. Struggling to keep one’s head above water (the US) can produce gasping and intense fear (the UR); because of pairing, any water in which the bottom cannot be seen (CS) comes to elicit fear and a sensation of drowning (CR). Once the phobia is established through Pavlovian conditioning, future exposure to the phobic stimulus produces avoidance behavior, which is then reinforced by the reduction in fear that it produces. This operant contingency (negative reinforcement) makes future phobic avoidance more likely, thus maintaining the phobia. This model is often referred to as the **two-factor theory** of phobias (Mowrer, 1950), reflecting the involvement of both Pavlovian and operant influences.

Rachman (1977) criticized the conditioning theory as being incomplete. In early classical conditioning theory, any stimulus (object, sound, odor, and so on) might serve equally well as a CS, as long as it has been paired with the unconditioned stimulus; however, various sources of evidence suggest that this is not the case. For example, if all stimuli can serve equally well as CS, why are human phobias most commonly associated with a rather limited set of stimuli—fear of leaving home, specific animals and insects, heights, the dark, situations related to bodily injury or mutilation, and so on? Only rarely do people have phobias of pajamas, electrical outlets, or hammers, even though all of these can be associated with trauma. Pajamas, for example, are present when young children experience fear of the dark or have nightmares, but children rarely develop a pajama phobia.

Rachman also pointed out that people who undergo repeated fear-arousing experiences may not develop phobias to surrounding stimuli. Thus, despite repeated exposure to fearsome air raids during World War II, only a very small proportion of adults or children developed phobias as a result. Rachman considered these findings as being supportive of a theory previously proposed by Seligman and Hager (1972) to the effect that, in both humans and other animals, fear of some stimuli is learned more readily than fear of other stimuli. There is an innate **preparedness** to become fearful of certain stimuli, because in humans’ evolutionary past these were associated with real dangers—animals, the dark, heights, mutilated bodies. This theory of a preparedness to become fearful of some stimuli and not others may help explain why Bregman (1934) was unable to replicate Watson and

### Two-factor theory

Theory that Pavlovian conditioning establishes the phobia, while operant contingencies maintain phobic behavior

### Preparedness

Biologically based tendency to more readily form associations between certain stimuli than between other stimuli

Rayner's (1920) demonstration of fear conditioning in Little Albert. Bregman attempted to condition fear in 15 infants but used biologically irrelevant objects such as geometrically shaped wooden blocks and cloth curtains, whereas Watson and Rayner used a furry rat. Bandura (1977) agreed that phobias develop more readily to some stimuli than to others but argued that this can be explained by differences in the presenting nature of the stimuli rather than innate tendencies. Thus, snakes and various animals are especially likely to become phobic stimuli because they can appear at unpredictable times and places, show great mobility, and inflict injury despite self-protective efforts.

There is considerable laboratory and real-world evidence that both animal and human subjects can learn emotional reactions, including fear, by observing other subjects model these reactions (Bandura, 1977). For example, several people were treated for anxiety reactions after watching the film *The Exorcist* (Bozzuto, 1975). Likewise, monkeys raised in laboratory environments do not fear snakes until they observe the fearful response of other monkeys (Mineka et al., 1984). Various cognitive processes may also play a role in the learning and maintenance of fear. A child's interpretation of events or expectation about what is going to happen can be important in this respect. The child who hears parents, siblings, or others warn of certain dangers can begin to be concerned about these same anxiety-arousing situations. The child's potential for imaginative elaboration can multiply and maintain the stimuli.

Certainly, large individual differences would be expected in the phobic responses of people exposed to (or observing) particular traumatic events, as well as variations in prior familiarity with the stimulus, history of uncontrollable events, and prior coping experiences. These facts, as well as the issues raised by Rachman and Seligman, have been incorporated into a comprehensive contemporary learning model by Mineka and colleagues (e.g., Mineka & Sutton, 2006; Mineka & Zinbarg, 2006), which combines early learning experiences, **vicarious conditioning**, contextual variables, genetic/temperamental influences, and basic learning principles to account for the development and maintenance of phobias. It arguably remains the most validated and plausible perspective on the etiology of phobias at this time.

The psychodynamic model is illustrated by Freud's analysis of Little Hans, described in Chapter 3. Recall that Hans had developed an animal phobia (of horses), which Freud interpreted as displaced fear of Hans's father, related to an Oedipal castration anxiety. More generally, the psychoanalytic theory of phobia formation would emphasize some initial repression of an anxiety-arousing conflict, the projection of the conflict onto the external world (Little Hans, for example, was said to have projected his wish to attack his father, and thus he believed his father wished to attack him), and then *displacement* of the anxiety onto some other target (horses, in the case of Hans).

## Treatments for Specific Phobias

Nearly all empirically supported therapies for specific phobia involve exposure to the feared stimulus, as initially demonstrated by Mary Cover Jones (1924) with "Little Peter." Peter was a 3-year-old boy who was afraid of rabbits, as well as a variety of other furry creatures and objects. In the initial sessions, Peter would cry in the presence of a caged rabbit unless it was taken at least 20 feet away. Jones began with the rabbit in a cage some 12 feet away from Peter and gradually (over several treatment sessions) brought the animal closer; at the same time, Peter was being fed his favorite candy by his mother. Eventually, Peter was able to stroke the rabbit affectionately, and even allow it to nibble at his fingers, without crying. Subsequently, Wolpe (1958, 1973) developed this approach into systematic desensitization. The many variations of exposure therapy for phobias involve extended exposure, either in vivo or in imagination, with the goal of reducing the fear response through extinction. Systematic desensitization involves maintaining a relaxed state while increasingly fear-provoking phobic stimuli are gradually presented. Participant modeling, in which the

### Vicarious conditioning

Conditioning based on observing the responses of other people



therapist first models a calm, nonphobic interaction with the feared stimulus, has been effective as well. Overall, the professional literature provides the strongest empirical support for therapies involving actual, rather than imagined, exposure, and a consensus has developed that **in vivo exposure** is the treatment of choice for specific phobias (Barlow et al., 2002). Reviews have shown that an average person receiving exposure-based treatment functioned better than 85% of nontreated persons, and there is evidence that even a single session of exposure therapy can be effective (Teachman et al., 2021).

From the biological perspective, acute fear reactions can be moderated with medications such as benzodiazepines, which act more rapidly than SSRIs or other antidepressants. However, in the case of specific phobia, no pharmacological intervention has been shown to be effective (Roy-Byrne & Cowley, 2002). On the other hand, the drug D-cycloserine, a partial NMDA receptor agonist, may augment the effectiveness of exposure therapies (Mataix-Cols et al., 2017), possibly by enhancing neural plasticity during fear extinction.

## 6.2e Social Anxiety Disorder (Social Phobia)

Social anxiety disorder (also called social phobia) is similar to specific phobia except that the symptoms are connected to situations in which the person is exposed to unfamiliar people or to the scrutiny of others; the person also fears acting in a way that might prove embarrassing

or humiliating. For example, sufferers may fear appearing stupid, incompetent, or weak, or they may fear that others in the social setting will notice their trembling hands or their quivering voice. Exposure to these situations almost immediately triggers distressing fear symptoms, which may escalate into panic attacks. As a result, the person tends to avoid, if possible, social or performance situations to the extent that the phobia interferes with normal daily life. People with social phobia may experience fear far in advance (perhaps every day for several weeks) of an anticipated social activity.

Nearly everyone has felt some anxiety about or embarrassment in some social situations, and these occurrences do not warrant the diagnosis. For example, students may find themselves unprepared for a question from the teacher, and most people unaccustomed to public speaking would be anxious when anticipating delivering an address to a large group of people. Social anxiety disorder, however, involves shyness and social anxiety that is severe enough to interfere with normal life in terms of occupational, academic, or interpersonal functioning for at least 6 months. The diagnosis can be subtyped as “performance only” if the fear is limited to performing or speaking in public.

Incidence estimates vary widely, but the National Comorbidity Survey Replication suggested a 12.1% lifetime prevalence (Kessler, Chiu, et al., 2005) of social anxiety disorder, making it one of the most common anxiety disorders, along with specific phobia. The *DSM-5-TR* gives the 12-month prevalence rate at 7% in the United States, noting much lower prevalence (0.5%–2.3%) in the rest of the world. Age of onset for the disorder is between 8 and 15 years in 75% of cases. Although it is more commonly diagnosed among women, men are represented equally in treatment settings, suggesting that they may be more likely to seek treatment for the condition (American Psychiatric Association, 2022).



