

Developmental Psychopathology at School

Identifying,
Assessing,
and Treating
PTSD at School

Amanda B. Nickerson
Melissa A. Reeves
Stephen E. Brock
Shane R. Jimerson

Identifying, Assessing, and Treating PTSD at School

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This book is dedicated to those children, families, and educational professionals who overcome the challenges associated with Posttraumatic Stress Disorder.

We hope that this book contributes to the well-being of both survivors and professionals following a traumatic event.

And also to our children and families who inspire us and remind us of the importance of our efforts;

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Alex Nishiyama

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Chapter 1

Introduction

Posttraumatic Stress Disorder (PTSD) is the diagnostic classification applied to individuals who manifest anxiety-related symptoms following exposure to an extreme traumatic stressor (American Psychiatric Association [APA], 2000). These stressors include violent personal assaults, natural or human-caused disasters, and accidents. Lifetime prevalence of PTSD estimated from community-based studies in the United States is 8% (APA, 2000). The lifetime prevalence of PTSD among children and adolescents is estimated to be 6–10% in the general population (Dyregrov & Yule, 2006) and as high as 30% among some urban populations (Buka, Stichick, Birdthistle, & Earls, 2001; Seedat, Nyamai, Njenga, Vythilingum, & Stein, 2004).

Although lifetime prevalence rates are important, it is perhaps more meaningful to examine prevalence rates among individuals who have been exposed to a traumatic event. The National Center for PTSD (Hamblen, 2007) reports that among children and adolescents who have experienced a trauma (i.e., 15–43% of girls and 14–43% of boys), 3–15% of girls and 1–6% of boys could be diagnosed with PTSD. Furthermore, rates of PTSD are much higher among children and adolescents from at-risk samples (3–100%; cf. Frederick, 1985; Garrison et al., 1995; Seedat et al., 2004). Studies reveal that children who witness a parental homicide or sexual assault, are sexually abused, experience a shooting on a school campus, or are exposed to community violence are high risk for developing PTSD. As shown in Table 1.1, a large-scale study by the National Crime Victims Research and Treatment Center (Kilpatrick & Saunders, 1997) of 4,023 found that sexual and physical assault was prevalent in children in adolescents. In addition, 30% of children who had experienced sexual assault reported developing PTSD at some point in their lives, and 20% continued to exhibit symptoms of PTSD. Of victims who had been physically assaulted, 23% developed PTSD. Extrapolating these results to the national population of adolescents, it is estimated that approximately 2 million adolescents have suffered from PTSD at some point.

Moreover, approximately 75% of adolescents who met the criteria for PTSD also met the criteria for major depression, substance abuse/dependence, or both (Kilpatrick & Saunders, 1997). There is considerable evidence that youth with PTSD are at increased risk for low academic achievement, aggressive or

Table 1.1 Prevalence of Types of Victimization in Adolescents and Development of PTSD

Type of victimization	% Male	% Female	% of those victimized that developed PTSD at some point in life
Sexual assault	3%	13%	30%
Physical assault	21%	13%	23%
Firsthand witness of violence	43%	35%	19%

Note. These data were extracted from a large-scale study by the National Crime Victims Research and Treatment Center (Kilpatrick & Saunders, 1997) of 4,023 victimized adolescents in the United States.

delinquent behaviors, and substance abuse (Kilpatrick & Saunders, 1997; Kilpatrick, Saunders, Resnick, Best, & Schnurr, 2000).

Given these data, it is imperative that school professionals be prepared to help identify and provide support services for students with PTSD. Facilitating acquisition of the knowledge needed to meet the needs of these students is the primary objective of this book. This introductory chapter begins by providing further rationale for why this knowledge is important for school professionals, a brief overview of PTSD, and an examination of PTSD in relation to educational support services.

Why School Professionals Should Read This Book

The importance of understanding PTSD results, in part, from the fact that approximately a quarter of youth in contemporary society will experience one or more potentially traumatic events by age 16 years (Costello, Erkanli, Fairbank, & Angold, 2002). In a national study of 10- to 16-year-old adolescents, over one-third of the youths reported having directly experienced community violence in the form of assault (Boney-McCoy & Finkelhor, 1995). Increasing the need to be attentive to PTSD is the fact that it is associated with low academic achievement, depression, alcohol abuse, and social maladjustment (Kilpatrick et al., 2000). Thus, to appropriately address the needs of all children, school psychologists and other educational professionals need to be prepared to identify, assess, and treat students with PTSD in the school setting. This section reviews some of the key issues regarding the importance of addressing the needs of students with PTSD.

PTSD is Associated with School Adjustment Difficulties

PTSD is of particular interest to educators because its symptom severity and school performance appear to be linked. For example, in a sample of 11- to 14-year-olds, students with severe to very severe PTSD had significantly lower grade point averages (GPAs) than students whose PTSD was described as

moderate. Further, following a group intervention designed to address traumatic stress consequences, reductions in PTSD symptoms were associated with improvements in students' GPAs (Saltzman, Pynoos, Layne, Steinberg, & Aisenberg, 2001). Additional data indicate that when adolescents with this disorder are compared to those without PTSD (including those who have been exposed to crisis events but do not have PTSD), they score significantly lower on measures of academic achievement (Saigh, Mroueh, & Bremner, 1997). In the classroom, complications associated with PTSD may include difficulty concentrating, inattention, irritability, aggression, or being withdrawn. Such classroom behaviors may result in declines in academic performance and increases in disciplinary referrals.

Children with PTSD May be in General Education Classrooms

Consistent with the trend to serve students with disabilities in general education classrooms, it is not surprising to find that students with PTSD are typically included in these classroom environments (Sailor, Gerry, & Wilson, 1990). Given that support services may be offered in both the general and special educational settings, regardless of eligibility status, it is typical that educational professionals working in both contexts will be responsible for serving the student with PTSD. In addition, support services and the understanding offered at school can help students remain in the general education classroom and successfully complete academic coursework. Hence, educational professionals in both special and general education need to have up-to-date information on PTSD.

Importance of Early Identification and Intervention

Early identification and intervention are important influences upon the outcome for the student with PTSD. Recognizing early signs of PTSD and identifying risk factors is an important step in preventing complications associated with this disorder (Saltzman et al., 2001). If PTSD is not addressed, the cumulative effects are likely to be increasingly harmful for both student adjustment and academic outcomes (Kilpatrick et al., 2000). Thus, understanding and recognizing risk factors, warning signs, and contributing influences is very important.

PTSD is Often Experienced Concurrently with Other Childhood Problems

Students with PTSD are at increased risk for experiencing depression, aggression, and alcohol abuse (Kilpatrick et al., 2000). A review of studies reported

that PTSD in children is significantly correlated with anxiety, suicidal ideation, ADHD, psychotic disorders, mood disorders, eating disorders, somatization disorders, and dissociation (Davis & Siegel, 2000). The National Comorbidity Study found that PTSD usually precedes comorbid mood disorders and substance use disorders (Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995). Individuals with a lifetime history of PTSD have a high rate of comorbidity with alcohol abuse (28% of women, 52% of men), drug abuse (27% of women, 35% of men), major depressive disorder (49% of women, 48% of men), social phobia (women and men, 28%), agoraphobia (22% of women, 16% of men), generalized anxiety disorder (15% of women, 17% of men), and panic disorder (13% of women, 7% of men; Kessler et al., 1995).

School-Based Professionals have Daily Opportunities to Support Students

Because most youth with PTSD attend school, there is an opportunity to establish support services to help address the needs of these students. Among those children who continue to attend school, educational professionals are in a position to help facilitate adaptive and pro-social behaviors. School-based mental health professionals are in a position to bring awareness of how the emotional functioning of students is related to academic and social success and the importance of educating the “whole child.”

Education and Learning are Important for Future Success

Low achievement, truancy, and school dropout interfere with student engagement in education activities. For students with PTSD, facilitating and maintaining student engagement in the educational process helps to provide these students the skills and knowledge that will benefit them in the future. Furthermore, educational successes promote subsequent adaptation and well-being (Cairns & Cairns, 1994; Kirsch, Jungeblut, Jenkins, & Kolstad, 1993).

Effective Interventions are Essential to Offset Long-Term Societal Costs

It is estimated that in the United States there are over 7.7 million adults who meet the diagnostic criteria for PTSD (Kessler, Chiu, Demler, & Walters, 2005). Long-term economic costs associated with unresolved PTSD are estimated to exceed 100 billion dollars a year in the United States alone. The economic costs of untreated trauma-related alcohol and drug abuse alone were estimated at \$160.7 billion in 2000 (Harwood, 2000). Ultimately the importance of

implementing effective interventions to promote the pro-social adjustment and healthy adaptation of students with PTSD extends across the life span.

Federal Statutes Obligate Schools to Provide Services to Qualifying Students

It is also important to understand that Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act of 1990 (ADA), and the Individuals with Disabilities Education Improvement Act of 2004 (IDEIA), place specific responsibilities on schools to serve students who have disabilities. Students thought to have PTSD should be evaluated to determine whether they qualify for these services. Federal statutes mandate the provision of special services to ensure that students with disabilities (which may include those with PTSD) receive a free and appropriate public education (FAPE). For instance, in IDEIA, it is specifically delineated that: (a) the IEP team explore the need for strategies and support systems to address any behavior that may impede the learning of the child with the disability or the learning of his or her peers; and (b) that school districts shall address the in-service and pre-service personnel needs (including those of professionals and paraprofessionals who provide special education, general education, related services, or early intervention services) as they relate to developing and implementing positive intervention strategies. For the student with PTSD who also meets special education eligibility criteria, school districts must ensure that disciplinary procedures do not interfere with the provision of a FAPE. This consideration is particularly salient among students with PTSD, as such students may experience depressive symptoms that can manifest in the form of aggressive behaviors, which often result in disciplinary actions. Thus, it is imperative that both general and special education professionals are prepared to provide educational services to students with PTSD. Implications of federal mandates are discussed further in the section PTSD and Educational Support Services.

