CHAPTER 1

Clinical Features of PTSD

John was driving his three young children to the park when they were struck head-on by a driver attempting to overtake a truck on a sharp bend. John's car was wrecked and he developed posttraumatic stress disorder (PTSD), with the most severe symptoms being persistent nightmares of the accident, profound fear and avoidance of driving, and chronic tension, irritability, and guilt about not being able to swerve out of the path of the oncoming vehicle. His children received minor cuts and bruises, from which they quickly recovered. They had more difficulty overcoming the psychological impact of the crash. In the weeks afterward, the youngest, a 4-year-old girl, frequently complained of stomachaches and refused to be out of sight of her father for fear that something bad would happen. The two older boys, ages 7 and 8, had recurrent nightmares. During the day, the boys often engaged in stereotypical play, in which they pretended to be driving cars. They would crash into one other and both fall to the ground. The boys would then get up and run around pretending to shoot one another, shouting, "You're the bad man!" "No, you're the bad man!" Sometimes this escalated to the point that they physically fought with one another.

John and his children provide us with examples of the wide range of problems people often experience in the wake of traumatic experiences. We see these patients frequently in our practices, sometimes presenting with what might look like relatively simple anxiety or depressive problems, or anger management issues. But as we engage with these patients and families, a more complex pattern emerges, and we recognize the problems they present with as both intransigent and multilayered. How do we spot symptoms of PTSD and how do we differentiate it from other clinical problems? Furthermore, once we have a fair picture of the underlying causes of the patient's problems, just how should we treat them? This book delves into

these very questions and provides as many answers as one can derive from the current scientific literature, and from the clinical experiences of the author and others. This book offers a perspective on how to think through the process of assessing and treating these patients, using cutting-edge, empirically informed cognitive-behavioral interventions.

DIAGNOSTIC CRITERIA: DSM-IV AND DSM-5

The criteria for PTSD were revised in 2013 with the publication of DSM-5 (American Psychiatric Association, 2013). Some readers of this book will have been trained on DSM-IV (American Psychiatric Association, 1994), while others were trained on DSM-5. Given the recent transition from DSM-IV to DSM-5, both diagnostic systems are in use in clinical practice (e.g., Hoge, 2015) and so we will consider both here.

In DSM-5, PTSD was moved out of the chapter on anxiety disorders into a newly created chapter on trauma- and stress-related disorders, which includes disorders of social neglect in children (reactive attachment disorder, disinhibited social engagement disorder), acute stress disorder, adjustment disorders, and other disorders. Our focus is on PTSD and commonly associated symptoms, although assessment issues and treatment methods for PTSD also apply to some of the other trauma-related disorders.

The core features for PTSD in DSM-IV and DSM-5 are similar in many ways, although there are some notable differences. In both DSMs there is a definition as to what qualifies as a traumatic stressor, followed by a list of symptoms that are attributable to the stressor. The definition of the traumatic stressor is much the same in both DSMs, with the exception that DSM-5 omitted the person's emotional reaction (fear, helplessness, or horror) as a defining feature of the traumatic stressor. The emotional response to the stressor was dropped from the definition of a traumatic stressor because it did not predict PTSD beyond what could be predicted simply from knowing that a person had experienced a traumatic event (Pereda & Forero, 2012), and because people who go on to develop PTSD do not necessarily experience fear, helplessness, or horror at the time of trauma exposure (Miller, Wolf, & Keane, 2014). In DSM-5, a traumatic stressor is defined by either directly experiencing the trauma, personally witnessing the trauma, learning that close family or friends experienced the trauma, or experiencing details of the trauma (e.g., police officers repeatedly exposed to details of child abuse).

In some ways, the stressor criteria for DSM-5 are more similar to DSM-III (American Psychiatric Association, 1980) than to DSM-IV. DSM-5

attempts to return to DSM-III's definition of trauma, which emphasized the external event, rather than the person's reaction to the event. But even in DSM-5 it has not been possible to define a traumatic stressor as an objectively defined external event. Traumatic events are defined, at least in part, by the way a person experiences or interprets the events (e.g., whether a person interprets an event as one in which there is a potential for death or serious harm).

The reexperiencing symptoms for PTSD were essentially unchanged from DSM-IV to DSM-5, apart from some minor changes in wording. In both DSMs, a diagnosis of PTSD requires one or more reexperiencing symptoms: (1) memories of the trauma that are recurrent, involuntary, intrusive, and distressing; (2) dreams about the trauma that are recurrent and distressing; (3) dissociative reactions (e.g., dissociative flashbacks) in which the person acts or feels like the trauma was reoccurring; (4) intense emotional distress when exposed to reminders of the trauma; and (5) marked physiological reactions (e.g., accelerated heartbeat, sweating) when exposed to reminders of the trauma.

The avoidance and numbing cluster of symptoms in DSM-IV were split in DSM-5 in two. The first is a cluster of two avoidance symptoms (avoidance of trauma-related memories, thoughts, or feelings; and avoidance of physical reminders of the trauma such as persons, places, or activities). The second is a cluster relabeled as *negative changes in cognition and mood associated with trauma*. This amorphous set of seven symptoms consists of (1) inability to recall an important aspect of the trauma; (2) markedly diminished interest or participation in activities; (3) feeling detached or estranged from others; (4) inability to experience positive emotions; (5) exaggerated, negative beliefs about oneself, others, or the world; (6) excessive blame about the trauma, directed toward oneself or others; and (7) persistent negative emotions (e.g., fear, horror, anger, shame).

The DSM-IV hyperarousal cluster is much the same as the newly created DSM-5 cluster labeled *marked alterations in arousal and reactivity*, with the exception that it includes a new symptom; reckless or self-destructive behavior. Other symptoms in this cluster include (1) sleep disturbance (e.g., initial or middle insomnia), (2) irritability or anger outburst, (3) concentration difficulties, (4) hypervigilance, and (5) exaggerated startle response.

In DSM-5 there has been a shift away from defining PTSD purely as an anxiety disorder. In DSM-5 the cardinal features of PTSD include a broader range of negative emotions and cognitions (e.g., blame, shame, guilt) and behaviors commonly associated with borderline and related personality disorders (impulsive and self-destructive behaviors). To distinguish

PTSD from personality disorders, the maladaptive behaviors are required to commence with, or be worsened by, exposure to trauma. Cognitive models of PTSD propose that particular types of dysfunctional beliefs play an important role in the etiology and maintenance of PTSD (see Chapter 3). The importance of these cognitive factors is underscored in DSM-5, where these beliefs are now described as diagnostic features of the disorder.