(iStock)

A person suffering from social anxiety disorder (social phobia) tends to avoid social or performance situations to the extent that the phobia interferes with normal daily life.

### In vivo exposure

Exposure to the actual feared stimulus rather than an imagined or symbolic stimulus

## Causal Factors

As in the other anxiety disorders, social anxiety disorder runs in families, supporting a modest genetic factor: First-degree relatives of sufferers have 2–6 times greater risk of developing the condition (American Psychiatric Association, 2022). Some neuroimaging data suggest that the amygdala responds differently to novel faces than to familiar faces in people with social phobia (Cottraux, 2005), although that may be an effect rather than a cause of the disorder. Temperamental traits such as behavioral inhibition appear to predict later development of social anxiety disorder: To many researchers, the difference between shyness and social phobia is largely one of degree (Teachman et al., 2021).

Learning models assume that social phobia develops in similar ways as other phobias, involving a conditioned association between social cues and unpleasant or embarrassing events or social defeats. According to the *DSM-5-TR*, childhood maltreatment and negative social experiences, especially peer victimization, are associated with the development of the condition (American Psychiatric Association, 2022). In retrospective studies, participants with social anxiety disorder report early aversive experiences with peers, emotional abuse, and physical trauma (Norton & Abbott, 2017), “suggesting that social victimization may be the most proximal risk factor in the development of social anxiety symptoms” (p. 758).

An integrative model of social phobia etiology has been proposed by Spence and Rapee (2016), highlighting the complex interplay of biological factors (modest heritability, increased brain activation in areas of the amygdala and prefrontal cortex, temperamental influences such as behavioral inhibition), psychological factors (low social involvement, poor social skills, insecure attachment, cognitive biases, parenting styles), and social factors (performance deficits, peer relations, social victimization), defined within various cultural contexts, in the development of social anxiety disorder. The model provides multiple pathways through which both risk and protective factors could operate in the development and maintenance of the condition. Longitudinal studies over the next decade may help establish the model’s validity.

## Treatments for Social Phobias

Pharmacologically, benzodiazepines appear to be effective in short-term relief for social anxiety (Davidson, 2004). SSRIs have also been used effectively (Roy-Byrne & Cowley, 2002). Some work supports the SNRI venlafaxine (Effexor®) and the anticonvulsant drug pregabalin (Lyrica®) as promising (Cottraux, 2005). A review of 67 randomized controlled trials comparing medications to placebo in the treatment of social anxiety disorder in adults found the SSRI paroxetine was superior to other drugs in reducing symptom severity, although the differences between drugs and placebo generally were small (Williams et al., 2020).

Cognitive-behavioral therapies are also effective in treating social phobia. These techniques typically involve systematic exposure to feared social situations, often combined with relaxation training or desensitization. Newer CBT applications, including virtual reality technologies that provide computer-generated scenarios of public-speaking situations, also appear promising for treating social anxiety (Cottraux, 2005), as well as other anxiety disorders. ACT approaches focused on acceptance of anxiety and commitment to value-based life as an alternative to managing anxiety have also been effective; comparisons of ACT and CBT in randomized controlled trials have shown both to be superior to wait-list controls (Craske et al., 2014).

To date, it remains unclear whether pharmacological or psychological interventions are preferable in the treatment of social phobia, or whether a combination of medication and psychotherapy is superior to either treatment alone (Teachman et al., 2021).



“Effexor 75 and 150 mg,” by Parhamr, public domain via Wikimedia

The SNRI venlafaxine (Effexor®) shows promise as a treatment for social anxiety.



## 6.2f Generalized Anxiety Disorder

Generalized anxiety disorder (GAD) is characterized by a nearly constant state of worry and apprehension about a wide variety of events or activities on most days over a 6-month period (see Table 6–5). Several symptoms of autonomic arousal are present, including disturbed sleep and concentration, muscle tension, irritability, and fatigue, to the extent that they interfere with daily life. Although people with GAD find their worries difficult to control, distressing, and physically troublesome, they do not progress into panic attacks.

**Table 6–5** Summary of *DSM-5-TR* Diagnostic Criteria for Generalized Anxiety Disorder

| Generalized Anxiety Disorder                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><li>• Persistent (6 months) excessive apprehensive expectation and anxiety about a number of things, on more days than not.</li><li>• The worry is difficult for the person to control.</li><li>• Worry and anxiety are associated with at least three of the following, and at least some of the symptoms occurring most days over the previous 6 months:<ul style="list-style-type: none"><li>▶ Muscle tension</li><li>▶ Irritability</li><li>▶ Restlessness, feeling on edge</li><li>▶ Feeling easily fatigued</li><li>▶ Difficult or unsatisfying sleep</li><li>▶ Concentration difficulties</li></ul></li><li>• The excessive worry and anxiety cause significant distress or impairment, are not due to medications or other substances, and are not better accounted for by another anxiety or other mental disorder.</li></ul> |

Source: Adapted from American Psychiatric Association, 2022.

People with GAD seem to be always “on edge” and worry about minor events as often as about major ones. Children may worry about school, deadlines, or world events—often requiring reassurance about their performance. Adults may worry excessively about finances, health, work, and household duties. Major events, such as nuclear war or other possible catastrophes, are sources of elevated concern as well. Perhaps one third of people with GAD rate their physical health as only fair to poor, and GAD is associated with a multitude of health problems including asthma, chronic pain, irritable bowel syndrome, and insomnia; it also appears to be a risk factor for cardiovascular disease (Newman et al., 2021). Rarely are there periods in which all worry is absent. Comorbidity of GAD with additional diagnoses, such as depression and other anxiety disorders (including panic disorder), is frequent. GAD is diagnosed among females twice as often as among men. The *DSM-5-TR* gives 12-month prevalence around 2.9% and lifetime risk of 9% in US adults (American Psychiatric Association, 2022). As noted earlier, the *DSM-5* diagnosis is not very reliable, with a kappa of .20, falling in the “questionable” range (Regier et al., 2013).

### Causal Factors

Biological involvement in generalized anxiety includes several brain pathways that are also active in other anxiety disorders, including the amygdala, the limbic system, and the prefrontal cortex. It is assumed that inhibition of these pathways, mediated by the neurotransmitter GABA, is deficient in GAD sufferers, although there is some indication of serotonin involvement as well. Genetic evidence is mixed; its modest heritability (accounting for about one third of the risk) may be somewhat smaller than that for other anxiety disorders (American Psychiatric Association, 2022). Overlap of symptoms with mood disorders, as well as some indications of common biological/genetic involvement between GAD and mood disorders, may indicate that these are related rather than independent clusters of disorders (Tyrer & Baldwin, 2006).

A cognitive-behavioral model of GAD would be similar to that for panic disorder: interoceptive and exteroceptive stimuli become predictive of worry and apprehension, to the point that widespread anxiety occurs as a conditioned response. This would be most likely to occur in people who have a history of uncontrollable and unpredictable events and who would also be less likely to identify periods of safety from threat, resulting in hypervigilance. It would also result in a cognitive tendency to overappraise and attend to threatening interoceptive and exteroceptive cues; such an interpretive bias can increase vulnerability to anxiety disorders (Wilson et al., 2006). Because some individuals superstitiously believe that their worry can prevent negative events from happening, worry is also negatively reinforcing (Newman et al., 2021). In psychodynamic terms, anxiety is created by unconscious conflict, which overwhelms the ego's defenses with unacceptable impulses and produces a widespread overt anxiety reaction.

## Treatments for Generalized Anxiety Disorder

Interventions, both medical and psychological, can be helpful for GAD but rarely result in total symptom remission (Tyrer & Baldwin, 2006). Effective medications include GABA stimulants such as the benzodiazepines and buspirone (which has little dependence or abuse potential) for short-term treatments. Antidepressants, especially the SSRIs, may be more helpful both in the longer term and with concomitant depression (Davidson, 2004; Gorman, 2003).