Posttraumatic Stress Disorder Defined

The notion that traumatic events can lead to psychological disturbances has been apparent within the context of war for centuries. By Homer's account, Odysseus experienced flashbacks and survivor guilt after fighting the Trojan War. During the U.S. Civil War, combat-related stress and trauma were also recognized and documented. Similar reports emerged following World War I, World War II, the Korean War, and the Vietnam War, such that the terms "shell shock" and "war neurosis" became descriptors for the common reactions experienced by survivors of catastrophic events. The diagnostic category of Posttraumatic Stress Disorder (PTSD) first appeared in 1980 in the *DSM-III*

(APA, 1980). The clustering of the symptoms into core criteria has remained the foundation of the definition in all editions of the *DSM* to date.

It is important to note that children's reactions to traumatic events were not specifically included in the *DSM* until 1987, when the revised third edition (*DSM-III-R*) was published (American Psychiatric Association, 1987). While the stress reactions of adults have been studied much more frequently than those of children, there have been an increased number of published studies during the past six decades. Whereas early accounts of children's stress reactions were reported following World War II (e.g., Brander, 1943; Burt, 1943; Coromina, 1943), and detailed evidence of posttraumatic reactions among children appeared in the 1970s and 1980s (e.g., Blom, 1986; Eth & Pynoos, 1985; Lacey, 1972; Newman, 1976; Saigh, 1985; Terr, 1979, 1981, 1983, 1985), research regarding children's reactions to traumatic stress emerged in earnest following the publication of *DSM-III-R*.

PTSD is one of numerous Anxiety Disorders in the *Diagnostic and Statistical Manual of Mental Disorders* (Text Revision., 4th edition.: *DSM-IV-TR*; APA, 2000) (See Table 1.2 for a listing of Anxiety Disorder classifications, codes, and brief overview of the primary characteristics). The following provides a brief summary of the *DSM-IV-TR* diagnostic criteria for PTSD.

Table 1.2. Listing of *DSM-IV-TR* Anxiety Disorder Classifications, (Codes), and Brief Description of Characteristics.

Panic Disorder (without Agoraphobia) (300.01) (with Agoraphobia (300.21))

Panic disorder is characterized by severe attacks of panic for no apparent reason. Symptoms include heart palpitations, chest pain or discomfort, sweating, trembling, tingling sensations, feeling of choking, fear of dying, fear of losing control, and feelings of unreality. Panic disorder often occurs with agoraphobia, in which people are afraid of having a panic attack in a place from which escape would be difficult, so they avoid these places.

Agoraphobia Without History of Panic Disorder (300.22)

The essential features are similar to Panic Disorder with Agoraphobia with the exception that the focus of the fear is on the occurrence of incapacitating or extremely embarrassing panic-like symptoms or limited symptom attacks rather than full panic attacks.

Specific Phobia (formerly Simple Phobia) (300.29)

Specific phobias are characterized by an intense fear reaction to a specific object or situation (such as spiders, dogs, or heights); the level of fear is usually inappropriate to the situation, and is recognized by the sufferer as being irrational. This inordinate fear can lead to the avoidance of common, everyday situations.

Social Phobia (Social Anxiety Disorder) (300.23)

SAD is characterized by extreme anxiety about being judged by others or behaving in a way that might cause embarrassment or ridicule. This intense anxiety may lead to avoidance behavior. Physical symptoms associated with this disorder include heart palpitations, faintness, blushing, and profuse sweating.

Table 1.2. (continued)

Obsessive-Compulsive Disorder (300.03)

OCD is characterized by persistent, recurring thoughts (obsessions) that reflect exaggerated anxiety or fears; typical obsessions include worry about being contaminated or fears of behaving improperly or acting violently. The obsessions may lead an individual to perform a ritual or routine (compulsions) – such as washing hands, repeating phrases, or hoarding – to relieve the anxiety caused by the obsession.

Posttraumatic Stress Disorder (309.81)

PTSD can follow an exposure to a traumatic event such as a sexual or physical assault, witnessing a death, the unexpected death of a loved one, or natural disaster. There are three main symptoms associated with PTSD: “reliving” of the traumatic event (such as flashbacks and nightmares); avoidance behaviors (such as avoiding places related to the trauma) and emotional numbing (detachment from others); and physiological arousal such as difficulty sleeping, irritability, or poor concentration.

Acute Stress Disorder (308.3)

ASD develops within one month after an individual experiences or sees an event involving a threat or actual death, serious injury, or physical violation to the individual or others, and responded to this event with strong feelings of fear, helplessness, or horror. Symptoms must persist for a minimum of two days to up to four weeks within a month of the trauma.

Generalized Anxiety Disorder (includes Overanxious Disorder of Childhood) (300.02)

GAD is characterized by excessive, unrealistic worry that lasts six months or more; in adults, the anxiety may focus on issues such as health, money, or career. GAD symptoms may also include trembling, muscular aches, insomnia, abdominal upsets, dizziness, and irritability.

Anxiety Disorder Due to a General Medical Condition (293.84)

The essential feature of this classification is clinically significant anxiety that is determined to be a result of the direct physiological effects of a medical condition. Symptoms may include generalized anxiety symptoms, panic attacks, obsessions, or compulsions.

Anxiety Disorder Not Otherwise Specified (300.00)

AD/NOS is characterized by prominent anxiety or phobic avoidance symptoms that do not meet the criteria for any other specific anxiety disorders.

Substance-Induced Anxiety Disorder (see substance-specific codes)

The primary feature of a substance-induced psychotic disorder is prominent anxiety symptoms (i.e., generalized anxiety, panic attacks, obsessive-compulsive symptoms, or phobia symptoms) determined to be caused by the effects of a psychoactive substance.

Note. Portions adapted from Anxiety Disorders Association of America (2007). Panic Attack is also described in the *DSM-IV-TR*, however, it is “not a codable disorder” rather it occurs within the diagnostic classifications listed above.

The PTSD criteria include a number of specific symptoms from three broad categories; (a) re-experiencing, (b) avoidance/numbing, and (c) increased arousal. The *DSM-IV-TR* has increasingly recognized the various ways in which children manifest these symptoms. Behaviors among youth with PTSD vary as these symptoms may manifest as a variety of anxiety problems including:

disturbing memories or flashbacks, repeated nightmares, avoiding reminders of traumatic experiences, fear of re-experiencing traumatic anxiety, behavioral reenactment, emotional numbness, diminished interest in significant activities, physical symptoms (e.g., stomachaches and headaches), and hyperarousal (e.g., feeling constantly on guard, anxious or nervous, and jumpy). A more complete discussion of diagnostic criteria will be offered in Chapter 5, which delineates the full criteria for PTSD.

PTSD and Educational Support Services

Meeting the diagnostic criteria (APA, 2000) for PTSD (or any *DSM* diagnostic category for that matter) does *not* necessarily qualify a student for special educational placement and/or related services. However, depending upon symptom severity, a student *may* be considered eligible for services and/or related aids under Section 504 of the Rehabilitation Act of 1973 or IDEIA (2004). Under Section 504, a “person with disabilities” is defined as any person who has a physical or mental impairment which substantially limits a major life activity (e.g., learning). This would include the individual with PTSD (Feldblum, 2007; Schmidt v. Bell, E.D. Pa. 1983). The following provides a discussion of educational regulations that govern the provision of special services to ensure that the student with PTSD receives a FAPE.

If a student with PTSD is judged to be eligible, Section 504 of the Rehabilitation Act of 1973 emphasizes that the individual is entitled to a FAPE. This may include regular and/or special education related aids and services. An individualized education program (IEP) is one way to provide a FAPE, although it is not required under Section 504. If special education services are not appropriate for the student with PTSD (and the student is judged to be a “handicapped person” as described by Section 504), then appropriate support services should be provided in the general education setting. Moreover, general education classroom teachers are explicitly identified as being “important” in the identification of required instructional adaptations and interventions.

The accommodations for students eligible under Section 504 need to be individualized to be effective; thus, there is no single plan that will fit the needs of each student. The Americans with Disabilities Act of 1990 (ADA) also applies to students with PTSD, as ADA prohibits discrimination against persons with disabilities at work, at school and in public accommodations, and also applies to institutions that do not receive federal funds. Because the ADA has been interpreted as incorporating many of the Section 504 requirements, it has been suggested that by meeting Section 504 requirements, school districts fulfill their ADA obligations (Soleil, 2000). Furthermore, meeting IDEIA requirements also fulfills Section 504 requirements.

If a student with PTSD is found to qualify for special education services according to IDEIA (2004), then that individual would receive specially designed instruction, at no cost to his or her parents, to meet his or her unique needs. Under the protection of special education, the child with PTSD has the right to: (a) procedural safeguards to ensure that parents are provided a written notice regarding identification, evaluation, and/or placement, or any change in placement of their child in special education; (b) a comprehensive evaluation by a multidisciplinary team focused on serving the child in the least restrictive environment; and (c) impartial due process hearing for parents who disagree with the identification, evaluation, or placement of a child. Some students diagnosed with PTSD may qualify for special education under the eligibility category of emotional disturbance, while others may not qualify as they may not reach classification threshold (e.g., behaviors do not interfere with their learning or the learning of others).