The duration (1 month) and distress/impairment criteria for PTSD are the same across DSM-IV and DSM-5. A person might experience a trauma but not develop enough symptoms to meet diagnostic criteria for full-blown PTSD. Clinical investigators often refer to this as "partial" or "subthreshold" PTSD (Kulka et al., 1990; McLaughlin et al., 2015), although such a condition would be diagnosed in DSM-IV or DSM-5 as an adjustment disorder or some residual or unspecified trauma or stress-related disorder. Unfortunately, the label "adjustment disorder" has a pejorative connotation, especially for service personnel such as combat veterans, because it implies a failure to adjust or adapt (Hoge, 2015).

The DSM-5 conceptualization of PTSD emphasizes the heterogeneous nature of the disorder: some people primarily have fear-related symptoms (e.g., reexperiencing and avoidance); other people primarily have negative moods, difficulty experiencing positive emotions, and negative thoughts or beliefs; still others have predominantly dissociative symptoms; and some individuals have combinations of all of these symptom patterns (American Psychiatric Association, 2013).

Heterogeneity is further recognized by the definition of subtypes. DSM-5 recognizes a delayed-expression subtype of the disorder; that is, the full diagnostic criteria are not met until at least 6 months after the event, although the onset of some symptoms may be immediate. In DSM-IV, dissociative symptoms were described as associated features of PTSD. In DSM-5, these features define a distinguishable subtype of the disorder, characterized by persistent or recurrent depersonalization or derealization. The following case illustrates dissociative symptoms in PTSD.

During the sexual assault, Hanna felt like she was caught in some terrible dream from which she could not awaken. Her body felt numb and unreal as the rapist pinned her down. At one point she felt as if she was floating above her body, watching the assault unfold as if she was a spectator. In the weeks after the assault, Hanna often had episodes in which she and her surroundings felt strange and unreal. For example, walking through a busy pedestrian shopping district one day, it was as if the world was draped with a gauze veil. Colors seemed pale and washed out, and the faces of the shoppers looked gray and indistinct. It was also as if her ears were plugged. Instead of hearing the noisy commotion of the marketplace, she felt as if the sounds were muted,

as if they were coming from far away. Hanna was experiencing recurrent dissociative symptoms.

The merits of the dissociative subtype of PTSD remain to be fully investigated. Statistical clustering methods such as latent class analysis support the distinction between dissociative and nondissociative forms of PTSD, and the two may differ in terms of neuroimaging data (Blevins, Weathers, & Witte, 2014; Friedman, 2014). However, the presence of prominent dissociative symptoms could simply be a marker of global PTSD severity rather than an indicator of a specific pattern of symptoms. Consistent with this idea, the dissociative subtype is characterized by greater overall PTSD severity and greater comorbidity (Tsai, Armour, Southwick, & Pietrzak, 2015). Moreover, some investigators have argued that dissociation is characteristic of all forms of PTSD (Dorahy & van der Hart, 2015).

PTSD is diagnostically somewhat more complex in DSM-5 than in DSM-IV. This raises the question of whether the revision has an impact on the interrater reliability for diagnosing the disorder. Data from DSM-IV and DSM-5 field trials suggests that the interreliability of PTSD is comparable across DSMs (Regier et al., 2013). However, this issue remains to be further investigated because DSM-IV and DSM-5 field trials differed to some extent in their methodologies, which might have affected the reliability estimates.

Most of what we know about PTSD, in terms of research on etiology and treatment, is based on data in which PTSD was defined according to DSM-IV (and DSM-III). Can these findings be generalized to PTSD as defined in DSM-5? A question of particular clinical importance is whether treatment guidelines based on DSM-IV apply to DSM-5. Further research is required to definitively answer this question. However, it seems likely that most research findings, and treatment guidelines, based on earlier DSMs, will generalize to PTSD as defined by DSM-5. This is because the DSMs describe essentially the same disorder. Preliminary evidence suggests that there is a minimal change in the estimates of PTSD prevalence when criteria are changed from DSM-IV to DSM-5 (e.g., Gentes et al., 2014; Hoge, Riviere, Wilk, Herrell, & Weathers, 2014; Hafstad, Dyb, Jensen, Steinberg, & Pynoos, 2014; O'Donnell et al., 2014). This is not altogether unexpected because although the list of possible symptoms has been increased from 17 to 24, the same number of symptoms (i.e., six) are required for a diagnosis of PTSD both in DSM-IV and in DSM-5.

In a preliminary study comparing the DSM-IV and DSM-5 versions of PTSD in combat veterans, as assessed by the PTSD Checklist for DSM-5 (described in Chapter 6), Hoge et al. (2014) found that the two versions of

PTSD had nearly identical associations with functional impairment and with comorbid psychiatric disorders. However, some combat veterans who met DSM-IV criteria did not meet DSM-5 criteria, and vice versa. The most common reason for diagnostic discordance was not meeting the avoidance criteria in DSM-5. This might have been because military personnel and other first responders learn to override reactions such as fear, helplessness, or avoidance as part of their training (Hoge, 2015). It remains to be seen whether this finding is replicated in other samples of combat veterans and in other groups who have experienced trauma. It also remains to be seen whether the findings can be replicated with structured clinical interviews, which are the gold standard for assessing PTSD (see Chapter 6). In the remainder of this book the term "PTSD" will be used to refer to both DSM-IV and DSM-5 versions of the disorder.

CLINICAL COURSE

In the hours or days after a traumatic event, most people have at least some symptoms of PTSD (Blanchard & Hickling, 2004; Rothbaum, Foa, Riggs, Murdock, & Walsh, 1992) and some people meet criteria for acute stress disorder, in which the symptoms are similar to PTSD but last less than 1 month. In at least half of all trauma survivors, complete recovery from PTSD occurs within 3 months, even in the absence of treatment (American Psychiatric Association, 2013). If symptoms persist longer than 3 months, then PTSD is likely to be chronic. Symptoms may wax and wane over time, often in response to life stressors. PTSD may go into partial remission and reemerge later on, sometimes years later. Symptom reemergence may occur in response to reminders of the original trauma or be triggered by additional life stressors (American Psychiatric Association, 2013).

Most cases of PTSD develop shortly after the traumatic event. However, in a minority (4–6%) of people the disorder does not develop until months, years, or even decades afterward (Bryant & Harvey, 2002; Gray, Bolton, & Litz, 2004). Research suggests that there may be two forms of delayed-expression PTSD, one in which the person has little or no psychopathology after the trauma (i.e., truly delayed onset Gray et al., 2004), and another more common form consisting of posttrauma symptoms that gradually increase in severity (Bryant & Harvey, 2002). Stressors occurring after the trauma may contribute to the development of both forms of delayed-onset PTSD (Ehlers, Mayou, & Bryant, 1998; Green et al., 1990).