Psychotherapy for GAD can be helpful as well and appears to be at least as effective as pharmacological treatment. Reviews of the effectiveness of various treatments in controlled clinical trials reported that active therapies are superior to nondirective therapies, without clear superiority for any one (Barlow et al., 2002). A comparison of internet-based CBT and internet-based psychodynamic treatment showed that both forms of self-help interventions resulted in moderate to large improvements at 3-month and 18-month follow-up (Andersson et al., 2012). In an early treatment comparison between cognitive-behavioral therapy and a benzodiazepine medication (diazepam), CBT produced better results 6 months after therapy, whereas diazepam was no more effective than placebo (Power et al., 1990). Borkovec and Ruscio (2001) reviewed 13 well-controlled studies and concluded that CBT is consistently shown to be clinically effective for both anxiety and depression, with low dropout rates and long-term maintenance of improvement. In a stronger endorsement, Newman et al. (2021) report that CBT has been found to produce better improvement than no treatment, psychodynamic therapy, pharmacotherapy, nondirective therapy, and placebo therapy, concluding that it is the “gold standard” treatment for GAD (p. 61). The superiority of evidence-based psychotherapies for GAD was confirmed in a meta-analysis by Carl et al. (2020), who found medium-to-large effects for psychotherapy and small effects for medications in a review of 79 randomized controlled trials. ACT techniques have also been successfully applied to GAD: A two-session intervention for repetitive negative thinking in depression and generalized anxiety disorders (Ruiz et al., 2020) produced large effects, with over 94% of participants in the ACT condition ( $N = 23$ ) showing clinically significant change in depression, anxiety, and stress scores, versus 9% among wait-list controls ( $N = 25$ ).



**Which treatments  
are effective for  
anxiety disorders?**

## 6.2g Separation Anxiety Disorder

In separation anxiety disorder, a person experiences developmentally inappropriate and excessive fear or anxiety associated with separation from home or from those to whom the individual is attached. The distress may include anxiety about getting lost or losing connection to the attachment figure, concern that the attachment figure may be harmed, or fear

of being taken away or kidnapped. Associated with these fears, the person with separation anxiety disorder may experience nightmares or physical symptoms and may refuse to attend school or other activities requiring absence from home or separation from the attachment figure. The person may refuse or resist sleeping unless the attachment figure is nearby. Unlike its previous editions, which restricted the diagnosis to children, *DSM-5* recognizes adult-onset separation anxiety. For diagnosis, the disturbance must last at least 4 weeks in children and 6 months or more in adults.

Children with this disorder often come from close-knit families. Risk factors include a history of being bullied, a loss in childhood, parental divorce, or other life stress. Children may fear specific objects or animals that could pose danger of harm or events such as travel that may result in separation. During separation, they may show social withdrawal, sadness, or apathy. Anxiety disorders commonly co-occur, and the condition may precede the onset of panic disorder with agoraphobia. The 12-month prevalence is estimated to be 4% in children and 1%–2% in adults, and it appears to be more common among females (American Psychiatric Association, 2022). Adults tend to report that onset was in late adolescence to the mid-20s, with a fluctuating course over their lifetimes (American Psychiatric Association, 2022). In adults, separation anxiety disorder is often associated with complicated grief related to the loss of a spouse, close relative, or friend (Gesi et al., 2017). Separation anxiety in adults has also been noted to occur with the loss of companion animals such as close pets, especially among those with less social support (Dowsett et al., 2020). During separation, adults tend to be overprotective and will often text or frequently contact attachment figures to check on their locations and activities, sometimes creating conflict and resentment within the family (American Psychiatric Association, 2022).

Separation anxiety disorder is a strong predictor of subsequent mental disorders, especially panic disorder and major depressive disorder (Lewinsohn et al., 2008). At present, there are no medications approved by the FDA for treatment of separation anxiety disorder, although SSRI antidepressants are sometimes prescribed. A small pilot study (Schneier et al., 2017) found the SSRI vilazodone superior to placebo in secondary measures such as self-reported quality of life and anxiety symptoms, but at the end of the 12-week study the groups did not differ on the primary measure, a clinician-rated scale of global improvement. Cognitive-behavioral therapy appears to be effective for separation anxiety disorder in children (Chambless et al., 1998), and CBT with or without added family therapy was associated with long-term improvement more than 6 years after therapy (Barrett et al., 2001). Long-term effectiveness of CBT is evident in the follow-up of 139 adolescents with separation anxiety disorder, social anxiety disorder, or generalized anxiety disorder, treated with either individual or group CBT in community mental health clinics. Four years after treatment, all anxiety improvements were retained, with loss of anxiety diagnosis in more than half of subjects (Kodal et al., 2018).

## 6.2h Selective Mutism

The central component of selective mutism is persistent failure to speak in situations where speaking is expected, such as social and school settings. The individual does speak in other situations, however (e.g., at home in the presence of family members). Because a person may be shy in new situations, the diagnosis is not based on the first month in a new school or other social setting. After the first month, selective mutism can be diagnosed if the failure to speak persists for 1 month and is not due to lack of knowledge about the language, comfort with the spoken language, embarrassment about speaking connected to a communication disorder such as stuttering, or a pervasive developmental disorder or psychotic disorder. Sometimes, children with selective mutism will communicate through hand signals or

gestures. Onset is usually before age 5, and gender ratio among treatment samples is equal, although some evidence suggests that more females than males are affected. Its incidence has not been measured in epidemiological studies, but it is considered to be relatively rare, with prevalence in clinical and school samples reported to be 0.03%–1.9% (American Psychiatric Association, 2022).

Interestingly, selective mutism is the only *DSM-5* anxiety disorder in which the diagnostic criteria do not specifically include either anxiety or fear as a defining element. The diagnosis can be given based solely on failure to speak in expected situations in spite of the linguistic ability to do so, given the duration requirement (1 month) and the resultant impairment in educational or occupational achievement or in social communication. The accompanying *DSM-5-TR* text description mentions the common presence of excessive shyness and notes that the children may be too anxious to engage in reciprocal social interaction with other children, but neither shyness nor anxiety is required for the diagnosis to be given. The causes are unknown, though there is some overlap with social anxiety disorder.

Some have approached the treatment of selective mutism similarly to anxiety disorders; case reports suggest antidepressants may be useful. An early review of the treatment literature by Stone et al. (2002) concluded that behavioral interventions, including reinforcement, shaping and stimulus control of speech, perhaps combined with modeling, appeared to be useful in treating the condition. Often, behavioral treatments were offered on a weekly basis, leading to long-term interventions. Recent refinements have focused on intensive group behavioral treatment (IGBT) formats, in which intervention is condensed into a short period of time, such as 1 week. Cornacchio and colleagues (2019) assessed a comprehensive IGBT in 29 selectively mute children aged between 5 and 9 years. The intervention trial involved five consecutive daily treatment sessions, each lasting 6–8 hours. With a ratio of one counselor to each child, staff were taught specific skills for interacting with the children, including providing token reinforcers for verbalizing, prompting children to use speech in certain situations, and shaping the use of speech by breaking down target situations into multiple steps for the child. Supporting stimuli were faded by gradually introducing new people with whom to speak, and by gradually increasing the difficulty of each new exposure. Children were trained in social skills to use with other peers and adults, and taught how to identify maladaptive thinking patterns and generate more adaptive coping thoughts. Relaxation training was added to help reduce anxiety, and modeling was introduced by having other children and adults display appropriate, adaptive verbal behavior. Compared to wait-list controls, children receiving IGBT showed significant improvement in parent-reported symptoms in social settings, and in evaluator-rated social anxiety severity and global functioning, from baseline to Week 4. By 8 weeks into the following school year, 46% of those receiving IGBT no longer met criteria for selective mutism.

## 6.2i Other Anxiety Disorders

Anxiety disorder symptoms may also stem from general medical conditions, such as cardiovascular, respiratory, or neurological conditions, or as a result of substance use. The *DSM-5* provides diagnostic categories for these conditions when they cause significant distress or impairment in important areas of functioning.

*Substance/medication-induced anxiety disorder* involves panic attacks or anxiety developing soon after intoxication with, withdrawal from, or exposure to a substance that is capable of producing the anxiety. A variety of substances can provoke anxiety or panic, including alcohol, caffeine, cannabis, cocaine, amphetamines, opioids, inhalants, and hallucinogens. The diagnosis can be coded for each, and the anxiety onset can be specified as during intoxication, during withdrawal, or after medication use. Other possible sources of anxiety (such as an independent anxiety disorder, or a delirium) must be ruled out as well.