If parents believe that their child has a disability, whether it be PTSD or any other impairment, and the school district has reason to believe that the child may need special education or related services, the school district must complete an evaluation of the child. If the school district does not believe the child needs special education or related services, and thus does not evaluate the child, the school district must notify the parents of their due process rights. Regarding the evaluation of the needs of students, schools may use the same process under Section 504 that they use for implementing IDEIA or they may have a separate process for evaluating the needs of students under Section 504 as long as they follow the requirements for evaluation specified in the Section 504 regulation. Parents of a child with a disability, whom they believe needs special education or related services, may request a due process hearing to challenge any actions regarding the identification, evaluation, or educational placement of their child. Schools may use the same procedures for evaluating the needs of students resolving disputes for both Section 504 and IDEIA. Thus, it is important that hearing officers are knowledgeable about the requirements of Section 504. School districts are required to follow Section 504 regulations and are allowed to develop a separate system of procedural safeguards to resolve Section 504 disputes. Section 504 specifies that school districts are required to provide procedural safeguards and inform parents of these procedures. The website for the U.S. Department of Education (2007) offers additional information regarding Section 504 and the education of children with disabilities. Guidelines regarding how to determine special education eligibility are discussed in Chapter 6.

Purpose and Plan of This Book

This book provides school professionals information they need to be better prepared to identify and address the needs of students with PTSD. Chapter 2 provides a review of the multiple influences and multifaceted etiology of PTSD.

Chapter 3 describes the prevalence and related epidemiological information for PTSD. Chapter 4 provides information about early-warning signs and opportunities to prevent PTSD. Screening tools are also reviewed in this chapter. Chapter 5 details the diagnostic criteria for PTSD and reviews the assessment tools available to aid in the clinical diagnosis of this disorder. Chapter 6 details the consideration of PTSD symptoms for psychoeducational assessments, the purpose of which is not necessarily to diagnose a clinical condition, but rather to document the effect of such on learning and to guide interventions. Finally, in Chapter 7, a summary of research examining the effectiveness of interventions for youth with PTSD is presented along with implementation considerations for the school setting.

Chapter 2

Causes

According to the *DSM-IV-TR*, PTSD is caused by exposure to an extreme traumatic stressor. This exposure may involve directly experiencing, witnessing, or learning about a traumatic event. The types of stressors that may generate PTSD involve actual or threatened death, serious injury, and/or other perceived threats to an individual's physical integrity (APA, 2000). Although exposure to such a stressor is necessary to the development of PTSD, it is far from sufficient (Broekman, Olf, & Boer, 2007). Clearly, all individuals exposed to an extreme traumatic stressor do not develop psychopathology (Blanchard et al., 1996; Flouri, 2005; King, Abend, & Edwards, 2001; Riggs, Rothbaum, & Foa, 1995). For example, while it has been estimated that just over 25% of children and adolescents in the general population are exposed to an extreme traumatic stressor at some point in their early lives (Costello et al., 2002), the lifetime prevalence of this disorder for children is estimated to be only 6–10% (Dyregrov & Yule, 2006). Thus, it is clear that the development of PTSD is complex and other factors play an important etiological role (Stein, Jang, Taylor, Vernon, & Livesley, 2002). Specifically, it would appear that PTSD is the result of reciprocal interactions between (a) traumatic event variables, (b) external factors operating in an individual's environment, and (c) internal personal vulnerabilities. The relationships among these variables are summarized in Fig. 2.1.

Traumatic Event Variables

Simply put, some traumatic stressors and experiences are more traumatic than others, and as a consequence, are more likely to cause PTSD. Specifically, certain *trauma types*, the relative *traumatic event severity*, and the extent of the individual's *traumatic event exposure* are associated with the development of PTSD.

Traumatic Event Type

The extant literature emphasizes that the risk of a specific traumatic stressor causing PTSD is influenced by the type of crisis event. Specifically, (a) event

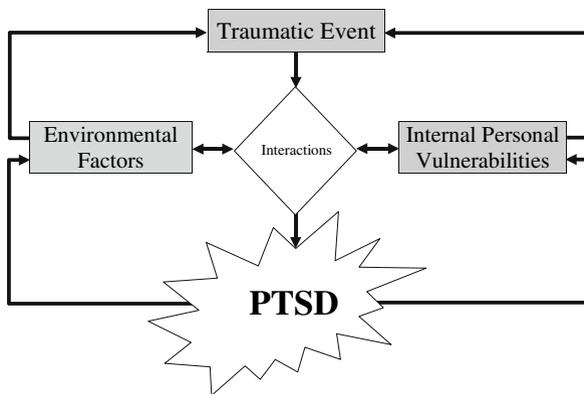


Fig. 2.1 This figure illustrates the relationships among the traumatic event, the environment that surrounds the trauma victim, and the internal personal vulnerabilities of the trauma victim. The reciprocal interactions among these variables lead to the development of PTSD, which in turn affects the environment and increases personal vulnerabilities

predictability, (b) the presence or absence of assaultive interpersonal violence, and (c) the presence or absence of fatalities all influence the development of PTSD (Brock, 2002b, 2006).

Predictability. It has been suggested that relatively unpredictable traumatic stressors (e.g., sudden unexpected death) are more likely to cause PTSD than those that are relatively predictable (e.g., death following a long terminal illness). Conversely, if a crisis is more predictable, there is typically a greater opportunity to prepare for the stressor. Therefore, it may be perceived as more controllable and consequently is less stressful (Saylor, Belter, & Stokes, 1997).

Assaultive interpersonal violence. Stressors involving assaultive violence are highly traumatic, especially when the perpetrator of the assault was someone close to the victim (Brock, 2002b; Davis & Siegel, 2000). For example, Pynoos and colleagues (1987) reported that 38% of children directly exposed to a schoolyard shooting displayed moderate-to-severe PTSD reactions. In contrast, experiencing traumatic stressors not associated with assaultive violence are much less likely to cause PTSD. For example, Breslau (1998) reported a lifetime PTSD prevalence rate of 2% among those in a serious car accident and 1% among those diagnosed with a life-threatening illness. Natural disasters (e.g., floods, earthquakes) are also typically less traumatizing than are human-caused traumatic stressors (e.g., war; Saylor, 1993). For example, Breslau (1998) reported a lifetime PTSD prevalence rate of 3.8% among those exposed to natural disasters. In contrast, McFarlane and De Girolamo (1996) reported that of the 21 studies that have examined PTSD among victims of human-caused acts of violence, only three reported rates lower than 25%. Among children, those exposed to accidents or natural disasters exhibit lower rates of psychopathology than those who have been exposed to physical or sexual abuse

(Pine & Cohen, 2002). It is important to acknowledge, however, that while studies such as those just reported give a general estimate of the types of stressors that are more or less likely to generate traumatic stress, each event is unique. In some circumstances, events that are typically not highly traumatic can become such. For example, Pynoos and colleagues (1993) reported that the rate of PTSD following a particularly destructive Armenian earthquake, which included children from cities closest to the earthquake's epicenter, was 91%!

Fatalities. Finally, it appears that simply learning about a nonfatal trauma (e.g., assault, injury, accident) experienced by a friend or relative conveys a low risk for PTSD. For example, Breslau (1998) reported a lifetime PTSD prevalence rate of only 2% among those exposed to traumatic stressors that did not involve fatalities. In comparison, data from the same survey suggested that learning about the sudden unexpected death of a friend or relative was associated with a PTSD rate of 14%.

Traumatic Event Severity

While the type of traumatic event is an important etiological factor, the severity of the event also plays a role in the development of PTSD (Linning & Kearney, 2004; Pine & Cohen, 2002). It is likely that this factor helps to account for the fact that some traumatic stressors, which might otherwise be considered unlikely to generate traumatic stress (e.g., natural disasters, accidental injury), are capable of generating PTSD. In other words, any traumatic stressor that is more intense and/or has a longer duration has a greater probability of causing PTSD.

Duration. Events that have a longer duration are typically associated with greater feelings of uncontrollability and resulting anxiety, despair, and depression (Carlson, 1997). Typically, acute traumatic stressors carry a lower risk for PTSD than chronic stressors that result in longer-term disruptions to a child's social environment (Pine & Cohen, 2002). Research supporting this observation includes reports that the amount of time a soldier is exposed to combat positively correlates with the development of PTSD (Buydens-Branchey, Noumair, & Branchey, 1990; Frye & Stockton, 1982; Sonnenberg, Blank, & Talbott, 1985). The amount of time that the traumatic stressor presents ongoing coping challenges also predicts PTSD (Linning & Kearney, 2004). Given these data one might expect that the survivors of Hurricane Katrina, which presented traumatic stressors for a relatively long period of time, will generate PTSD rates higher than typically seen following other natural disasters.

Intensity. More intense traumatic stressors are associated with greater amounts of property destruction and personal, physical, and emotional loss/damage. For example, war veterans who were exposed to and/or participated in abusive violence/atrocities have higher rates of PTSD than those not so exposed (Sonnenberg et al., 1985). Breslau and Davis (1987) found that among war veterans, involvement in war atrocities accounted for 29% of PTSD symptom

variance, whereas other combat stress accounted for only an additional 6% of symptom variance. Similarly, the intensity of a crime has been found to influence traumatic stress. For example, the victims of low-intensity crimes (e.g., burglary) have lower rates of PTSD than do victims of high-intensity crimes (e.g., assault; Resnick, Kilpatrick, Best, & Kramer, 1992).