Miguel had witnessed many horrors during his tour of duty in Liberia as a Red Cross physician. Poverty, disease, and the sight of mutilated land-mine victims were part of everyday life, and he was required to be in the company of military protection because of the risk of kidnapping. The impact of his experiences did not hit him until Miguel had returned home to the relative safety and luxury of California. He recovered from the physical exhaustion and sleep deprivation from the long hours working in Liberia and had also recovered from the various ailments, such as dysentery, that he had acquired over there. But as his body recovered, his mind turned more and more to dwell on the horrors and hardships he had encountered. Many things in his California town reminded him of Liberia, because they were the very opposite of what he had seen. The enormous, brightly lit display of fresh fruit and vegetables in his neighborhood supermarket, for example, reminded Miguel of the starvation and lack of clean drinking water in Liberia. During the months following his return to California, Miguel's PTSD gradually worsened in frequency and intensity, despite his efforts to force the tormenting memories from his mind.

PREVALENCE

The prevalence of PTSD depends, in part, on the prevalence of traumatic events where the person lives and works. In North America, the lifetime prevalence of PTSD is approximately 9% (American Psychiatric Association, 2013), although it is higher among particular subgroups, such as people who have risky professions (e.g., people in the military, emergency services workers, police officers, sex-trade workers). For example, the lifetime prevalence of PTSD among combat veterans is 22–31% (Kulka et al., 1990; Prigerson, Maciejewski, & Rosenheck, 2002). The prevalence of PTSD is also higher in countries in which there is widespread persecution of ethnic groups or ongoing armed conflicts (Atwoli, Stein, Koenen, & McLaughlin, 2015). To illustrate, one epidemiological survey found the lifetime prevalence of PTSD to be 37% in Algeria, 28% in Cambodia, 16% in Ethiopia, and 18% in Gaza (de Jong et al., 2001).

Women have a higher lifetime prevalence of PTSD than men (Kilpatrick et al., 2013; Luz et al., 2016; Perrin et al., 2014), even after controlling for frequency of exposure to traumatic events (Breslau, 2002). This may be due to differences in the types of trauma that men and women are most likely to experience. Men more often experience physical assault, and women more often experience sexual assault as both adults and children (Tolin & Foa, 2006). Sexual assault, compared to physical assault, is more likely to cause PTSD in both genders (Kilpatrick & Acierno, 2003). This may be partly because rape has all kinds of stressful sequelae, such

as sexually transmitted disease, unwanted pregnancy, and aversive experiences that may arise when reporting the assault to police or testifying in court.

SOCIAL AND ECONOMIC COSTS

PTSD can have devastating social costs, including profound disruptions to families and relationships. Family members may find themselves "walking on eggshells" to avoid upsetting the person with PTSD. They may not be able to walk up unannounced behind the person without him or her becoming startled and distressed. Numbing and withdrawal in PTSD sufferers can lead their families to feel estranged from them. PTSD-related anger and aggression may be associated with domestic violence. Such problems, along with hyperarousal-related concentration difficulties, can also impair occupational functioning.

Economic costs associated with PTSD include work absenteeism and health care costs. People with PTSD are more likely to receive medical attention for emotional and general medical problems than those without the disorder (Ferry et al., 2015; Hunter, Yoon, Blonigen, Asch, & Zulman, 2015; Walker et al., 2003). The latter includes medically unexplained symptoms (e.g., various forms of pain such as recurrent headache) and general medical conditions that may be associated with chronic hyperarousal (e.g., hypertension). When aggregated, the economic costs of PTSD are likely to be considerable (McCrone, Knapp, & Cawkill, 2003).

VARIETIES OF TRAUMA

What Qualifies as a Traumatic Stressor?

When PTSD was introduced in DSM-III (American Psychiatric Association, 1980), it was said to arise only if the person had been exposed to a stressor that is generally outside the range of usual human experience. There were two problems with this definition. First, DSM-III presupposed that stressors could be objectively defined as traumatic. Although some stressors are likely to be terrifying ordeals for virtually everyone (e.g., brutal rape or torture), the stressfulness of other events depends on how the person interprets them. Exposure to a natural disaster, such as a flood or hurricane, may be terrifying for one person, challenging but not traumatic for another, or an exciting adventure to yet another. Accordingly, the person's appraisal of the event is integral in defining whether or not it is traumatic. The second

problem was that some events defined as traumatic under DSM-III are not outside the range of usual human experience. Epidemiological surveys have shown that sexual and physical assaults are unfortunately common in many countries, including Western countries (Breslau, 2002). In light of these concerns, DSM-IV and DSM-5 revised the definition so that the event need not be outside the usual range of experience. There is a long list of events that could be classified as traumatic stressors. Direct experiences can qualify as traumatic, such as military combat, violent personal assault (sexual assault, physical attack, robbery), being kidnapped, being taken hostage, a terrorist attack, torture, incarceration as a prisoner of war or in a concentration camp, natural or technological disasters, severe automobile accidents, being diagnosed with a life-threatening illness, or being a survivor of a botched medical or surgical procedure (e.g., awareness under anesthesia).

Torture provides a chilling illustration of the multifaceted nature of directly experienced traumatic experiences. There are several elements of torture that may act to accentuate its impact on PTSD symptoms (Silove, Steel, McGorry, Miles, & Drobny, 2002). The abuse is deliberate, and the perpetrators use methods that maximize fear, dread, and debility of the victim. The trauma is inescapable, uncontrollable, and often repetitive, and conditions between torture sessions (such as solitary confinement) undermine the recovery capacity of the victim. The torturer may attempt to induce feelings of guilt, shame, anger, betrayal, and humiliation, which can erode the victim's sense of security, integrity, and self-worth. Head injury or other lasting bodily damage may also be inflicted. For example, repeated beatings on the soles of one's feet can result in permanent damage (by damaging the spongy, cushioning tissue in the feet), making it painful to walk and thereby providing lasting reminders of the trauma.

Witnessed events can be traumatic, such as observing the serious injury or unnatural death of another person due to violent assault, accident, war, or disaster, or unexpectedly witnessing a dead body or body parts after a flood or earthquake. For example, handling of bodies or bodily remains (e.g., as part of mortuary duty after airline accidents or as part of military graves registration duty) can be associated with PTSD (Deahl, Gillham, Thomas, Searle, & Srinivasan, 1994; McCarroll, Ursano, Fullerton, Liu, & Lundy, 2001; Ursano & McCarroll, 1990). Participation in rescue work after disasters such as earthquakes can be similarly traumatizing, due to exposure to mutilated bodies, particularly bodies of children, or because of the inability to rescue loved ones (Basoglu, Livanou, Salcioğlu, & Kalender, 2003).