*Anxiety disorder due to another medical condition* involves panic or anxiety that can be traced to the direct pathophysiological consequence of another medical condition such as hyperthyroidism, arthritis, congestive heart failure, hypertension, or asthma. Other potential sources of anxiety, including other mental disorders, must be ruled out as well.

*Other specified anxiety disorder* applies to conditions of anxiety and fear that do not meet the full criteria for another anxiety disorder. For example, an individual may experience panic attacks but with fewer than four panic symptoms, or a person may experience generalized anxiety for fewer than 4 days per week.

Finally, the remaining presentations of significant anxiety or fear that are not covered by any other category may be labeled as *unspecified anxiety disorder*.

## 6.3 Obsessive-Compulsive and Related Disorders

**Obsessions** are thoughts that intrude repeatedly into awareness and are experienced as irrational, unwanted, and difficult to control or stop. **Compulsions** are actions that one is compelled to perform; they are also experienced as irrational and difficult to control. Mild forms of obsessive-compulsive experiences—like mild forms of phobic reactions—are not uncommon in normal individuals. The song that intrudes recurrently into the moment or an urge to return home to make sure the door is locked or the stove turned off are common examples.

There can be preoccupations with certain objects or activities within many different mental disorders. Those basic commonalities led some researchers (e.g., Hollander & Wong, 1995) to propose that a concept of an *obsessive-compulsive spectrum* could include conditions as apparently diverse as pathological gambling, tic disorders, antisocial personality, and autism. The *DSM-5* restructured the classification of obsessive-compulsive disorder, which had been under the anxiety disorder category in both the *DSM-III* and the *DSM-IV*, into a new category—obsessive-compulsive and related disorders (see Table 6–6). Although many different types of obsessions and compulsions can be included in the spectrum, the *DSM-5* excludes certain apparently obsessive-compulsive activities that occur as part of other disorders. For example, an alcohol-dependent person may experience urges and obsessions about drinking and may appear to drink compulsively, but that preoccupation is already accounted for within a substance use diagnosis. Similarly, those obsessions or compulsions associated with eating disorders, impulse-control disorders, certain sexual disorders, or depressed persons with obsessive guilt would be excluded from the current spectrum. On this point, the *DSM-5* distinguishes between the compulsive activities of obsessive-compulsive and related disorders and those of substance dependence (for example) on the basis that the latter individuals derive pleasure from the activity, while those with obsessive-compulsive conditions do not. The diagnoses in this category can be used with specifiers—such as “with poor insight,” “absent insight/delusional beliefs,” and “tic-related”—to allow for more specificity in their use.



**What are  
obsessions and  
compulsions?**

### Obsession

Intrusive thought that is difficult to stop or control

### Compulsion

Action that one feels compelled to perform

**Table 6-6** Summary of *DSM-5* Obsessive-Compulsive and Related Disorders

| Disorder                                 | Key Symptoms                                                                 | Minimum Duration Required for Diagnosis | Sex Ratio                       |
|------------------------------------------|------------------------------------------------------------------------------|-----------------------------------------|---------------------------------|
| Obsessive-compulsive disorder            | Recurrent obsessions or compulsions that cause distress                      | None                                    | Slightly more common in females |
| Body dysmorphic disorder                 | Preoccupation with imagined or minor physical defect in appearance           | None                                    | Equal                           |
| Hoarding disorder                        | Persistent difficulty discarding possessions, resulting in excessive clutter | None                                    | Slightly more common in females |
| Trichotillomania (hair-pulling) disorder | Recurrent pulling out of hair                                                | None                                    | More common in females          |
| Excoriation (skin-picking) disorder      | Recurrent picking of skin                                                    | None                                    | More common in females          |

Source: Adapted from American Psychiatric Association, 2022.

### 6.3a Obsessive-Compulsive Disorder

In obsessive-compulsive disorder (OCD), obsessions and compulsions reach an impairing degree of severity, occupying a significant amount of time and interfering with normal social, occupational, or academic activities (see *DSM-5-TR* Diagnostic Criteria for Obsessive-Compulsive Disorder). Unwanted, intrusive, distressing obsessions and thoughts, sometimes aggressive or sexual in nature, may alternate with thoughts or actions that counteract or inhibit them. The most common sorts of intrusive obsessions involve thoughts about contamination or repeated doubts, such as whether a necessary act has been performed; “forbidden” urges, such as the idea of stabbing, choking, poisoning, shooting, or otherwise injuring one’s child, parent, spouse, sibling, or self; the idea of shouting obscene words at home, at work, or during religious services; the wish that someone were dead; the thought or image of a forbidden sexual adventure, perhaps involving “perverted” sex acts; the thought of committing suicide by jumping out of a window or into the path of a truck; and the thought of contracting some disease from touching doorknobs, banisters, toilets, or other objects in public places.

At first the individual with obsessions usually attempts to ignore or suppress them. As the obsessions continue to generate increasing anxiety, the person often engages in compulsive acts to neutralize the obsession and reduce anxiety. Examples of thoughts or actions designed to counteract forbidden or distressing thoughts are almost any kind of ritual—such as washing or cleaning, counting to oneself, memorizing license plate numbers, or reciting certain words or phrases to oneself. Sometimes the person may follow more elaborate verbal rituals that have a scientific, philosophical, or religious basis. Other compulsive acts include excessive politeness, excessive orderliness and neatness, and inordinate attempts to schedule one’s activities on a precise timetable.

The obsessions and compulsions are time-consuming, occupying at least 1 hour per day and frequently much longer periods. Individuals may become incapacitated by endless compulsive rituals and the immobilization associated with obsessive indecision and doubting. Sufferers differ in the degree to which they are aware that the obsessions or compulsions are excessive or unreasonable; those who recognize that their obsessive-compulsive beliefs are not true receive the specification “with good insight.”



As the obsessions continue to generate increasing anxiety, the person with OCD often engages in compulsive acts to neutralize the obsession and reduce anxiety—for example, excessive cleaning.

**Table 6-7** DSM-5-TR Diagnostic Criteria for Obsessive-Compulsive Disorder

| F42.2 Obsessive-Compulsive Disorder                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A.                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <p>Presence of obsessions, compulsions, or both:</p> <p>Obsessions are defined by (1) and (2):</p> <ol style="list-style-type: none"> <li>1. Recurrent and persistent thoughts, urges, or images that are experienced, at some time during the disturbance, as intrusive and unwanted, and that in most individuals cause marked anxiety or distress.</li> <li>2. The individual attempts to ignore or suppress such thoughts, urges, or images, or to neutralize them with some other thought or action (i.e., by performing a compulsion).</li> </ol> <p>Compulsions are defined by (1) and (2):</p> <ol style="list-style-type: none"> <li>1. Repetitive behaviors (e.g., hand washing, ordering, checking) or mental acts (e.g., praying, counting, repeating words silently) that the individual feels driven to perform in response to an obsession or according to rules that must be applied rigidly.</li> <li>2. The behaviors or mental acts are aimed at preventing or reducing anxiety or distress, or preventing some dreaded event or situation; however, these behaviors or mental acts are not connected in a realistic way with what they are designed to neutralize or prevent, or are clearly excessive.</li> </ol> <p><b>Note:</b> Young children may not be able to articulate the aims of these behaviors or mental acts.</p> |
| B.                                                                                                                                                                                                                                                                                                                                                                                                                                                       | The obsessions or compulsions are time-consuming (e.g., take more than 1 hour per day) or cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| C.                                                                                                                                                                                                                                                                                                                                                                                                                                                       | The obsessive-compulsive symptoms are not attributable to the physiological effects of a substance (e.g., a drug of abuse, a medication) or another medical condition.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| D.                                                                                                                                                                                                                                                                                                                                                                                                                                                       | The disturbance is not better explained by the symptoms of another mental disorder (e.g., excessive worries, as in generalized anxiety disorder; preoccupation with appearance, as in body dysmorphic disorder; difficulty discarding or parting with possessions, as in hoarding disorder; hair pulling, as in trichotillomania [hair-pulling disorder]; skin picking, as in excoriation [skin-picking] disorder; stereotypies, as in stereotypic movement disorder; ritualized eating behavior, as in eating disorders; preoccupation with substances or gambling, as in substance-related and addictive disorders; preoccupation with having an illness, as in illness anxiety disorder; sexual urges or fantasies, as in paraphilic disorders; impulses, as in disruptive, impulse-control, and conduct disorders; guilty ruminations, as in major depressive disorder; thought insertion or delusional preoccupations, as in schizophrenia spectrum and other psychotic disorders; or repetitive patterns of behavior, as in autism spectrum disorder).                                                                                                                                                                                                                                                                                        |
| Specify if:                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <p><b>With good or fair insight:</b> The individual recognizes that obsessive-compulsive disorder beliefs are definitely or probably not true or that they may or may not be true.</p> <p><b>With poor insight:</b> The individual thinks obsessive-compulsive disorder beliefs are probably true.</p> <p><b>With absent insight/delusional beliefs:</b> The individual is completely convinced that obsessive-compulsive disorder beliefs are true.</p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Specify if:                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Tic-related:</b> The individual has a current or past history of a tic disorder.                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