Traumatic Event Exposure

The final traumatic event variable is the level, or degree, of exposure to the traumatic stressor. The greater the exposure, the greater is the risk for developing PTSD (Grieger, Fullerton, & Ursano, 2004; Lawyer et al., 2006; Norris et al., 2002; Pine & Cohen, 2002). Among children, this variable has been consistently associated with the development of PTSD following a variety of different trauma types (Dyregrov & Yule, 2006).

Physical proximity. There is a direct relationship between how close an individual is to a traumatic stressor and the probability that he or she will develop PTSD (Lawyer et al., 2006). This fact is clearly illustrated in Fig. 2.2, which presents the average traumatic stress rating scores by level of physical proximity to a traumatic stressor (i.e., a playground shooting; Pynoos et al., 1987). Especially high risk is conferred by having been physically injured by the traumatic event (National Institute of Mental Health [NIMH], 2002), with more severe injuries being associated with a greater probability of developing PTSD among young adults and children (Haden, Scarpa, Jones, & Ollendick, 2007; Khamis, 2005).

Emotional proximity. Although physical proximity is a powerful etiological force in the development of PTSD, it does not account for all cases of this disorder. It would appear that for some individuals, a close relationship with the

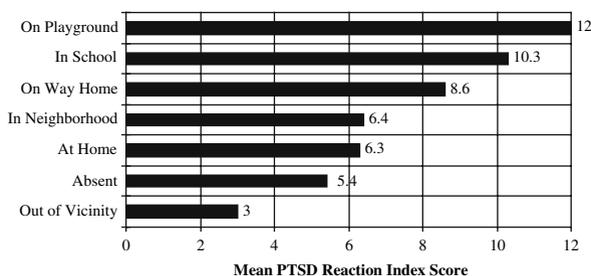


Fig. 2.2 Mean PTSD Reaction Index scores (which reflect the number of PTSD symptoms reported) by exposure to a playground shooting. On this measure, scores of 12 or greater suggest severe PTSD symptoms. These data illustrate that the number of symptoms increases as degree of exposure increases. ANOVA indicated significant differences between mean scores ($F = 16.06$, $df = 6$, $p < 0.001$)

Note. From “Life Threat and Posttraumatic Stress in School-Age Children,” by R. S. Pynoos et al., 1987, *Archives of General Psychiatry*, 44, p. 1059. Copyright 1987 by the American Medical Association. Reprinted with permission.

victim(s) of a traumatic stressor is associated with the development of PTSD (Brock, 2002b, 2006; Lawyer et al., 2006). Especially high risk is conferred by having a family member or close friend die (NIMH, 2002). Among children, the death of a parent is highly traumatic. For example, 52% of New York City public school students who lost a parent in the September 11th terrorist attacks were reported to have PTSD (Applied Research and Consulting et al., 2002).

Concluding Comments Regarding Traumatic Event Variables

While a necessary prerequisite to the development of PTSD, not all individuals exposed to traumatic stressors (even those directly exposed to highly traumatic events) will develop this psychopathology. Thus, it is clear that some people are more prone than are others when it comes to developing PTSD (Stein et al., 2002). As illustrated in Fig. 2.1, both external environmental factors and internal personal vulnerabilities are important factors in causing PTSD.

Environmental Factors

The child's pre-, peri-, and post-trauma environment is also a factor in the development of PTSD. A given traumatic stressor will have different effects depending upon the environment that surrounds the child. For example, parental reactions to the traumatic event influence how the event is experienced (Dyregrov & Yule, 2006) and social supports affect both acute and long-term stress reactions (Pine & Cohen, 2002). In addition, the environment affects the probability of experiencing a traumatic stressor in the first place (Khamis, 2005; Widom, 1999), as well as having the potential to generate durable internal vulnerabilities to traumatic stress (Imanaka, Morinobu, Toki, & Yamawaki, 2006).

Parental Reactions

Children's traumatic stress reactions are clearly influenced by the reactions of their parents (Dyregrov & Yule, 2006). Supporting this observation is the work of Green and colleagues (1991), who found greater maternal PTSD to predict greater child PTSD two years following a dam collapse and flood. Similarly, Nader and Pynoos (1993) have suggested that "there is a commonality in the level of anxiety among children and the adults in their environment" (p. 17). This research can be extrapolated to the school setting, in regards to how the adults within the school handle a stressful situation. For example, during the events of September 11, 2001, one of the authors worked in an elementary school where two of the teachers were former flight attendants. Their reaction to the unfolding events was more significant than other staff due to their emotional proximity to the event. The principal provided them substitutes for

their classrooms to help minimize the impact of their emotional responses on the children. The teachers were grateful for this support as they were concerned about their reactions elevating the anxiety of their students.

Social Supports

One of the most consistent findings regarding environmental correlates of PTSD is that various forms of social support exert a relatively significant moderating influence on both acute and longer-term reactions to traumatic stress (Pine & Cohen, 2002). Weak and/or deteriorating resources have been found to consistently increase the likelihood of an adverse outcome (Norris et al., 2002). Among adults, the results of two meta-analyses have suggested that a lack of social support predicts PTSD (Brewin, Andrews, & Valentine, 2000; Ozer, Best, Lipsey, & Weiss, 2003). The power of social support is far from surprising given that several specific school and community social resources have been shown to promote resiliency in children (Doll & Lyon, 1998). These resources include friendships, access to pro-social extrafamilial adult role models, and strong connections to pro-social organizations or institutions (such as school).

History of Environmental Adversity/Traumatic Stress

A history of prior exposure to traumatic stressors increases vulnerability to future traumatization and thus plays a role in the development of PTSD (Bremner, Southwick, Johnson, Yehuda, & Charney, 1993; Breslau, 1998). In fact, in the words of Yehuda and Hyman (2005) "... it may be that the real consequence of terrorism in children is to create a basis for risk for psychopathology in response to subsequent trauma exposure" (p. 1777). For example, a school shooting will be more traumatic for youth who have previously been the victims of violent acts such as child abuse. Nader, Pynoos, Fairbanks, and Frederick (1990) reported that following a school shooting, children who had experienced prior trauma had renewed PTSD symptoms related to the earlier experiences.

Chronic childhood adversity (or stress) in general, and child abuse in particular, is a major risk factor for PTSD (Bremner et al., 1993; Brewin, Andrews, & Valentine, 2000; Widom, 1999). Children who have experienced repeated traumatic stressors are more likely to display dissociative symptoms and mood swings than single-incident trauma survivors (Terr, 1991). Olf, Langeland, and Gersons (2005) suggest that such experiences often lead to impaired development of coping skills, a heightened automatic response to stress, and an increased risk for adult psychopathology. It has been suggested that such early life trauma generates durable internal personal vulnerabilities. Specifically, it is associated with persistent increases in corticotropin-releasing factor (CRF), which is the principle neuropeptide involved in the regulation of the

stress response (Nemeroff et al., 2006). Further, animal studies have suggested that early adverse experiences may increase the severity of PTSD later in life (Imanaka et al., 2006).

The child's relationship with his or her mother and the environment within which he or she is raised during early childhood is also associated with the development of PTSD (Imanaka et al., 2006). Children who are neglected (Widom, 1999) and have greater levels of anxiety in their homes (Davidson, Smith, & Kudler, 1989; Khamis, 2005) are at greater risk for PTSD.

Family Mental Health History

A family history of psychopathology also appears to increase vulnerability to a traumatic stressor (Bloch, Silber, & Perry, 1956; Green et al., 1991). For example, following a school bus kidnapping, Terr (1983) found relationships between the severity of children's PTSD and their pre-existing family pathology. Similarly, among adults, the results of two meta-analyses have suggested that a family history of psychopathology is associated with the development of PTSD (Brewin, Andrews, & Rose, 2000; Ozer et al., 2003). More specifically, a family history of coexisting anxiety and depression (Reich, Lyons, & Cai, 1996), or of extensive drug or alcohol abuse (Linning & Kearney, 2004), increase the risk for PTSD. In addition, from a study of the offspring of Holocaust survivors, an association between parental PTSD and the occurrence of this disorder among offspring has been documented (Yehuda, Halligan, & Bierer, 2001).

Poverty

Economic disadvantage can be both a direct and an indirect source of traumatic stress leading to the development of PTSD. Specifically, economic hardship is associated with greater exposure to traumatic stressors. Poverty may also reduce the availability of resources that mitigate the impact of traumatic events (Khamis, 2005). For example, while the lifetime prevalence of trauma exposure and resulting PTSD among youth in the general population has been estimated to be 25% and 6–10% respectively, among poorer urban populations the lifetime prevalence of trauma exposure and resulting PTSD is as high as 80% and 30% respectively (Buka et al., 2001; Costello et al., 2002; Dyregrov & Yule, 2006; Seedat et al., 2004).

Concluding Comments Regarding Environmental Factors

The environment may create conditions that lead to traumatic stress, generate internal personal vulnerabilities, and result in the individual not receiving

the support he or she needs to successfully cope with a traumatic stressor. Despite the influence of the environment, it is not sufficient, in and of itself, to generate PTSD. Even when placed within environments that increase the risk for traumatic stress reactions, not all individuals exposed to a traumatic stressor go on to develop PTSD. As illustrated in Fig. 2.1, it is clear that in addition to having experienced a traumatic event and coming from an environment that increases the risk for PTSD, individual personal vulnerabilities play an important etiological role.