Learning about events experienced by others can also be traumatizing,

such as learning that a loved one has experienced a violent personal assault or serious injury. To illustrate, Bernice, a 45-year-old mother of two, learned of the violent gang-related death of her son. Although she obtained only sketchy details of the incident from the police and local newspapers, the information was enough for Bernice to imagine various scenarios about how her son was swarmed by assailants, beaten, and killed.

Criterion Bracket Creep

In terms of the DSM-IV definition of traumatic stressors, a range of other events could be defined as traumatic, even seemingly trivial ones. When the movie *The Exorcist* was released in 1973, there were reports of people developing PTSD-like symptoms after seeing the film. After watching the movie, one person, for example, became terrified that the devil might possess him because of all the bad things he had done in his life. He suffered from this fear for about 4 weeks, along with insomnia, irritability, decreased appetite, and inability to remove scenes of the film from his mind. Eventually, his problems resolved after he presented for treatment at a local hospital (Bozzuto, 1975).

Should such cases be defined as PTSD? Some have argued that distressing but relatively minor events genuinely qualify as traumatic stressors (Avina & O'Donohue, 2002; Weaver, 2001). McNally (2003b) referred to the increasingly liberal definition of the concept of traumatic stressor as *criterion bracket creep*. According to McNally, bracket creep is something that seriously imperils the credibility of the diagnosis of PTSD: "The more we identify noncatastrophic events as stressors deemed capable of producing PTSD, the less likely it is that we will ever discover any common mechanisms that mediate PTSD symptoms" (p. 280). Not all investigators share this view (e.g., Brewin, 2003). In fact, the liberal definition of a traumatic stressor (for diagnosing PTSD) is consistent with a diathesis–stress conceptualization of the disorder; the greater a person's diathesis (predisposition) for developing PTSD, the smaller the amount of stress required to precipitate the disorder. Thus, it seems unlikely that criterion bracket creep will threaten the credibility of the diagnosis of PTSD, nor will it impede our efforts to understand the basic mechanisms of the disorder. Consistent with this conclusion, research indicates that PTSD varies along a continuum of severity rather than being a categorical (present or absent) entity (Ruscio, Ruscio, & Keane, 2002), and studies show that even nontraumatic stressors can give rise to PTSD-like symptoms (Horowitz, 2001; Mol et al., 2005).

DSM-5 attempted to deal with this contentious issue by restricting

the nature of stressors that were defined as traumatic. Vicarious exposure to horrifying events qualified as a DSM-5 trauma only under certain circumstances; for example, police officers repeatedly exposed to details of child abuse as part of their work. Watching horrific events on the evening news no longer qualifies as trauma exposure according to DSM-5, unless such events involve a loved one or someone that the individual personally knew. Superficially, this seemed to deal with the issue of criterion bracket creep. However, DSM-5 includes many other categories of trauma- related disorders, so even though some relatively minor form of vicarious exposure might not warrant a diagnosis of PTSD, the person could be diagnosed with any of several traumatic- or stress-related disorders in DSM-5, including the residual ("not otherwise specified") categories.

The Burden of Accumulated Adversity

Cumulative exposure to traumas increases the risk of PTSD (Fullerton, Ursano, & Wang, 2004). Exposure to lesser stressors before or after the traumatic event can also add to the burden of accumulative adversity (Alonzo, 1999). To illustrate, for both female and male soldiers, sexual harassment and racial discrimination have also been found to be incremental risk factors for PTSD (Fontana, Litz, & Rosenheck, 2000; Loo et al., 2001). The more stressful and less supportive the soldier's working environment, the greater the likelihood that a traumatic stressor will give rise to PTSD.

Stressors may be linked in a cascading fashion, where the traumatic event is followed by stressful sequelae. A rape survivor may believe that the sexual assault was the worst part of her experience but then encounter a nightmarish coda, where police, lawyers, parents, or friends accuse her of exaggerating or even fabricating the assault. In cases of childhood sexual abuse, the associated stressors can include the effects of disclosing the abuse, such as family disruptions (e.g., the removal of children from the family home by social workers) and blame from other siblings for "breaking up" the family. A survivor of genocide may be confronted with government officials who deny the atrocities ever happened. An adolescent with third-degree burns from a house fire may be mortified to find that she is frequently taunted with names like "Scarface" when she returns to school. A survivor of an aircraft accident may discover that the worst part of the ordeal is the way that he is treated in the hospital emergency room, where he lies cold and naked on a hospital gurney, awaiting some unknown surgical intervention while not knowing the nature or severity of his injuries. A factory worker may lose an arm in a chance industrial mishap and then

have to endure insurance or worker's compensation hearings in which she is told it was her own fault. Such sequelae can be equally or even more disturbing than the actual traumatic event.

PTSD SYMPTOMS: A CLOSER LOOK

Many of the symptoms of PTSD are self-explanatory, although some require further explanation and illustration in order to highlight their features and variants.

Reexperiencing

Recurrent, Intrusive Recollections

Recurrent, intrusive recollections and dreams are the most common reexperiencing symptoms (American Psychiatric Association, 2013). Some patients report that every time they close their eyes they are met with unwanted images of the trauma. Intrusive recollections may also include other sensory experiences, such as smells, tastes, or sounds, as well as the emotions experienced at the time of the trauma, such as horror, dread, or helplessness (Foa & Rothbaum, 1998; van der Kolk, McFarlane, & Weisaeth, 1996; Vermetten & Bremner, 2003).

Some clinicians have made the controversial claim that intrusive recollections can come in the form of "body memories," that is, episodes in which the person has bodily sensations resembling those experienced at the time of the trauma, but occurring without conscious recollection of the trauma (Brown, Scheflin, & Hammond, 1998; Rothschild, 2000; van der Kolk, 1994). The problem with this idea is the difficulty determining what qualifies as a body memory. A person might have palpitations during a physical assault. Does that mean that all subsequent palpitations are body memories of the traumatic event? Clearly, no. Many bodily sensations that are purported to be body memories are simply manifestations of the person's psychophysiological reactions to a trauma cue, or to any other stressor for that matter (McNally, 2003b). Bodily sensations experienced during the trauma might be triggered by later exposure to trauma cues (e.g., chest pain; Salomons, Osterman, Gagliese, & Katz, 2004), but these are typically accompanied by conscious recollections of the trauma. Here, the person is simply recalling intense somatosensory aspects of the trauma along with other details of the trauma. This is not a "body memory," as the term is used.