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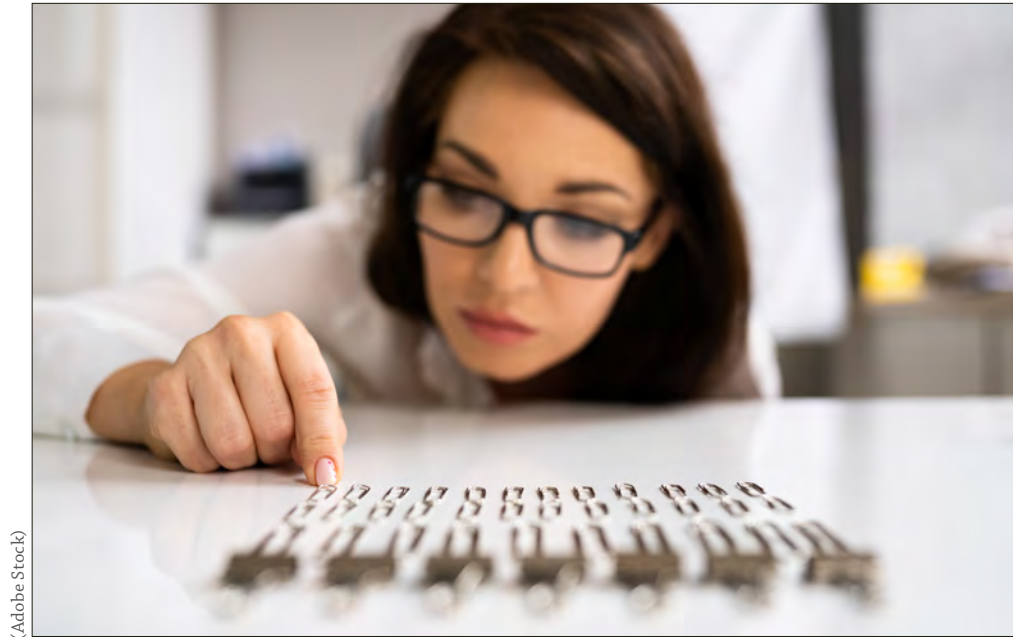
Obsessive-compulsive disorder may have a lifetime prevalence of about 2.3% of the population (Kessler et al., 2012). The 12-month prevalence in the United States is 1.2%; the rate is slightly higher for females in adult onset, while childhood onset is perhaps more common among boys than among girls. The risk of OCD is increased in children who were born prematurely or whose mothers smoked during pregnancy, and in those who have been subject to traumatic events, including physical and sexual abuse. Onset is usually gradual, with earlier appearance of symptoms in males. The mean age of onset in the U.S. is 19.5 years, with 25% of cases beginning by age 14 (age 10 for males), while onset after age 35 is unusual. The disorder, left untreated, often has a chronic course, although up to 40% of those with childhood or adolescent onset may experience remission by early adulthood. Many other conditions are comorbid with OCD, including a lifetime prevalence of 76% for anxiety disorder, 63% for a mood disorder, 56% for an impulse-control disorder, and 39% for substance use disorder. About 30% of those with OCD also have a lifetime tic disorder (American Psychiatric Association, 2022). Based on data from over 20,000 patients in Taiwan's National Health Insurance Research Database, middle-age and elderly persons with OCD are at 3-fold increased risk for new-onset ischemic stroke, but not hemorrhagic stroke, later in life compared with non-OCD controls (Chen et al., 2021).

## Causal Factors

As with the other anxiety disorders, twin studies and familial patterns suggest a moderate genetic contribution to OCD. Vulnerability to obsessive-compulsive tendencies is likely to be influenced by genetic and neurobiological factors, as well as by personal histories. The search for genetic influences and biomarkers for OCD (as well as anxiety disorders) has been active for decades. Some early brain studies using PET scans reported higher levels of activity in the orbital frontal cortex of the left hemisphere for those with OCD as compared with healthy controls (e.g., Baxter, 1992). Using fMRI measures, abnormal activity patterns in areas of the prefrontal cortex during task performance or symptom provocation by subjects with OCD have been consistently reported (Ahmari & Rauch, 2022). Whether this increased activity is a possible cause of, or a result of, OCD is not yet clear. Structural MRI studies have suggested that OCD is associated with abnormalities throughout the brain, especially involving orbitofrontal-basal ganglia neural circuits, but within temporal and parietal areas as well. Reported brain volume alterations include some areas in which gray matter density is reduced, and others in which gray matter is increased (Bandelow et al., 2016). In their consensus paper for the World Federation of Societies for Biological Psychiatry, Bandelow and colleagues applaud the progress researchers are making, but caution that the neurobiological background of OCD and other anxiety disorders remains to be sufficiently clarified: “. . . despite a plethora of high-quality publications in the field, imaging research has not yet succeeded in reliably identifying neuroanatomical, functional or metabolic alterations, which have been unequivocally associated with certain anxiety disorders” (Bandelow et al., 2016, p. 348). Genetic markers have remained similarly elusive: “However, although genetic factors play a major role in anxiety disorders in addition to OCD and PTSD, genetic research has not unequivocally succeeded in identifying genes reliably associated with one of these disorders” (p. 349). It appears likely that a multitude of common genetic variants exist, each associated with a slight (1%–2%) increase in risk for OCD.

Behavioral models of OCD tend to employ versions of two-factor theory in the analysis of obsessive-compulsive behavior—which, according to Williams (2001), “follows the pattern predicted by two-factor theory in remarkable detail” (p. 362). In the case of a hand-washing compulsion, for example, it is assumed that stimuli that trigger obsession gained their anxiety-provoking power through a pairing with strong emotions of fear or anxiety in an individual’s learning history. Subsequent exposure to an anxiety-producing conditioned stimulus (such as a medical scene or a newspaper article on disease) generates anxiety that persists until it is relieved by giving in to the compulsion to wash the hands. The compulsive act is, thereby, negatively reinforced and strengthened. In cognitive-behavioral variations, obsessional fears arise from inaccurate beliefs about intrusive thoughts, and their misappraisal as dangerous or threatening. The intrusive thoughts evoke strong anxiety, which the compulsive ritual helps to avoid or neutralize (Abramowitz & Siqueland, 2021).

In psychoanalytic terminology, obsessive persons may be said to use several defense mechanisms. They isolate feelings from intellectual content so that their obsessive thoughts and endless verbosity become detached from their emotional roots; an overintellectualized pattern of life results. Reaction formations are likewise common. For example, obsessive concern with cleanliness may be a defense against underlying urges to be dirty or sexy (sex may be perceived as dirty or aggressive). Thus, compulsive orderliness protects the person from the fear of unleashed aggression, of smashing everything in sight; excessive politeness and formality protect from urges to be cruel and sadistic. *Undoing* refers to many features of compulsive rituals in which the person attempts to “undo” the harm, real or imagined, that could result from an unacceptable impulse. Engaging in a certain mannerism (such as blinking the eyes or touching or straightening an object) helps the person feel that the dangerous impulse is canceled out. Reaction formations are similar to undoing except they



(Adobe Stock)

According to psychoanalytic theory, excessive and irresistible concerns with cleanliness and orderliness represent reaction formations against anal impulses to be dirty and smelly.

are expressed in broad personality styles rather than in highly specific rituals. From a psychosexual developmental point of view, the obsessive-compulsive person has regressed, in the face of an intense Oedipal conflict, to the anal stage. Compulsive concerns with cleanliness and orderliness represent reaction formations against anal impulses to be dirty and smelly, while compulsive tendencies to inhibit emotion or to be formal or excessively good reflect reaction formations against anal-sadistic impulses, originating in the child's defiance of parental efforts to force compliance with toilet training (Martin, 1981).