Internal Personal Vulnerabilities

The child's internal personal vulnerabilities are also critical factors in the development of PTSD. A given traumatic stressor will have different effects depending not only on the nature of the traumatic stressor (what happened), the environment that surrounds the child (where the child is), but also on the child him- or herself (who the child is). Interactions among a variety of psychological factors, as well as genetic and biological differences, help to account for why some individuals are more vulnerable to PTSD.

Psychological Factors

A variety of psychological factors are associated with the development of PTSD. These factors include crisis perceptions and reactions, baseline mental health, developmental level, and the strategies employed to cope with the traumatic stressor.

Crisis perceptions and reactions. When it comes to causing PTSD, it would appear that the individual's subjective appraisal (i.e., perception) of the traumatic stressor is more important than the objective threat that the event presents (Ozer et al., 2003). Individuals who view a traumatic stressor as having been highly threatening to their own physical integrity or to that of significant others are more likely to develop PTSD (Giannopoulou et al., 2006; Gil & Caspi, 2006). For example, among a sample of cancer patients, perceived life threat was more strongly associated with PTSD symptoms than to an objective measure of the stage of their disease (Laubmeier & Zakowski, 2004). Similarly, in their cognitive model of PTSD, Ehlers and Clark (2000) proposed that chronic PTSD is to a significant extent caused by "excessively negative appraisals" of the traumatic stressor, appraisals that in turn result in "a sense of serious and current threat" (p. 342). This model has received recent support from research conducted with children who required emergency medical attention following a road traffic accident. Stallard and Smith (2007) reported that subjective appraisals of the trauma correlated significantly ($r = 0.47-0.66$) with a measure of PTSD.

Likely a reflection of the subjective appraisal of the traumatic stressor are the individual's crisis reactions, and it is not surprising to find that the magnitude of peri-traumatic psychological distress is predictive of PTSD (Simeon, Greenberg, Knutelska, Schmeidler, & Hollander, 2003). Specifically, persistent dissociation (which can involve perceptual changes, characterized by derealization, numbing/detachment, reduced awareness of surroundings, or depersonalization) is a predictor of PTSD. For example, in a study of trauma-exposed adults, those with clinically elevated levels of persistent dissociation had more than a 50% likelihood of developing PTSD (Briere, Scott, & Weathers, 2005). In addition, individuals who demonstrated panic (Galea et al., 2002) and who reported feeling intense fear, helplessness, and horror shortly after a traumatic event (Brewin, Andrews, & Rose, 2000) were more likely to have PTSD. Given these data, it is not surprising that Pine and Cohen (2002) suggest that clinicians should closely monitor children who demonstrate marked acute reactions to trauma as they are at high risk for psychiatric symptoms following exposure to a traumatic stressor. School professionals can also play an important part in this monitoring process.

Mental illness. In addition to the family mental health history previously discussed, a personal history of mental illness may also play an etiological role in the development of PTSD. Specifically, there is evidence that pre-existing mental illness influences the development of acute distress (Breslau, 1998), and that psychiatric and personality disorders may increase vulnerability to traumatic stress (Nader & Pynoos, 1993). For example, pre-existing major depression and anxiety disorders increase the risk of PTSD among both adults and children (Breslau, 1998; Breslau, Lucia, & Alvarado, 2006). Linning and Kearney (2004) reported that among maltreated and abused children, over one-quarter of PTSD symptom variance was accounted for by the presence of chronic depression or dysthymia. In addition, it is important to acknowledge that mental illness (i.e., anxiety disorder and substance use disorder) also predicts trauma exposure (Perkonig, Kessler, Storz, & Wittchen, 2000). For example, Breslau and colleagues (2006) report that teacher ratings of above normal externalizing problems at age 6 were associated with an increased risk of exposure to assaultive violence.

Developmental level. Developmental immaturity also appears to also play a role in the development of PTSD. Younger individuals are more likely to develop this disorder than more mature individuals (Giannopoulou et al., 2006). For example, among Palestinians exposed to traumatic stressors, rates of PTSD were significantly higher for adolescents than for adults (Khamis, 2005). Similarly, only 19% of adults exposed to a school shooting were diagnosed with PTSD, whereas 27% of children were diagnosed with this disorder (Schwarz & Kowalski, 1991). Further, among Vietnam-era soldiers, those who were younger when they went to war were found to be more likely to develop PTSD (King, King, Foy, & Gudanowski, 1996). In addition, it is important to acknowledge that development also predicts trauma exposure. Specifically, Breslau and colleagues (2006) report that childhood IQs above 115 were

associated with a decreased risk for exposure to traumatic stressors. This is important for school professionals to understand, as they work with children who demonstrate a wide variety of cognitive impairments. These impairments may limit a student's understanding of the event, ability to process the event, and utilization of coping strategies. It is important that a student's developmental level, in addition to his or her chronological age, be taken into consideration when he or she is exposed to a traumatic stressor.

Coping strategies. How the individual copes with the traumatic stressor is another variable associated with the development of PTSD (Hoge, Austin, & Pollack, 2007). In general, active or action-oriented coping strategies (e.g., positive thinking and dealing directly with crisis problems) predict better outcomes as compared to passive or avoidance coping strategies (Haden et al., 2007). Seeking out social support is an example of an active coping strategy that has been found to reduce the risk of PTSD (Ozer et al., 2003), whereas passive coping strategies such as social isolation, drinking alcohol, denial, and avoidance of trauma reminders are more often associated with the development of PTSD (Olf et al., 2005). For example, Stallard and Smith (2007) reported that among a group of 7- to 17-year-old traffic accident survivors, the cognitive coping strategies of suppression and distraction were positively correlated with a measure of PTSD ($r = 0.59$ and 0.58 respectively).

Locus of control. This factor, which has to do with the degree to which individuals feel they have power to control their own life circumstances, is associated with the development of PTSD. Specifically, internal locus of control has been suggested to be associated with lower levels of PTSD (Hoge et al., 2007), and external locus of control has been associated with higher levels of psychopathology following negative life events (Lutzke, Ayers, Sandler, & Barr, 1997; Silverman & Worden, 1992).

Clearly, the nature of the traumatic stressor has a lot to do with the degree to which a traumatic stressor is perceived to be controllable. As mentioned earlier, the predictability of the stressor will tend to promote the perception that the traumatic stressor is more controllable (i.e., it gives the individual time to prepare for, and adjust to, the stressful event). However, it would also appear that pre-trauma locus of control is associated with the development of PTSD. For example, among children exposed to war, an external locus of control was a powerful predictor of long-term traumatic stress reactions, although it was not a significant predictor of short-term PTSD reactions (Kuterovac-Jagodic, 2003). The fact that internal locus of control did not predict short-term reactions makes sense given the nature of war-related traumatic stressors, as children are in fact powerless to control such situations. After a war has ended, however, and it is more possible to control one's circumstances, the protective power of having an internal locus of control exerts itself and is associated with lower rates of PTSD.

Self-esteem. Self-esteem is an important coping resource (Doll & Lyon, 1998; Masten & Coatsworth, 1998) that has been associated with the development of PTSD. Specifically, relatively poor pre-trauma self-esteem, as well

as a decline in post-trauma self esteem, has been associated with PTSD among New York City adults following the World Trade Center disaster (Adams & Boscarino, 2006). Similarly, among children who were physically distant from the September 11, 2001 attacks, parental reports of pre-attack self-esteem were associated with lower post-attack symptoms of traumatic stress (Lengua, Long, Smith, & Meltzoff, 2005).

Genetic Factors

Unlike many other psychopathologies, there has been limited research on the genetic factors associated with the development of PTSD (Broekman et al., 2007). There is, however, evidence from family, twin, and candidate gene studies that there is a genetic component to the vulnerability that leads some individuals to develop PTSD when confronted with a traumatic stressor. For genes to be important in the development of PTSD it must run in families, and family studies have suggested that PTSD is more likely to occur in certain families (Broekman et al., 2007). For example, Yehuda and colleagues found that the offspring of Holocaust survivors were more likely to develop PTSD in response to traumatic stressors if their parents had chronic PTSD (Yehuda, Schmeidler, Giller, Siever, & Binder-Brynes, 1998; Yehuda et al., 2001). More definitive evidence of the role of genetic factors come from twin studies and candidate gene studies.

Twin studies. These studies compare identical (monozygotic) twins to fraternal (dizygotic) twins. While identical twins share 100% of their genes, fraternal twins (as is the case with other siblings) share only 50% of their genes. The extent to which identical twin pairs are more likely to have PTSD than fraternal twin pairs is used to estimate “heritability,” or the proportion of individual differences in PTSD within a population that can be attributed to genetic differences. These studies have found that identical twins are more likely to develop PTSD after exposure to a traumatic stressor than fraternal twins, with genetic factors accounting for approximately 20–38% of PTSD symptoms (Stein et al., 2002; True et al., 1993; Xian et al., 2000). In addition, Stein and colleagues (2002) found identical twins were not only more likely than fraternal twins to both have PTSD, but were also more likely to be exposed to assaultive traumatic stressors in the first place. This finding was interpreted as suggesting that genetics determines “PTSD proneness” by (a) fostering personality traits that result in the individual being more likely to find him- or herself in situations that lead to assaultive trauma, and (b) increasing emotional reactivity when faced with such a stressor (p. 1679).