Nightmares

Some nightmares clearly qualify as reexperiencing symptoms. To give a historical example, in 1666 Samuel Pepys described what happened to him after surviving the Great Fire of London: "It is strange to think how to this very day I cannot sleep at night without great terrors of the fire; and this very night could not sleep to almost two in the morning through great terrors of the fire" (cited in Daly, 1983, p. 66). In other cases it can be more difficult to determine whether a patient's nightmares qualify as reexperiencing symptoms. As noted in DSM-IV and DSM-5, reexperiencing symptoms in children may take the form of anxiety-evoking dreams that may not appear to be directly linked to the trauma. The same is observed in adults. Sexual assault survivors may report recurrent dreams about the actual assault, as well as other recurrent, threat-related dreams (e.g., nightmares of being chased or cornered by some malevolent character that they cannot clearly identify). A general rule of thumb is to classify thematically related dreams as reexperiencing symptoms.

Flashbacks

This is a widely used but often misunderstood term. The general public (and patients) typically equate flashbacks with intrusive recollections. Diagnostically, however, flashbacks are dissociative episodes in which the person believes, or behaves as if, the traumatic event were actually occurring; the person is reliving, not simply recalling, the event. Flashbacks can range in severity from brief visual or other intrusions about the traumatic event, without the loss of reality orientation, to a complete loss of awareness of one's surroundings (American Psychiatric Association, 2013). They may involve hallucinatory phenomena, such as hearing cries of the dying or seeing images of the dead. Flashbacks are rare and typically last only a few moments (American Psychiatric Association, 2000, 2013).

Reexperiencing and Trauma Cues

To understand the clinical nature of experiencing symptoms it is important to consider the manner in which the symptoms naturally occur. There is an endless range of stimuli that might trigger reexperiencing symptoms. Sometimes cues are subtle and highly idiosyncratic and can be easily overlooked by the clinician, especially for highly avoidant patients, who try to avoid thinking about and discussing aspects of their traumatic experiences. Patients might also be too embarrassed, ashamed, or disgusted to mention

some trauma cues. Sexual arousal, for example, can trigger trauma memories in some survivors of sexual assault, especially if they found themselves becoming sexually aroused during the assault.

Visual stimuli are common trauma cues. One patient, a torture survivor whose torturers had ground broken glass into his torso and face, became extremely distressed whenever he saw broken glass. Gustatory, olfactory, and tactile stimuli can also serve as trauma cues. One patient, who was sexually abused as a child by a neighbor, was given a candy bar as a "treat" after each episode of abuse. Thereafter, whenever she tasted candy she recalled the abuse, along with a vivid recollection of the taste of semen. The smell of cooked or rotting meat can trigger memories of burned or decaying corpses in veterans of combat or survivors of natural disasters.

Avoidance

Common Forms of Avoidance

These include the avoidance of trauma cues, as well as avoidance of things that resemble or symbolize the trauma. For example, PTSD clients may avoid watching television news coverage of wars (for combat veterans), avoid banks (for people who have been in hold-ups), or avoid having contact with his or her parents or siblings (for survivors of childhood physical or sexual abuse).

Subtle Avoidance

Some forms of avoidance can be quite subtle. A survivor of domestic violence, for example, might talk in a whisper and refrain from making eye contact in order to avoid "provoking" men by seeming too assertive. Avoidance can extend to attempts to avert the experience of trauma-related bodily sensations (Taylor, 2004). Bodily sensations associated with extreme hyperarousal, such as palpitations, shortness of breath, and dizziness, commonly occur during or shortly after traumatic experiences. These sensations may combine to take the form of peritraumatic panic attacks. Such bodily sensations can subsequently become cues or reminders of the traumatic event (Wald & Taylor, 2008). Such patients may try to refrain from physical exertion as a means of avoiding the feared bodily sensations.

Adaptive versus Maladaptive Avoidance

Not all forms of avoidance are maladaptive. Some forms of trauma-related avoidance can be highly adaptive, for example, avoiding dangerous parts

of town. These patterns of behavior should not be classified as PTSD symptoms. The distinction between adaptive and maladaptive avoidance is neglected in DSM-IV and DSM-5, although it is important when it comes to treatment planning. We don't want to encourage patients to engage in objectively dangerous exposure exercises.

Emotional Numbing

Restricted Range of Affect and Diminished Interest in Activities

People suffering from emotional numbing may be unable to experience loving feelings toward significant people in their lives. They may have lost their sense of humor and enjoyment of things they formerly found entertaining. Their emotional palette may consist of a blend of aversive emotions (e.g., anxiety, anger, sadness) interspersed with periods in which they feel nothing at all.

Some people with severe emotional numbing describe feeling "dead inside," while others report that it is as if "someone has turned down the volume" on their emotional resonance with the world. Phenomenologically, numbing and dissociation overlap with one another. The numbing of one's emotional resonance with others, particularly with significant others, can be associated with a sense that the world around oneself is unreal, as if the person were viewing the world as a spectator rather than a participant.

Detachment and Estrangement from Others

Finding that other people cannot understand what one has been through can lead to a feeling of estrangement from others. One patient had recently returned from peacekeeping duty in a strife-torn Eastern European country. Prior to deployment he had enjoyed a full and active social life. Upon returning home he felt suspicious of and disconnected from people. If he met someone new in a local bar, he tended to see him as a potential adversary—someone who could produce a weapon and might need to be "subdued." He tried to explain to his longtime friends how his military experiences had led him to see a side of humanity that most civilians would never see, and how this had changed his worldview. His friends didn't seem to understand. This compounded his sense of alienation.

Sense of a Foreshortened Future

As a result of trauma exposure, people may come to see themselves as vulnerable to harm and may come to regard the world as malevolent. This can

lead them to conclude that they are unlikely to live long enough to have a normal life span.

Hyperarousal

Insomnia

There are various forms of insomnia associated with PTSD, including initial insomnia (difficulty falling asleep) and middle insomnia (difficulty staying asleep; Krakow, Hollifield, et al., 2001). Middle insomnia may be a product of heightened arousal or it may be due to recurrent nightmares that awaken the person. Similarly, initial insomnia may reflect an arousal problem, or it may be specifically associated with worry about sleep (e.g., worry about having terrifying nightmares).

Hypervigilance

Here, the person is clearly watchful and may appear to be highly alert or vigilant. One might choose to sit in particular locations in public places—for example, in the corner of a restaurant, with one's back to the wall and facing the door—in order to scan for threat, or express an exaggerated concern for the safety of oneself, or of one's home, or of significant others. The person might also engage in checking rituals, such as checking that the doors and windows are safely secured at night.

Concentration Difficulties

The person might find that special effort is required to concentrate on television programs or to read newspapers, or might lose track of conversations. The person might fail to complete activities because he or she loses focus and becomes distracted. Concentration difficulties can arise because the person is preoccupied with intrusive thoughts of the trauma, or because he or she is scanning the environment for threat instead of focusing on the task at hand. Concentration difficulties may be compounded by excessive daytime sleepiness due to insomnia.