## Treatments for Obsessive-Compulsive Disorder

Pharmacotherapy for OCD typically involves the SSRIs, all of which tend to be effective. The tricyclic antidepressant clomipramine is also effective, but its side effects are somewhat less tolerable than those of SSRIs. The most effective drug regimen seems to be prolonged SSRI administration (at least 12 months after OCD remission), with possible addition of an atypical antipsychotic such as risperidone for augmentation if needed (Del Casale et al., 2019). In particularly unresponsive cases, a form of psychosurgery—a **cingulotomy**, in which a small bundle of nerve fibers connecting the anterior cingulate cortex to the frontal lobes are severed—has produced improvement in some cases, including 8 of 17 patients treated by Jung and colleagues (2006). A review of reports on patient outcome with at least 12-month follow-up reported an average cingulotomy response rate of 41% (Brown et al., 2016). Different methods of brain stimulation have also been tested in treatment-resistant patients. Repetitive transcranial magnetic stimulation (rTMS) is a noninvasive technique that involves short, pulsed electric currents delivered through a coil on the head with the goal of modulating neural excitability. Some studies have indicated rTMS is associated with improvement in OCD symptoms for those who have not adequately responded to other interventions. Deep brain stimulation is invasive, involving the implantation of electrodes deep in the brain to stimulate particular brain areas. It has been used as a treatment of last resort, and reported outcomes vary in part due to lack of consensus about neuroanatomical targets, but initially promising results indicate it should be studied further. Electroconvulsive therapy (ECT) appears to be of no benefit for OCD (Rapinesi et al., 2019).

### Cingulotomy

Psychosurgical technique that severs fibers connecting the anterior cingulate cortex to the frontal lobes



Psychodynamic therapists have employed interpersonal group therapies (Wells et al., 1990), as well as individual therapies, with mixed results. The treatment of choice among psychotherapies is **exposure and response prevention (ERP)**, which is the most effective intervention, producing substantial clinical improvement (Abramowitz et al., 2003). ERP requires prolonged and repeated exposure to the obsession, while the compulsive act is prevented. (Of course, therapists must exercise careful clinical judgment so that clients are not endangered by participation in exposure therapy.) For example, Piacentini and Langley (2004) described the treatment of a 12-year-old boy obsessed with germs and



**How effective are treatments for obsessive-compulsive and related disorders?**

contamination and compelled to frequently wash his hands. The ERP component of treatment required him to touch trash cans, doorknobs, and public tables, and to play basketball without washing his hands for increasing

periods of time. Other components of the program involved education about OCD and cognitive restructuring, common in many CBT approaches to OCD. Like ERP, CBT is effective for OCD whether or not medication is added (Wheaton et al., 2016), although ERP is effective with or without CBT added (Franklin et al., 2002). In one comparison study, both treatments produced significant improvement, but ERP showed stronger effects 3 months after treatment ended (McLean et al., 2001). Zemestani and colleagues (2020) compared adding ACT or ERP to 40 adults in Iran with OCD who were already receiving optimal and stable dosages of SSRIs. Because only 10% of people taking SSRIs alone achieve remission, and typical SSRI response is a 20%–40% improvement in symptoms, psychotherapies are frequently added to medication to improve outcomes. Zemestani et al. randomly assigned patients to receive ACT + SSRI, ERP + SSRI, or SSRI alone. ACT consisted of twelve 90-minute manualized treatment sessions involving exercises based on ACT theory, including themes of creative hopelessness and inability to control anxiety, contact with the present moment, acceptance of emotions, personal values, committed action, and integrating ACT practices into daily life. ERP consisted of twelve 90-minute manualized treatment sessions that involved education, training in self-ratings of subjective units of discomfort (SUDS), monitoring obsessional triggers, and developing trigger hierarchies. ERP entailed prolonged exposure, proceeding in hierarchical order, to cues that induced obsessional discomfort, while abstaining from compulsive behavior until the discomfort abated (to produce habituation of anxiety). The addition of either ACT or ERP to optimal SSRI treatment produced significant improvements (i.e., greater than 50% reduction in symptoms) on multiple symptom measures at post-treatment, compared to SSRIs alone. ACT and ERP showed similar effectiveness, although psychological inflexibility and thought control strategies also decreased with ACT (Zemestani et al., 2020).

## 6.3b Body Dysmorphic Disorder

People with body dysmorphic disorder (BDD) are preoccupied with what they consider a defect in their appearance, and they engage in repetitive acts or thoughts related to this preoccupation. The defect is either imaginary or so slight that the preoccupation is clearly excessive. The preoccupation causes significant distress or impairment in normal functioning, and it is not better accounted for by another disorder (for example, anorexia nervosa). Frequently, the preoccupations in BDD involve areas of the head and face and include wrinkles; complexion; facial proportions; the size or shape of lips, nose, eyebrows, cheeks, or ears; or thinning hair. However, the disorder can involve any area of the body, showing as excessive concern over the size or shape of hands, feet, buttocks, breasts, genitals, body size, or overall build. A specifier “with muscle dysmorphia” is included in the *DSM-5-TR* to capture a particular subset of sufferers who believe that their body build is too small or insufficiently muscular.

### Exposure and response prevention (ERP)

Prolonged exposure to a fear- or anxiety-producing stimulus or situation while escape, or the compulsive act, is prevented



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People with body dysmorphic disorder may spend several hours per day checking for imagined defects.

People with BDD can spend several hours each day checking the imagined defect or finding ways to cover it up or hide it. They may alternate between almost constantly looking into mirrors and avoiding them altogether due to the distress associated with viewing themselves. Their concern may lead them to isolate themselves from others or to avoid job interviews, meetings, classes, or dating. Commonly, sufferers experience ideas of reference (or delusions of reference), believing that others take special notice of them due to their appearance, or mock them for how they look. The degree to which one subscribes to such beliefs about their perceived flaws can be specified in the diagnosis as “with good or fair insight,” “with poor insight,” or “with absent insight/delusional beliefs” (American Psychiatric Association, 2022). Depression, obsessive-compulsive disorder, and social phobia may co-occur, and suicidal ideation may be present. In fact, a review of published studies indicates the average lifetime rate of suicide attempts for those with BDD is 21.5%, making it the OCD-related disorder with the highest reported suicide risk (Albert et al., 2019). Not uncommonly, sufferers seek surgery or medical intervention and may even resort to self-surgery, although these interventions do not reduce the concern and may make the problem worse (American Psychiatric Association, 2022).

Based on a recent survey of US households, the point prevalence of body dysmorphic disorder was estimated at 2.4% of the adult population (Koran et al., 2008). Median age of onset is 15 years, with two thirds of cases occurring by age 18. The prevalence may be higher in mental health settings and is up to 13% of patients in dermatological settings and 20% in rhinoplasty surgery patients. BDD appears to be equally likely in males and females, begins by adolescence, and tends to have a chronic course. Muscle dysmorphia occurs almost exclusively in males; females are more likely to have comorbid eating disorders (American Psychiatric Association, 2022).

## Causal Factors

Comorbidity with certain other disorders—notably, obsessive-compulsive disorder—might suggest a common causal component; there is higher prevalence of body dysmorphic disorder in those who have first-degree relatives with OCD. Childhood neglect and abuse are also risk factors for the condition, as are elevated rates of teasing (American Psychiatric Association, 2022). The current social and cultural emphasis on physical appearance likely plays a role in its development. Neziroglu et al. (2004) proposed a behavior model of BDD that suggests a contributing factor: Children might have a history of receiving greater attention and reinforcement for their appearance than for their behavior.