Candidate gene studies. This research begins with the assumption that specific genes are likely to be associated with PTSD. These a priori assumptions are based upon clinical and empirical evidence that a specific gene is associated with the development of PTSD symptoms. Given the fact that PTSD is a complex

disorder that includes several different types of symptom clusters, it is not surprising that several different genes have been proposed as potential genetic sources of the vulnerability to traumatic stressors that lead to PTSD. The candidate genes that have been identified to date include the serotonin transporter gene (5-HTT), the dopamine receptor gene, the dopamine transporter gene, the glucocorticoid receptor gene, the GABA receptor gene, the apolipoprotein E gene, the brain-derived neurotrophic factor gene, and the neuropeptide Y gene. While slight differences (or polymorphisms) in the 5-HTT gene may play a role in the degree of response to stressful events, inconsistent results have been reported on the relationship between dopamine receptor polymorphisms and PTSD, and limited evidence is available regarding the other candidate genes (Broekman et al., 2007).

One study that has suggested that a polymorphism in the 5-HTT gene is important to the development of PTSD was conducted by Caspi and colleagues (2003), who suggested that this gene fine-tunes transmission of serotonin and as a result moderates the influence of stressful events. Slight differences in this gene are thought to play a role in the psychopathological reaction to traumatic stressors. Specifically, Caspi and colleagues divided the 847 study participants into three groups based on their 5-HTT genotype: (a) those with two copies of the short ("s") allele (s/s homozygotes; $n = 147$), (b) those with two copies of the long ("l") allele (l/l homozygotes; $n = 265$), and (c) those with one copy of the s allele (s/l heterozygotes; $n = 435$). The researchers were able to document associations between (and interactions among) depression, genotype, and stressful life events. Results revealed that among participants who experienced four or more stressful life events, the rate of depressive episodes was significantly greater for those with an s allele or over twice that of l/l participants who experienced the same number of stressful events (Harrison, 2004).

While twin and candidate gene studies are suggestive of the role of genetics in the development of PTSD, they do not allow any firm conclusions to be made (Broekman et al., 2007). It is possible that genetics both increase the probability of an individual experiencing a traumatic event and increase vulnerability to traumatic stress (e.g., by affecting the neurobiological mechanisms involved in the stress response). However, it is clear that genetics do not account for all of the variance in PTSD symptomology. Thus, as illustrated in Fig. 2.1 other factors are involved.

Neurobiological Factors

It has been suggested that the symptoms of PTSD are behavioral manifestations of changes in brain structure (see Figure 2.3) and function caused by traumatic stress (Bremner, Southwick, & Charney, 1999). As discussed above, it also appears that genetics may increase vulnerability to traumatic stress by affecting the availability of certain neurotransmitters (Caspi et al., 2003).

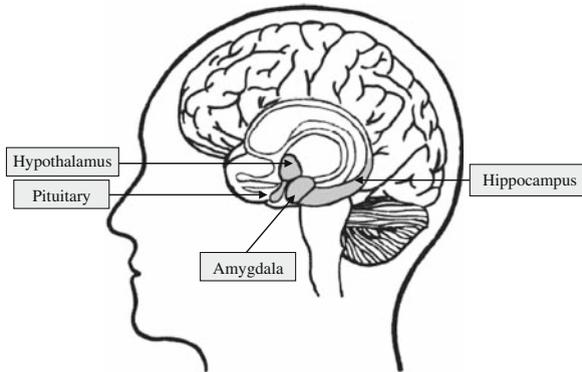


Fig. 2.3 This figure illustrates major brain structures that have been frequently implicated in PTSD. The *amygdala* is an almond-shaped mass near the middle of the hypothalamus and at the lower ends of the hippocampus. Its functions include control of automatic fear responses. The *hippocampus* is a horseshoe-shaped mass found bilaterally just below the thalamus. It has “horns” that curve back from the amygdala, and is important in forming long-term fear memories. The *hypothalamus* is located below the thalamus and at its base is the *pituitary* gland. Along with the adrenal glands (located on top of the kidneys) this “HPA axis” regulates hormones (e.g., cortisol) that help to control the response to fearful traumatic stressors; (About.com: Biology, n.d.; Yehuda & Hyman, 2005)

Given that PTSD involves a dysfunctional response to fearful or frightening situations (situations that typically initiate the fight-or-flight physiological response), neurobiological research has focused on brain structures and functions known to be associated with the fear response. For example, the amygdala and the hippocampus are brain structures known to be involved in the fear response and in the consolidation of fear memories. Specifically, they appear to be active in fear acquisition (i.e., learning what to fear) and the early stages of fear extinction (i.e., learning what not to fear; NIMH, 2007). Results of a recent meta-analysis have suggested that there are structural abnormalities in both of these brain regions among individuals with PTSD (Karl et al., 2006). These structural brain abnormalities may be linked to a higher susceptibility to PTSD (Broekman et al., 2007).

Another neurobiological function known to be related to the response to traumatic stressors is the hypothalamic-pituitary-adrenal axis (HPA axis). A part of the neuroendocrine system, the HPA axis is a complex set of interactions between the hypothalamus and the pituitary glands (located in the brain) and the adrenal glands (located at the top of each kidney). The HPA axis plays a critical role in how individuals respond to acute stress. Specifically, it is involved in turning on, maintaining, and turning off the increased releases of stress-related hormones (e.g., cortisol) generated by the perception of danger or threat. Dysregulation of the HPA axis and its feedback loop that turns off the arousal generated by threat perceptions has been associated with chronic PTSD. Relevant to the brain-structural abnormalities just mentioned is the

observation that the excessive cortisol production generated by this dysregulation is also believed to result in the structural hippocampal differences often found among individuals with chronic PTSD (Ozer & Weiss, 2004).

Concluding Comments Regarding Internal Personal Vulnerabilities

It is important to acknowledge that individual differences in genetics and neurobiology appear to only set the stage for PTSD. Environmental factors such as child abuse increase this risk by further effecting neurobiological development and psychological functioning. Further psychological factors such as coping style also influence how individuals adjust to trauma (NIMH, 2007).

Concluding Comments

As is the cases with other psychopathologies, the development of PTSD is complex. From our review of the literature (and as illustrated in Fig. 2.1), we suggest that it is reciprocal interactions among several variables (i.e., the traumatic event itself, the peri-traumatic environment that surrounds the trauma victims, and a variety of internal personal vulnerabilities) that appear to result in the neurobiological differences that cause PTSD symptoms.

Chapter 3

Prevalence and Associated Conditions

This chapter provides a review of research that estimates the incidence of traumatic stressors and PTSD. In addition, it explores conditions other than PTSD that may be a consequence of exposure to a traumatic event, and concludes with an examination of PTSD's association with other conditions.

Traumatic Event Exposure

PTSD is relatively unique among *DSM-IV-TR* diagnoses in that its criteria require exposure to a traumatic event (only Acute Stress Disorder also has this requirement; APA, 2000). Thus it is relevant to consider the percentage of individuals who have been exposed to what the *DSM* defines as an extreme traumatic stressor and who consequently have the potential of developing PTSD. This section will address traumatic event exposure among both adults and children. It will also present the prevalence of events that, while not meeting the *DSM-IV-TR* criteria for an extreme traumatic stressor, may nevertheless be potentially upsetting.

Adults. In the adult general population, traumatic event exposure is remarkably common. A review of studies reporting exposure to traumatic events found “modest” gender differences in exposure, with men being more likely to be exposed to traumatic stressors than women (Breslau & Kessler, 2001). For example, the National Comorbidity Survey, which studied 5,877 non-institutionalized civilians, ages 15 to 54 years, reported that 61% of males and 51% of females had experienced at least one traumatic stressor (Kessler et al., 1995). The most commonly experienced traumatic events included witnessing another person being injured or killed; being threatened by a weapon or physically attacked; and being involved in a fire, flood, natural disaster, or accident. Despite the observation that men are more likely to be exposed to a traumatic stressor, Kessler and colleagues reported that the overall percentage of individuals who develop PTSD after exposure to any traumatic event was 8.1% for men and 20.4% for women. Olf, Langeland, Draijer, and Gersons

(2007) offer their interpretation of the extensive body of research that has explored and attempted to explain these findings. Specifically, they state:

We found evidence that women's higher PTSD risk may be due, at least in part, to the type of trauma they experience (more interpersonal violence, particularly of a sexual nature), their younger age at the time of trauma exposure, their stronger perceptions of threat and loss of control, higher levels of peritraumatic dissociation, insufficient social support resources, and greater use of alcohol to manage trauma-related symptoms like intrusive memories and dissociation. (p. 197)

Even higher percentages of traumatic event exposure were obtained from data provided by the 1996 Detroit Area Survey of Trauma, which studied 2,181 randomly selected Detroit area residents, ages 18 to 45 years. Breslau and colleagues (1998) found that almost 90% of respondents reported exposure to a traumatic event at some point during their lives. Breslau and Kessler (2001) suggested that the higher estimates of trauma exposure were due to the more inclusive definition of qualifying stressors used after the publication of the *DSM-IV* (1994). It is important to recognize that in the *DSM-III* and *DSM-III-R*, stressors were defined as events that are "distressing to almost everyone" and as "generally outside the range of usual human experience" (APA, 1980, pp. 236, 238; APA, 1987, p. 250). As a result, the types of traumas viewed as sufficient to generate PTSD included military combat, physical assaults, natural disasters, witnessing violent aggression, and/or learning about a loved one's violent death.