Exaggerated Startle Response

People with an exaggerated startle response may report that they often feel "jumpy" and that it takes them some time to calm down after being startled. Exaggerated startle response is important because of its potential interpersonal or other consequences. For example, combat veterans with

exaggerated startle responses may "reflexively" become physically aggressive when startled. Exaggerated startle is also an important problem for people with PTSD arising from road traffic collisions (Fairbank, DeGood, & Jenkins, 1981). One patient, for example, became startled when a truck suddenly roared past her while she was driving on a freeway. As she startled she jammed her foot on the brake and her car went into a spin. Other vehicles were able to avoid her car and nobody was injured. Fortunately, such incidents are rare.

Irritability and Anger

People with trauma-related irritability or anger may find that they become enraged at the slightest provocation. They may become unusually irritated or angry about being exposed to unwanted noise, such as the sound of a television in a neighboring apartment, or the sound of a car alarm going off at night. Survivors of crime, torture, or genocide may angrily ruminate over fantasies of revenge or reparation (Wilson, 2001), especially if they were humiliated as a result of the event (Lee, Scragg, & Turner, 2001).

Trauma-Related Guilt

Guilt can be defined as an unpleasant feeling such as remorse or regret, accompanied by the belief that one should have thought, felt, or acted differently, based on an internalized set of standards (Kubany & Manke, 1995). People who have lived through traumatic events may experience painful feelings of guilt about the things they did or didn't do. Trauma-related guilt is common among various trauma populations, including combat veterans, survivors of spousal abuse, and rape or incest survivors (Glover, 1984; Kubany et al., 1996). A combat veteran, for example, may feel guilty about the things he or she did in order to survive, such as leaving wounded comrades behind as the enemy advanced. A rape survivor may experience guilt about not fighting back against the assailant, even though it might have been dangerous to do so. A survivor of domestic violence may feel guilty for not having left the relationship sooner.

Trauma-Related Shame

Shame and guilt are related but distinct emotions. Guilt involves a focus on the wrongness or badness of one's actions, whereas shame involves a global labeling that one is a bad person (e.g., "I feel so dirty and ugly"; Tangey, 1990). Thus, shame can be a painfully devastating emotion in which the

whole self is damned, leaving the person feeling worthless and powerless, along with feeling a desire to hide or escape from others (Gramzow & Tangey, 1992; Tangey, 1991). Trauma-related shame is an important but often overlooked associated feature of PTSD.

Commonly Comorbid Conditions

PTSD is commonly comorbid with many psychiatric disorders, including other anxiety disorders, mood disorders, and substance use disorders (Breslau, Davis, Andreski, & Peterson, 1991; Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995; Kilpatrick et al., 2003). To illustrate, Breslau et al. (1991) found that 83% of people with PTSD also had at least one other disorder, most commonly substance abuse or dependence (43%), major depression (37%), or agoraphobia (22%).

It could be argued that the high rates of depression in people with PTSD are a function of symptom overlap; some numbing and hyperarousal symptoms overlap with depressive symptoms. However, PTSD and depression are commonly comorbid even after symptom overlap has been taken into consideration (Blanchard, Buckley, Hickling, & Taylor, 1998).

The high co-occurrence of PTSD with substance use disorders, such as alcohol abuse or dependence, may reflect inappropriate, albeit intermittently effective, stress reduction strategies (Kilpatrick & Acierno, 2003). Consistent with this theory, most studies have found that PTSD precedes substance abuse or dependence, although in some cases substance use disorders precede PTSD (Jacobsen, Southwick, & Kosten, 2001). In the latter situation, substance intoxication, and consequent foolhardiness or impaired judgment, may increase the risk of getting into a dangerous (traumatic) situation.

Some trauma populations are at risk for other forms of comorbidity. Survivors of industrial accidents or road traffic collisions are at increased risk for accident-related injuries (e.g., tissue and nerve damage) accompanied by chronic pain (Asmundson, Coons, Taylor, & Katz, 2002). Burn patients are also at increased risk for chronic pain as a result of tissue damage. Survivors of sexual assault may experience tissue damage and chronic pain as a result of forced penetration. Pain itself may be traumatizing and may serve as a reminder of the trauma. PTSD hyperarousal symptoms can be associated with heightened muscle tension or muscle spasms, and resulting pain. Thus, pain and PTSD can mutually exacerbate one another (Asmundson et al., 2002; Sharp & Harvey, 2001).

PTSD may be associated with mild traumatic brain injury (TBI). According to DSM-5, "Among U.S. military personnel and combat veterans who have been deployed to recent wars in Afghanistan and Iraq, co-occurrence

of PTSD and mild TBI is 48%" (American Psychiatric Association, 2013, p. 280). Some researchers have challenged such claims, arguing that TBI is overdiagnosed in combat veterans and that problems attributed to TBI are actually the result of psychological trauma and daily stresses (Hinton & Good, 2016). PTSD and TBI have many symptoms in common, which makes it difficult to distinguish between the two and also makes it difficult to determine whether both disorders are present in a given patient. Symptoms common to both conditions include concentration difficulties, anger problems, and the inability to recall important aspects of the trauma. Intrusive recollections, which are a cardinal feature of PTSD, are symptoms that best distinguish PTSD from TBI (Gill, Mullin, & Simpson, 2014).

PTSD also may be associated with features of personality disorders (American Psychiatric Association, 2000, 2013), particularly the features called "complex PTSD" or "disorders of extreme stress, not otherwise specified." These features resemble borderline personality traits (e.g., impaired affect modulation, impulsive behavior, identity disturbance, impaired relationships) (American Psychiatric Association, 2000, 2013; Herman, 1997). Such personality pathology has been identified in PTSD patients who have endured various forms of chronic or repetitive traumas (Jongedijk, Carlier, Schreuder, & Gersons, 1996; McLean & Gallop, 2003; Roth, Newman, Pelcovitz, van der Kolk, & Mandel, 1997) and in some cases in which the person has experienced a discrete, single-episode trauma (Taylor, Carleton, & Asmundson, 2006). Personality pathology may predate trauma exposure and PTSD, or, in other cases, personality disturbance and PTSD may both be consequences of traumatic events.

The controversy about whether complex PTSD is a unique, empirically based diagnosis in its own right has raged for decades (Friedman, 2014). Complex PTSD is not recognized as a distinct disorder in either DSM-IV or DSM-5. An advantage of the concept of complex PTSD is that it captures some of the comorbidity commonly seen in patients with a history of repeated interpersonal trauma. Disadvantages are the vagueness and the heterogeneity of traits and symptoms subsumed by the concept. Regardless of whether complex PTSD is a distinct diagnostic entity, researchers have developed treatment protocols for such clinical presentations (De Jongh et al., 2016; also see Chapter 5).