## Treatments for Body Dysmorphic Disorder

Reportedly, some BDD patients respond well to serotonin reuptake inhibitor medications (Fallon, 2004). Several studies have demonstrated that SSRIs work better than other pharmacological interventions for BDD, especially at higher doses and longer intervals of treatment (e.g., Hadley et al., 2006). Typical cognitive-behavioral techniques employ education, relaxation, and systematic desensitization involving graduated exposure to the parts of the body that evoke distress. Response prevention to avoid checking may be included, combined with attention training (to redirect self-observation), self-monitoring, cognitive

challenging of automatic dysfunctional thinking, and developing alternative views about personal appearance. These CBT techniques have been shown effective in randomized controlled studies (Looper & Kirmayer, 2002). In fact, CBT may be as effective on BDD as it is on OCD (Cororve & Gleaves, 2001). Currently, both SSRIs and CBT are considered “first-line” treatments for body dysmorphic disorder (Phillips & Hollander, 2008), although one meta-analysis comparing their relative effectiveness concluded that CBT was more useful (Williams et al., 2006). Some preliminary randomized controlled trials support CBT + ERP, delivered over 14 weekly sessions. Participants were also assessed weekly for suicidal ideation, because of its prevalence in this disorder. Results demonstrated that CBT + ERP produced a larger effect at post-treatment ( $d = 1.13$ ) and 2-month follow-up ( $d = 0.85$ ) compared to controls (Farrell et al., 2019).

### 6.3c Hoarding Disorder

Hoarding was listed among symptoms of OCD and obsessive-compulsive personality disorder in the *DSM-IV* and received independent status as a standing diagnosis in the *DSM-5*. Historically, it was seen as a dimension of personality and received little professional attention until 1996, when studies examining the condition began to appear more frequently (Mataix-Cols et al., 2010). Its prevalence in the population has been estimated at 5.8% (Timpano et al., 2011), although no nationally representative prevalence studies are available and a meta-analysis of 12 wealthy countries indicated prevalence at 2.5% (American Psychiatric Association, 2022). Some preliminary estimates suggest that 2% of adolescents may engage in clinically significant hoarding (Farrell et al., 2019). Compulsive hoarders collect items that they are later unable to discard. In fact, they have persistent difficulty in parting with personal possessions regardless of the actual value of those possessions. A review of 20 cases determined that magazines, newspapers, old clothes, junk mail, notes, and old receipts were the most commonly hoarded items, the primary motivation being the fear of discarding something that may be useful now or in the future (Winsberg et al., 1999). The hoarding causes clinically significant distress or impairment and compromises living areas (which are typically cluttered and congested unless someone else intervenes). In addition to insight specifiers, the diagnosis can be specified “with excessive acquisition” when items continue to be collected beyond available space to store them (displayed by 80%–90% of hoarders). Hoarding disorder is 3 times more prevalent in older adults than in younger adults, showing increasing severity with each decade of life. It tends to run in families: 50% of hoarders have a relative who also hoards (American Psychiatric Association, 2022).

A multicomponent cognitive-behavioral intervention, using a version of ERP (that is, gradually exposing hoarders to discarding and non-acquiring situations), together with training in organizing and decision-making skills and cognitive therapy for dysfunctional beliefs, was effective in a controlled trial of 23 hoarders, compared to the same number of wait-listed subjects (Steketee et al., 2010). After 26 sessions, the majority of both patients (80%) and therapists (70%) rated the condition as “improved.” However, no randomized controlled trials on effective treatments for pediatric hoarding have yet been reported (Farrell et al., 2019). In pharmacological trials, treatment approaches have been similar to that of OCD, but SSRIs have so far produced an “insufficient” treatment response, indicating a need for a novel treatment strategy (Nakao & Kanba, 2019, p. 373).

### 6.3d Trichotillomania (Hair-Pulling Disorder)

People with trichotillomania recurrently pull out their hair, and show noticeable hair loss as a result, in spite of repeated attempts to stop pulling. Episodes of hair pulling—which can be centered on any area of the body, though episodes most often involve the scalp, eyebrows, or eyelashes—occur in bouts that may be brief or may extend for hours. The likelihood of

hair pulling is often higher when an individual is under anxiety or stress, but it also occurs in circumstances when the person is relaxed or distracted, such as watching television. Sometimes, an episode is triggered by boredom. Often an increasing tension (or urge to resist) precedes the act, which itself is associated with pleasure, gratification, or relief. To qualify for the diagnosis, trichotillomania must cause significant distress or impairment and not be associated with a medical condition, such as skin inflammation, or another mental disorder that would better account for the activity.

Hair loss is widely variable across cases, ranging from thinning to areas of baldness. Individuals often deny their hair pulling and attempt to hide the effects; they may avoid social situations due to embarrassment. Typically, hair pulling occurs early in development, with onset of trichotillomania near puberty. The condition is associated with mood disorders, anxiety disorders, and various obsessive-compulsive spectrum conditions, including excoriation disorder. In adults, it is much more likely to be diagnosed in females. In the United States, 12-month prevalence estimates are 1%–2%, with females showing a ratio of 10:1 over males in treatment, although the ratio may be as low as 2:1 in community samples. The course is variable, and the condition may come and go, remit, or persist into adulthood (American Psychiatric Association, 2022). It is associated with substantial impairment in social relations, as well as academic and occupational functioning, and may be associated with medical complications such as gastrointestinal problems that result from the ingestion of hair (Farrell et al., 2019).

## Causal Factors

The causes of trichotillomania are not well understood. It appears to aggregate in families, and some preliminary data indicate multiple-gene involvement (Chamberlain et al., 2007). Its similarity to obsessive-compulsive disorder may suggest similar causal factors, but it may differ from that condition in several ways as well, especially in the absence of obsessions.

## Treatments for Trichotillomania

Although some early reviewers (e.g., Grant et al., 2007) have concluded that no medication has been shown to be consistently effective in treatment, others (e.g., Bloch et al., 2007; Chamberlain et al., 2007) reported that clomipramine, a tricyclic antidepressant, is more effective than placebo in reducing symptoms. However, SSRI antidepressants do not appear to be helpful; fluoxetine (Prozac®) does not differ from placebo. A more recent systematic meta-analysis of the effectiveness of medication for treatment of trichotillomania found that there was insufficient evidence to confirm the effectiveness of any pharmacological treatment, although preliminary outcomes for clomipramine, olanzapine, and for N-acetylcysteine (a glutamate modulator), based on four trials with relatively small sample sizes, may be promising (Hoffman et al., 2021).

The most effective treatment for trichotillomania appears to be **habit reversal therapy (HRT)**, a behavioral intervention that combines self-monitoring of hair pulling, training in awareness of high-risk situations that trigger hair pulling, stimulus control techniques to interfere with or prevent hair pulling, and alternate response interventions to require engagement in a substitute or incompatible activity when the temptation or urge to pull is present. The competing or incompatible response may include (for example) clenching a fist for a minute. Several reviews of treatment outcome in controlled studies have shown HRT to be superior to clomipramine, SSRIs, and placebo in reducing hair pulling and maintenance of gains during follow-up (Bloch et al., 2007; Chamberlain et al., 2007; Dell’Osso et al., 2006). An open feasibility trial with 20 subjects with trichotillomania combined HRT with an electronic Awareness Enhancing and Monitoring Device (designed to alert users of hand-to-head contact via sensors worn on both wrists) over a 9-week period, with significant improvements measured by self-report and clinician-rated scales (Himle et al., 2018). Feedback was generally positive, although device reliability and ease of wear were issues that require further attention.

### Habit reversal therapy (HRT)

Therapy that involves awareness training and engagement in a response that is incompatible with the compulsion



### 6.3e Excoriation (Skin-Picking) Disorder

People with excoriation (skin-picking) disorder recurrently pick at their skin, causing bleeding, scarring, and infections. The condition tends to first appear in adolescence, often in association with acne. Although it can occur anywhere on the body, it most commonly involves the head, face, arms, and hands. Significant amounts of time, sometimes several hours per day, are spent in the activity, despite repeated attempts to decrease or stop skin picking. Sufferers experience embarrassment and shame as a result of the picking, and the condition is commonly associated with comorbid OCD, trichotillomania, and depression (American Psychiatric Association, 2022). Its incidence may be as high as 5% in clinical samples (Stein et al., 2010), and a large online survey of adults matched to the US population by age and gender estimated the lifetime prevalence in adults at 3.1%, with females showing a 3:1 ratio in prevalence over males. Excoriation disorder tends to run in families and is more common in those with OCD (American Psychiatric Association, 2022).