According to Breslau and colleagues (1998), the most common traumatic events in this study were learning about traumas to others (62.4%) and the sudden unexpected death of a close friend or relative (60%). Other frequently occurring events included experiencing a physical injury or other shocking experience (59.8%) and assaultive violence (37.7%). Demographic factors associated with trauma exposure included race, education, income, residence, and marital status. Specifically, it was reported that the prevalence of assaultive violence was higher among whites (vs. nonwhites), those with low education and income (vs. those who were college graduates and had a high income), those residing in the central city (vs. other study areas), and those who were married (vs. those who were separated, widowed, or divorced). However, it is significant to acknowledge that associations with place of residence and marital status disappeared when race, education, and income were controlled. While other types of traumatic events were not associated with these demographic variables, it is important to note that exposure to assaultive violence was associated with the highest probability of developing PTSD (20.9%); however, overall, the probability of developing PTSD after exposure to any traumatic event was only 9.2% (Breslau et al., 1998).

School-aged children. As is the case for adults, traumatic event exposure is fairly common among children and adolescents. The Great Smoky Mountains longitudinal study, which randomly sampled and began to study 1,420 children when they were ages 9, 11, and 13 years, found that by age 16, just over 68%

reported having experienced at least one traumatic stressor (i.e., 30.8% reported exposure to one event, 37% reported exposure to two or more events, and 32.2% reported no event exposure; Copeland, Keeler, Angold, & Costello, 2007). Table 3.1 provides the prevalence of specific traumatic events.

As with adults, demographic factors are associated with trauma exposure among children. In particular, boys, ethnic minorities, and urban youth are at increased risk for witnessing violence (Copeland et al., 2007; Costello et al., 2002). In addition, the number of specific vulnerability factors (e.g., parental mental illness, family relationship problems, and environmental problems such as poverty) is linearly associated with the likelihood of experiencing a traumatic event. Costello and colleagues (2002) reported that while children with no such vulnerability factors had a less than 12% chance of exposure to an extreme traumatic stressor, those considered to be most vulnerable had a risk of trauma exposure that reached almost 60%. For educators working in schools with many students who display these risk factors, these statistics are especially relevant as they suggest that a significant percentage of students they serve will have been trauma exposed.

Parental mental illness and family relationship problems had the greatest overall impact on traumatic event exposure (Costello et al., 2002). However, poverty increased the risk of sexual abuse and traumatic events being associated with individuals familiar to the child. While these traumatic event exposure

Table 3.1 Percent Prevalence of Traumatic Events Among Children as Reported by Copeland et al. (2007)

Type of trauma	Lifetime prevalence percentage
Violence	24.7
Violent death of loved one	2.4
Violent death of sibling/peer	14.5
War, terrorism	0.1
Cause of death or severe harm	0.6
Victim of physical violence	3.1
Physical abuse by relative	7.2
Captivity	0.9
Sexual trauma	11.0
Sexual abuse	10.9
Rape	1.2
Coercion	4.3
Other injury or trauma	32.8
Diagnosis of physical illness	11.0
Serious accident	11.6
Natural disaster	11.1
Fire	5.9
Exposure to noxious agent	3.3
Witness to life event	23.7
Learned about life event	21.4

statistics are disturbing, it is important to acknowledge that Copeland and colleagues (2007) found that by 16 years of age only 13.4% of these children had developed some PTSD symptoms and less than 0.5% met full *DSM-IV* PTSD criteria. Consistent with the adult literature, violent or sexual trauma was associated with the highest rates of PTSD.

Special needs children. Very little research has been conducted addressing PTSD among special needs populations. However, Kish (2007) reported that 27% of students with special needs, in contrast to 23% of children without such needs, have been exposed to a traumatic event. While the majority of children with special needs had suffered from some form of physical illness and/or direct physical assault, the trauma exposure of most students without special needs involved having witnessed traumatic events. It is important to acknowledge that the exposure of special needs youth to traumatic stressors may likely be an underestimate; special needs students often have challenges communicating about trauma or abuse, and when they do communicate such, they may not be believed (Durity et al., 2004). Clearly, it is essential that school-based mental health professionals be aware of the fact that students with special needs may have difficulty reporting or discussing traumatic events and ensure that the trauma exposure, and subsequent trauma reactions of these students, do not go unnoticed.

One especially vulnerable population includes those with developmental disabilities. When compared to the general population, these children are 2–10 times more likely to be sexually abused and 1.5–10 times more likely to be physically abused than children without such challenges (Crosse, Kaye, & Ratnofsky, 1992). Deaf children are also more vulnerable to neglect, emotional, physical, and sexual abuse than children in the general population (Sullivan, Vernon, & Scanlon, 1987).

Another special needs population is homeless children. It has been estimated that on any given day there are 200,000 homeless children in the United States. Families make up 40% of the country's homeless population, and more than 90% of sheltered and low-income mothers have experienced physical and sexual assault over their lifetimes (Styron, Janoff-Bulman, & Davidson, 2000). Being homeless may lead to loss of community, routines, possessions, privacy, and security, all of which can increase vulnerability to traumatic experiences. In addition, when their special needs are identified, homeless youth often move before interventions can be implemented consistently. Not surprisingly, homeless youth have many risk factors (including traumatic event exposure) for the development and maintenance of psychopathology, and they are more likely to experience mental disorders such as PTSD (Vostanis, Tischler, Cumella, & Bellerby, 2001).

Finally, children who live and/or are schooled in inner-city environments might also be considered a special needs population, as they are also more likely to experience high rates of poverty, crime, drug use, and community violence. In particular, youth from inner cities, compared to those from other communities, are more likely to be exposed to violence (Mercy & Rosenberg, 1998; Schwab-Stone et al., 1995), and such exposure (e.g., seeing someone shot or attacked) is associated with PTSD symptomatology (Mazza & Reynolds, 1999).

Table 3.2 Percent Prevalence of Low-Magnitude Traumatic Events Among Children as Reported by Costello et al. (2002)

Event	Three-month prevalence percentage
New child in home	2.5
Pregnancy	1.1
Parental separation	1.1
Parental divorce	0.5
New parental figure	1.0
Moved house	6.2
Changed school	3.8
Lost best friend through move	3.3
Breakup with best friend	2.3
Breakup with girl/boyfriend	3.6
Parental arrest	1.1
Reduced standard of living	3.9
Forced separation from home	1.3

Potentially upsetting events. In PTSD “the stressor must be of an extreme (i.e., life-threatening) nature” (APA, 2000, p. 467). Because of this fact, it can be argued that the statistics regarding exposure to potentially psychologically traumatic events are underestimates (Briere & Scott, 2006). Additional data regarding the prevalence of such “low magnitude” events provided by Costello and colleagues (2002) are displayed in Table 3.2. For school mental health professionals, this is particularly relevant as many students experience such upsetting life events, which can disrupt development and daily functioning and may lead to the development of Adjustment Disorder. In addition, it has been suggested that these events increase the risk for exposure to an extreme traumatic stressor. Briere and Scott (2006) argue that a broader definition of “traumatic” be used and include any event that is upsetting and at least temporarily overwhelms the individual’s internal resources. They base this recommendation on the observation that those who experience major threats to psychological integrity can suffer as much as those who are physically traumatized, and they can respond well and benefit from trauma-focused therapies.

Prevalence of PTSD

This section provides prevalence estimates for adults and school-aged youth. It also reviews prevalence estimates for youth following a variety of specific types of traumatic events.

Adults. Twelve-month prevalence estimates suggest that 3.5% of American adults (ages 18 years and older), or about 7.7 million individuals in this age group, have PTSD (Kessler et al., 2005). A lifetime prevalence of 6.8% is suggested by the National Comorbidity Survey (Harvard School of Medicine, 2007). From this survey the lifetime prevalence of PTSD, as well as other

Table 3.3 National Comorbidity Survey Lifetime Prevalence Estimates of *DSM-IV* Disorders by Gender and Age Group (Harvard School of Medicine (2007))

<i>DSM</i> diagnosis	Total	Sex		Age group			
	%	Female	Male	18–29	30–44	45–50	60+
Anxiety Disorders							
Panic Disorder	4.7	6.2	3.2	4.2	5.9	5.9	2.1
Agraphobia without Panic	1.3	1.6	1.1	1.2	1.4	1.8	0.9
Specific Phobia	12.5	15.8	8.9	13.0	13.9	14.4	7.7
Social Phobia	12.1	13.0	11.1	13.3	14.5	12.6	6.8
Generalized Anxiety Disorder	5.7	7.1	4.2	4.3	6.5	7.6	4.0
Posttraumatic Stress Disorder	6.8	9.7	3.6	6.3	8.1	9.2	2.8
Obsessive-Compulsive Disorder	2.3	3.1	1.6	3.1	3.0	2.4	0.6
Adult/Child Separation Anxiety Disorder	9.2	10.8	7.4	12.4	11.1	9.2	3.1
Any Anxiety Disorder	31.2	36.4	25.4	32.9	37.0	34.2	17.8
Mood Disorders							
Major Depressive Disorder	16.9	20.2	13.2	16.0	19.3	20.1	10.7
Dysthymia	2.5	3.1	1.8	1.8	2.8	3.8	1.3
Bipolar I-II Sub Disorders	4.4	4.5	4.3	7.0	5.3	3.7	1.3
Any Mood Disorder	21.4	24.9	17.5	22.6	24.5	24.2	12.2
Impulse-Control Disorders							
Oppositional-Defiant Disorder	8.5	7.7	9.3	9.9	7.3	–	–
Conduct Disorder	9.5	7.1	12.0	10.8	8.4	–	–
Attention-Deficit/hyperactivity Disorder	8.1	6.4	9.8	7.8	8.3	–	–
Intermittent Explosive Disorder	7.4	5.7	9.2	12.6	8.8	5.3	2.4
Any Impulse-Control Disorder	25.0	21.6	28.6	27.0	23.4	–	–
Substance Disorders							
Alcohol Abuse with/without Dependence	13.2	7.5	19.6	14.5	16.4	14.1	6.3
Drug Abuse with/without Dependence	8.0	4.8	11.6	11.11	12.1	6.8	0.3
Nicotine Dependence	29.6	26.5	33.0	26.5	29.4	34.3	27.3
Any Substance Disorder	35.3	29.6	41.8	33.2	37.1	39.8	29.6

DSM-IV disorders, is provided in Table 3.3. As indicated in this table, Anxiety Disorders (the *DSM* classification within which PTSD is found) are exceeded only by Substance Disorders as the most common diagnoses (31.2% vs. 35.3%). Among females, Anxiety Disorders are the most common diagnoses (36.4%). Within the Anxiety Disorders classification, PTSD is the fourth most common diagnosis overall, with the 45- to 59-year-old age group having the highest

lifetime prevalence of this disorder (9.2%). Consistent with data from a variety of other sources (e.g., Davis & Siegel, 2000; Olf et al., 2007), females are more likely than males to be diagnosed with PTSD (9.7% vs. 3.6%).