PTSD ACROSS THE LIFESPAN

Children

The experience of, and reactions to, traumatic events depends on the person's level of cognitive development. If children are too young to understand

what is happening to them (e.g., a developmentally inappropriate sexual experience without actual injury or perceived violence), then they may not experience the event as traumatic and therefore may not develop PTSD. However, PTSD may later emerge if they come to recognize what had happened to them (American Psychiatric Association, 2013; Foa, Steketee, & Rothbaum, 1989; Kilpatrick et al., 1989). For example, children who suffered sexual abuse or severe neglect early in childhood may develop PTSD years later, in early adolescence, when knowledge related to sexual behavior is acquired (Briggs, Nooner, & Amaya-Jackson, 2014).

Children old enough to interpret events as traumatic (e.g., aged 4–7 years or older) generally have emotional responses similar to those of adults (Caffo & Belaise, 2003). To illustrate, Fletcher (1996) conducted a meta-analysis of 34 samples totaling 2,697 of such children who had experienced trauma. Children were comparable to adults in terms of the prevalence of PTSD and in the frequency of PTSD symptoms. The rates of diagnosed PTSD did not differ markedly across developmental levels. However, there are some differences in the way that PTSD symptoms are manifested (American Psychiatric Association, 2000, 2013; Salmon & Bryant, 2002). Children, compared to adults, may be more likely to have aggressive behavioral problems after trauma exposure (Briggs et al., 2014).

Young children typically do not have the sense that they are reliving the traumatic event. Instead, reliving may be expressed through repetitive drawings or play (e.g., the reenacting of the car crash described in the opening case). Nightmares of the event need not be of the traumatic event (American Psychiatric Association, 2013) and can evolve over time into distressing dreams of monsters or other threats to oneself, or of rescuing others. There also may be "omen formation," consisting of the belief that one can foretell future ominous events. Hyperarousal symptoms may be expressed as headaches or stomachaches. Developmental regression, such as loss of language in young children, may occur (American Psychiatric Association, 2013). Adolescents and adults may show these various features, but they are more common in children.

Trauma-related avoidance in children can have important interpersonal repercussions. Many children (and adolescents) who survive traumatic events find it difficult to discuss their feelings with family members or peers and may interpret reticence on the part of peers to ask about the event as a form of rejection (Yule, 2001). Parents may mistakenly believe that the child has forgotten about the traumatic event because he or she doesn't talk about it; it is common for young children to tell outsiders (e.g., a therapist) about the details of traumatic events while keeping them from their parents for fear of upsetting them (Yule, 2001).

Disorders that are commonly comorbid in childhood PTSD include phobias (e.g., fear of the dark or fear of using the toilet alone; Scheeringa, Zeanah, Drell, & Larrieu, 1995), separation anxiety disorder, oppositional disorder, and mood disorders (American Psychiatric Association, 2013). These may impair the growth of academic skills and friendships (McCloskey & Walker, 2000).

It has been claimed that very young children (e.g., 1–3 years of age) can develop PTSD-like syndromes (Keren & Tyano, 2000; Scheeringa, Zeanah, Myers, & Putnam, 2003). This theory is controversial, partly because of the difficulty in determining whether a given problem behavior is trauma-related or whether it is due to other factors (e.g., the emergence of the fear of strangers is a normal milestone in childhood development; Cox & Taylor, 1999). Abused infants or toddlers may exhibit developmental delays, such as learning disorders, language disorders, motor disorders, poor emotional regulation, and poor socialization skills (Streeck-Fischer & van der Kolk, 2000). The cause of these deficits is unclear. It is possible that they could be a result of psychological abuse, or they could be due to more basic deprivations (e.g., poor nutrition, or being raised in an unstimulating environment in which learning opportunities are limited, or head injury associated with physical abuse).

Older Adults

The greatest distinguishing feature of PTSD in older people, compared to younger adults, is its apparent emergence or worsening in late life, after decades of producing few or no symptoms (Hyer, Summers, Braswell, & Boyd, 1995; Peters & Kaye, 2003; van Achterberg, Rohrbaugh, & Southwick, 2001). Among older adults, limitations in social activities (e.g., due to difficulty getting about), and deteriorations in health and cognitive functioning can aggravate PTSD symptoms (American Psychiatric Association, 2013).

Various explanations have been offered for the late-life delayed expression of PTSD, including job retirement with loss of daily structure and social contact (and increased time to dwell on past experiences) and increased exposure to death or other losses reminiscent of past trauma (van Achterberg et al., 2001). The organizational practices of long-term care facilities may confront the person with a variety of trauma cues that he or she had managed to avoid throughout much of adulthood. For survivors of childhood sexual abuse, for example, old-age institutions can have many features reminiscent of childhood abusive settings. Residents may have little or no privacy, they may be exposed to naked bodies of other residents, and

they have little control over who touches them or how (e.g., being handled, toileted, bathed, or checked) (Peters & Kaye, 2003).

Several case studies have described the worsening or apparent emergence of PTSD among trauma survivors with dementia (Johnston, 2000; Mittal, Torres, Abashidze, & Jimerson, 2001; van Achterberg, Rohrbaugh, & Southwick, 2001). To illustrate, one case involved a 95-year-old woman who had probable Alzheimer's disease (van Achterberg et al., 2001). She had apraxia, agnosia, and was no longer able to recognize family members. When she was 22 years old she had survived the sinking of the *Titanic*. Throughout her life she refused to talk about her involvement in this famous event. Aside from long-standing avoidance, her family could not recall any evidence of other PTSD symptoms, such as nightmares or hyperarousal (although she may have had some symptoms that she avoided mentioning). In the nursing home, she began to have periods of extreme agitation, accompanied by vivid reexperiencing: "For example, when placed in the day room with other residents, she would become markedly distressed, calling out 'The water is coming up! Go to the lifeboats! Save the children! We'll all be dead!' " (van Achterberg et al., 2001, p. 206).

The mechanism of dementia-related PTSD emergence or exacerbation remains to be elucidated, although there are several plausible possibilities. In some cases the person's PTSD has been in full or partial remission until the onset of dementia. Neurodegeneration of memory pathways may disinhibit recollections of trauma memories (Mittal et al., 2001) or disinhibit previously "extinguished" fears of trauma-related stimuli (see Chapter 4 on the role of the orbital frontal cortex in inhibiting limbic system activity). Another possibility is that with dementia-associated impairment in memory for recent events, longer-term memories such as long-standing traumatic memories may become more salient. With a dementia-related decline in reality testing, recollections of the trauma may increasingly take the form of dissociative reliving of the event (flashbacks).