#### Treatments for Skin-Picking Disorder

There have been few studies of interventions for skin picking. Some have indicated that SSRI medications may provide a degree of relief (Bloch et al., 2001), although other case studies have not found medication to be very useful (Christensen, 2004). Because of its similarity to trichotillomania, interventions based on competing response training or HRT have been employed in behavioral therapies. For example, Lane et al. (2006) found that occupying the hands with malleable balls of different textures was effective in reducing skin picking in a 9-year-old boy with comorbid ADHD and learning disability. Farrell et al. (2019) conclude that, based on available evidence, habit reversal therapy should be applied in the management of both excoriation disorder and trichotillomania.

### 6.3f Other Obsessive-Compulsive and Related Disorders

*Substance/medication-induced obsessive-compulsive and related disorder* can involve obsessions, compulsions, skin picking, hair pulling, or other repetitive body-focused behaviors that result from intoxication, withdrawal, or exposure to a medication. Most often these are associated with amphetamine or cocaine use, although other substances may be capable of producing the symptoms. There are only limited data about the condition, which appears to be very rare in the general population (American Psychiatric Association, 2022).

*Obsessive-compulsive and related disorder due to another medical condition* involves obsessive-compulsive symptoms that can be etiologically related to the presence of another medical condition, such as cerebral infarction or Huntington's disease. Its course usually follows that of the associated condition.

*Other specified obsessive-compulsive and related disorder* includes conditions that do not meet the full criteria for the disorders described earlier, such as body dysmorphic disorder symptoms in a person with actual physical flaws or without repetitive behaviors in response to concerns about appearance. Other conditions that may be included in this category are olfactory reference disorder (persistent preoccupation with the mistaken belief that one emits an offensive odor, leading to excessive showering and odor camouflage) and *koro* (South Asian syndrome involving intense anxiety that the penis in males, or the vulva and nipples in females, will recede into the body with possibly fatal consequences).

Finally, additional conditions, including those without sufficient information for a more specific diagnosis, could be listed as *unspecified obsessive-compulsive and related disorders* within this category (American Psychiatric Association, 2022).



# Chapter Review

## To Sum Up . . .

- Anxiety disorders are among the most common *DSM-5* diagnoses, affecting more than 31% of the population at some point in their lives. In general, anxiety disorders are more common among females than males.
- Anxiety includes the subjective feelings of fear, apprehension, dread, worry, and panic. Many of the anxiety disorders can include either panic attacks or agoraphobia in their symptom presentation.
- Panic attacks may be cued or situationally bound (as in phobias or PTSD) or uncued (as in panic disorder). Agoraphobia involves anxiety about being in situations from which escape would be difficult if a panic attack occurred.
- There appears to be a moderate genetic factor in the development of anxiety disorders. However, life experiences, including exposure to unpredictable or uncontrollable events, play a substantial role in their development as well. Etiological models based on biological perspectives emphasize overactivity of fear circuits in the brain and deficiencies in anxiety-inhibition systems. Etiological models based on learning propose that anxiety becomes a conditioned response resulting from association between predictive internal and external stimuli and subsequent fear or panic, especially in those with a history of exposure to unpredictable or uncontrollable stressors. Psychoanalytic models presume that ego defenses are overwhelmed by anxiety from internal conflicts, which is then often displaced onto other objects or situations.
- Medications such as benzodiazepines are helpful for short-term relief of symptoms of some anxiety disorders, while SSRIs are effective in treating many of the anxiety disorders for longer terms. No particular medications are effective for specific phobias, however.
- Several psychotherapies are available for anxiety disorders. The most effective ones involve exposure techniques, systematic desensitization, and cognitive-behavioral interventions. For several disorders—including specific phobias and generalized anxiety disorder—these psychotherapies may be more effective than medication and carry a lower rate of relapse after the end of therapy.
- The obsessive-compulsive spectrum of disorders includes conditions in which obsessions, sensed as nearly uncontrollable, produce increasing anxiety until a compulsive act relieves it. Brain imaging has indicated unusual activity in the prefrontal cortex and several other areas in obsessive-compulsive disorder, but the neurological basis of OCD remains to be identified. Psychological theories have focused on the ways that the compulsive behaviors are reinforced by the temporary reduction in anxiety produced by performing the compulsive act.
- Effective psychological treatments for obsessive-compulsive and related disorders, including OCD, include exposure and response prevention and habit reversal therapy. The most common pharmacotherapy includes the SSRI antidepressants. Noninvasive brain stimulation such as repetitive transcranial magnetic stimulation may also be helpful in treatment-resistant cases.

## Key Terms

|                                               |                                  |
|-----------------------------------------------|----------------------------------|
| Anxiety 162                                   | Habit reversal therapy (HRT) 186 |
| Cingulotomy 182                               | Interoceptive 166                |
| Compulsion 178                                | In vivo exposure 172             |
| Dependence 166                                | Obsession 178                    |
| Exposure and response<br>prevention (ERP) 183 | Panic attack 162                 |
| Exteroceptive 166                             | Preparedness 170                 |
| Fainting 162                                  | Relapse 166                      |
| Fear 162                                      | Two-factor theory 170            |
|                                               | Vicarious conditioning 171       |

## Questions for Study

- Describe the differences between fear and anxiety. Are any symptoms unique to either one?
- Show how panic attacks are involved in various specific anxiety diagnoses.
- What are the most commonly applied treatments for anxiety disorders? Of these treatments, which are the most effective? Support your answer with research findings.
- Distinguish obsessions from compulsions. What are the most effective therapies for obsessive-compulsive disorders?

## Pop Quiz

1. Anxiety disorders affect about \_\_\_\_\_ of the population at some point in their lives.
  - A. 3%
  - B. 11%
  - C. 31%
  - D. 46%
2. \_\_\_\_\_ is a chronic sensation not clearly associated with any specific stimulus.
  - A. Fear
  - B. Anxiety
  - C. Specific phobia
  - D. Astonishment

3. A panic attack progresses to a peak within \_\_\_\_\_.
  - A. 10 minutes
  - B. 30 minutes
  - C. 1 hour
  - D. 6 hours
4. As part of the criteria for panic disorder, at least one of the panic attacks has been followed by \_\_\_\_\_ of persistent concern about having additional attacks and a significant change in behavior related to the attacks.
  - A. 1 month
  - B. 3 months
  - C. 6 months
  - D. 12 months
5. Panic disorder affects up to \_\_\_\_\_ of the population at some point in life.
  - A. 35%
  - B. 20%
  - C. 15%
  - D. 5%
6. The term \_\_\_\_\_ is defined as relating to internal, physiological stimuli, while the term \_\_\_\_\_ is defined as relating to external, environmental stimuli.
  - A. interoceptive / exteroceptive
  - B. intrasensitive / extrasensitive
  - C. exteroceptive / interoceptive
  - D. extrasensitive / intrasensitive
7. As treatment for panic disorder, \_\_\_\_\_ may produce dependence; most patients experience a relapse when medications are discontinued.
  - A. antidepressants
  - B. benzodiazepines
  - C. phenothiazines
  - D. beta blockers
8. The risk for suicide attempts is highest among those diagnosed with \_\_\_\_\_.
  - A. body dysmorphic disorder
  - B. hoarding disorder
  - C. trichotillomania
  - D. obsessive-compulsive disorder
9. Fear of strangers is known as \_\_\_\_\_.
  - A. monophobia
  - B. acrophobia
  - C. xenophobia
  - D. zoophobia

10. A nearly constant state of worry and concern characterizes \_\_\_\_\_.  
A. agoraphobia  
B. social anxiety disorder  
C. specific phobia  
D. generalized anxiety disorder
11. Which disorder is most common?  
A. selective mutism  
B. social anxiety disorder  
C. obsessive-compulsive disorder  
D. body dysmorphic disorder
12. The most effective intervention for obsessive-compulsive disorder appears to be \_\_\_\_\_.  
A. exposure and response prevention  
B. relaxation training  
C. interpersonal group therapy  
D. habit reversal therapy
13. Obsessive-compulsive disorder, if untreated, usually follows a(n) \_\_\_\_\_ course with symptoms \_\_\_\_\_ during periods of stress.  
A. acute / worsening  
B. acute / maintaining the same degree  
C. chronic / worsening  
D. chronic / maintaining the same degree
14. Excoriation disorder involves \_\_\_\_\_.  
A. hair pulling  
B. skin picking  
C. hoarding  
D. none of the above
15. Habit reversal therapy involves all **except** \_\_\_\_\_.  
A. systematic desensitization  
B. self-monitoring  
C. awareness of high-risk situations  
D. engagement in incompatible activities