CULTURAL CONSIDERATIONS

Is PTSD a culturally universal syndrome or it is culturally bound to contemporary Western society? Historical sources have identified PTSD symptoms in trauma survivors in various wars, including the U.S. Civil War and World Wars I and II (Dean, 1997; Kardiner, 1941; Lerner, 2003). There is also possible evidence of PTSD symptoms in antiquity, such as in the *Epic of Gilgamesh,* written between 2027 and 2003 B.C.E. (Ben-Ezra, 2002; Birmes, Hatton, Bruner, & Schmitt, 2003). These findings are not

surprising because the fundamental features of PTSD symptoms—such as the acquisition of trauma-related fear and avoidance, and increased vigilance for threat—likely arise from basic survival mechanisms.

PTSD has been identified in a range of contemporary cultures (Good, DelVecchio, & Grayman, 2016), including the cultures in Afghanistan, Cambodia, China, Colombia, Ecuador, Fiji, Japan, Mexico, Nepal, South Africa, Sudan, Somalia, Sri Lanka, and Vietnam (Elbert & Schauer, 2002; Marsella, Friedman, Gerrity, & Scurfield, 1996; Shrestna et al., 1988). McCall and Resick (2003) demonstrated that PTSD could be identified in a radically non-Western culture, that of the Kalahari Bushmen, hunter-gatherers from a region of southern Africa. PTSD symptoms (related to domestic violence) were assessed by administering the diagnostic interviews in the difficult, click-laden Kalahari language. Despite this obstacle, PTSD symptoms could be readily identified.

After reviewing studies from a wide range of Western and non-Western societies, Marsella et al. (1996) concluded that they could not find any ethnocultural group in which PTSD could not be identified, although the prevalence rates varied from one culture to another. Thus, PTSD is not simply a syndrome bound to Western culture.

There are, however, some ways in which the disorder or its associated features may differ over time and culture. Posttraumatic conversion reactions, such as mutism, aphonia, or paralysis, were more common in previous wars (e.g., World Wars I and II) than they are today (Kardiner, 1941; Lerner, 2003). Such disorders are only occasionally seen today (Rothbaum & Foa, 1991; Wald, Taylor, & Scamvougeras, 2004). So there is some connection between historical epoch, culture, and PTSD, but this connection is mild at most, with cultural influences limited to the less common conversion symptoms (Ben-Ezra, 2003). This does not mean, however, that the treating clinician should ignore the patient's cultural background. Background is important, for example, in establishing a therapeutic relationship.

Cultural factors are also important for understanding PTSD-related beliefs, because symptoms may be interpreted according to the local cultural context. To illustrate, Cambodians may interpret nightmares as evidence that the dreamer's wandering soul has encountered the dead or is under attack by hostile spirits (Hinton & Good, 2016). Somatic symptoms are also a common clinical presentation for trauma survivors in some cultures. To provide another Cambodian example, among trauma survivors from this group, dizziness and neck soreness are common complaints (Hinton & Good, 2016). Other important cultural factors include the person's sociocultural context (e.g., residing among unpunished perpetrators

in postconflict settings) and acculturative stress in immigrants (American Psychiatric Association, 2013).

RISK FACTORS FOR PTSD

Estimates indicate that 40–60% of community adults have been exposed to trauma (Kessler et al., 1995; Yehuda & Wong, 2001), yet only a fraction develop PTSD (9%: American Psychiatric Association, 2013). This suggests that trauma alone is insufficient to cause PTSD and that other factors must be taken into consideration. One of the first steps in identifying vulnerability factors is to identify risk factors. These are variables that predict the development of PTSD. A risk factor need not play a causal role—it could simply be a correlate of a causal factor. One should not confuse risk factors with causal factors, although the former can provide clues about the latter.

There have been many studies of PTSD risk factors, which have been synthesized in narrative reviews and meta-analyses. Three classes of risk factors have been identified: pretraumatic, peritraumatic, and posttraumatic (American Psychiatric Association, 2013). *Pretrauma risk factors* include preexisting psychopathology, low intelligence, aversive social environments (e.g., economic deprivation, family instability prior trauma exposure), and family history of psychopathology (American Psychiatric Association, 2013; Brewin, Andrews,& Valentine, 2000; Ozer, Best, Lipsey, & Weiss, 2003; Xue et al., 2015). *Peritrauma risk factors* include the "dose" of trauma exposure and peritraumatic dissociation (American Psychiatric Association, 2013; Brewin et al., 2000; Ozer et al., 2003; Xue et al., 2015). Peritraumatic dissociation refers to the experience of dissociative symptoms during or immediately after the trauma (e.g., the sense that time has slowed down, perceiving one's environment to be unreal, or feeling that one's body is unfamiliar or unreal). *Posttrauma risk factors* include maladaptive coping (see Chapters 2 and 3) and aversive posttrauma environments (e.g., low social support, financial or other burdens, and new or ongoing adverse life events) (American Psychiatric Association, 2013; Brewin et al., 2000; Ozer et al., 2003; Xue et al., 2015).

Although the various predictors were statistically significant in meta-analyses of PTSD risk factors, the effect sizes were not generally large. None of the risk factors was necessary or sufficient for developing PTSD (Ozer & Weiss, 2004). For example, although peritraumatic dissociation is a risk factor for PTSD, many people who dissociate do not develop PTSD, and many cases of PTSD arise in people who do not experience peritraumatic dissociation (Harvey & Bryant, 2002).

Many of the risk factors for PTSD in children are similar to those for adults, including the level of exposure, extent of disruption of social support systems, and pretrauma levels of psychopathology (Caffo & Belaise, 2003; Trickey, Siddaway, Meiser-Stedman, Serpell, & Field, 2012). Parental distress and psychopathology are also predictors of childhood PTSD (Davis et al., 2000). Parental modeling might play a role, especially for a traumatic event that has afflicted the entire family. Children who observe their parents becoming highly distressed by the trauma may be more likely to become distressed themselves. Consistent with this theory, persistent maternal preoccupations with her trauma and other trauma-related family disruptions have been found to predict PTSD in children (Pynoos & Nader, 1993). Persistent separation from parents immediately after a natural disaster (such as a hurricane or flood), along with the loss of the child's home, pets, toys, and friends, also predicts PTSD in children (Pynoos & Nader, 1993; Vernberg, La Greca, Silverman, & Prinstein, 1996). For children living in families marred by severe marital conflict, PTSD symptoms can develop as a result of witnessing violence by one parent inflicted on the other (Rossman & Ho, 2000).

SUMMARY

PTSD is a complex and often chronic disorder that commonly co-occurs with many other disorders, including other anxiety disorders, mood disorders, and substance use disorders. PTSD takes similar forms across the life span, although PTSD in children differs in some ways from that of adults. PTSD takes a similar form across diverse cultures. Many people are exposed to traumatic events and yet only a few develop PTSD. Various risk factors have been identified, such as peritraumatic dissociation and low social support.

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