School-aged youth. Children and adolescents appear to be at particular risk for developing PTSD (Norris et al., 2002), and within this population the lifetime prevalence of PTSD is estimated to be between 6 and 10% (Dyregrov & Yule, 2006). Of particular interest to the school-based mental health professional working in urban settings is the statistic that the prevalence of PTSD can be as high as 30% among some urban populations (Berton & Stabb, 1996; Buka et al., 2001; Seedat et al., 2004). Twelve-month prevalence estimates of PTSD among children and youth (ages 6 to 18 years) served in a variety of sectors of public care settings reported by Garland and colleagues (2002) are displayed in Table 3.4. Also of interest to the school-based mental health professional is the incidence of PTSD among youth currently being served in public school programs for students with emotional disturbance. These data suggest that within a given 12-month period, 2.4% of these youth have PTSD.

As is the case for adults, while boys are more likely to be exposed to a traumatic stressor, girls are more likely to develop PTSD. For example, Berton and Stabb (1996) report that while boys in an urban high school were more likely to report having been exposed to violent crimes, girls had higher scores on a measure of PTSD. Klingman and Cohen (2004) found that regardless of age, girls report more symptoms of anxiety, fear, emotionality, and PTSD than do boys. Two explanations were offered for these findings. One is that girls may be more sensitive to threatening stimuli than boys, and another is that masculine social patterns prevent boys from reacting and expressing their negative emotions freely, leading boys to exhibit more externalizing symptoms than girls. This may be linked to biological, psychological, or social differences and/or could be related to differences in the nature of the traumatic events to which men and women are typically exposed (Klingman & Cohen, 2004; Olf et al., 2007).

Prevalence of PTSD among youth following different types of crises. Saigh, Yasik, Sack, and Koplewicz (1999) provide an excellent review of the literature regarding the prevalence of PTSD following a variety of specific traumatic stressors. Table 3.5 provides the point prevalence estimate ranges of PTSD

Table 3.4 Twelve-Month Prevalence Estimates of PTSD Among Children in Public Care Settings (Garland et al., 2002)

Setting	AD	CW	JJ	MH	SED
Prevalence	3.5	1.7	3.1	3.0	2.4
<i>Age Group</i>	<i>6–11 years</i>	<i>12–15 years</i>	<i>16–18 years</i>		
Prevalence	1.2	2.3	3.1		
<i>Gender</i>	<i>Male</i>	<i>Female</i>			
Prevalence	1.8	3.5			

Note. AD = Alcohol and Drug Services, CW = Department of Social Services: Child Welfare, JJ = Juvenile Justice, MH = Mental Health, SED = Public School SED Programs.

Table 3.5 Point Prevalence Estimates of PTSD Following Different Traumatic Events (Saigh et al., 1999)

Event type (number of studies reviewed)	Prevalence estimate range
Terrorist Acts (3 studies)	19.0–69.0%
Criminal Victimization (3 studies)	23.9–27.1%
Sexual and/or Physical Abuse (11 studies)	0.0–70.8%
War (18 studies)	8.3–75.0%
Nuclear Contamination (2 studies)	0.0–05.0%
Flooding (1 study)	0.0%
Dam Collapse (1 study)	37.0%
Earthquakes (3 studies)	5.0–95.0%
Hurricanes (6 studies)	5.0–87.0%
Fires (2 studies)	6.7–57.2%
School Bus Accident (1 study)	19.7–58.6%

following different types of traumatic stressors as indicated by their literature review. From these data, it is clear that while not everyone exposed to a traumatic stressor develops PTSD, a variety of events are capable of generating this disorder. Significant to note is the broad range of point prevalence estimates (0–95%) generated by the studies reviewed. Saigh and colleagues suggest these differences may be due to a variety of factors including the fact that not all crises are created equal. Simply put, some are more traumatic than others. Another explanation offered for the broad range of prevalence estimates was significant variability between event occurrence and the assessment of PTSD symptoms (i.e., 1 week to 18 years). Five of the six longitudinal studies reviewed by Saigh and colleagues revealed that the longer the interval between the event and the assessment of PTSD, the lower the rate of PTSD. This can be interpreted as suggesting that a common course for this disorder is for symptoms to fade over time.

An additional traumatic stressor not addressed by Saigh and colleagues (1999) is that of a life-threatening illness. This stressor was added as a potential traumatic event with the fourth revision of the *DSM* (APA, 1994). It is now widely accepted that these events are also capable of generating PTSD (Butler, Rizzi, & Handwerger, 1996; Chalfant, Bryant, & Fulcher, 2004; Mehnert & Koch, 2007; Pelcovitz et al., 1998). Among children, a review of the literature conducted by Taïeb, Moro, Baubet, Revah-Lévy, and Flament (2003) suggested 2–20% of cancer survivors presented with moderate-to-severe PTSD symptoms, even many years after the conclusion of their cancer treatments. In one of the studies reviewed by Taïeb and colleagues, the lifetime prevalence estimate of PTSD was 35%. The fact that serious illnesses are capable of generating PTSD comes as no surprise given that these events often result in both children and parents being frightened and feeling helpless, while at the same time experiencing disruptions in family functioning and parent-child relationships. Coping skills are also challenged, as most people are not prepared for the onset of a life-threatening illness. In addition, children with these illnesses often must cope with frequent, painful,

and invasive medical procedures; physical discomfort, symptoms, and/or disfigurement; the side effects of medication; the potential for a shortened life expectancy (Davis & Siegel, 2000); and disruption in their academic learning and social relationships affiliated with school. Regarding this specific stressor, it is important to note that it is the perception of disease severity, not objective disease risk, that is most associated with PTSD. For example, as was mentioned in Chapter 2, among a sample of cancer patients, perceived life threat was more strongly associated with PTSD symptoms than to an objective measure of the stage of their disease (Laubmeier & Zakowski, 2004). Therefore, it is important for school-based professionals to consider and assess the child's and family member's perception of the disease threat, and not simply objective measures of disease severity.

Another traumatic stressor not addressed by the Saigh and colleagues (1999) review is that of motor vehicle accidents. This stressor has been well established as a cause of PTSD (Blanchard & Hickling, 1997; Blanchard et al., 2004; Ehlers, Mayou, & Bryant, 1998; Mayou, Bryant, & Duthie, 1993; Mayou, Tyndel, & Bryant, 1997). According to the National Center for PTSD, approximately 9% of individuals within the general population develop PTSD after surviving a car accident. Further, it has been reported that as the amount of physical injury and fear of dying increase, so do the odds of developing PTSD (Buckley, 2007). It is possible that the rate of PTSD among children and adolescents is even higher. For example, one hospital-based study found that 60% of children who were injured in an accident exhibited symptoms of PTSD one month after the injury and 40% continued to experience symptoms six months after the accident. Overall, younger children reported more symptoms of PTSD than adolescents, and children's ratings of their stress levels were much higher than the ratings offered by their parents and caregivers (University of California, San Francisco, 2000). As there are many car and bus accidents every year that involve students, it is important that school professionals monitor these youth for trauma reactions.

Other Consequences Associated with Traumatic Event Exposure

In addition to PTSD, there are other consequences associated with exposure to a traumatic event, of which school-based mental health professionals need to be aware. Specifically, there are other psychiatric disturbances, behavioral challenges, psychological reactions, interpersonal disturbances, and academic difficulties that may result from trauma exposure.

Psychiatric disturbances. In addition to developing PTSD, exposure to traumatic events increases one's risk for Major Depression and Substance Use Disorders (as compared with individuals who have not been trauma exposed; Breslau & Kessler, 2001). Symptoms of Mood and Anxiety Disorders are particularly common among children and adolescents who have been exposed to a trauma (La Greca & Silverman, 2006; Pine & Cohen, 2002). Other potential psychiatric

consequences of trauma exposure include phobias and somatic reactions (James, 1989). These disorders are explored further later in this chapter.

Psychological reactions. The psychological impact of trauma can include guilt, shame, identification with the aggressor, anxiety, fear, depression, numbing of emotions, repression, dissociation, distrust, denial, and loss of confidence (James, 1989). In addition, shame, or the negative evaluation of oneself, has been associated with traumatization among war veterans (Leskela, Dieperink, & Thuras, 2002). Another psychological consequence of trauma exposure can be suicidal ideation (James, 1989).

Behavioral regression. Very young children (i.e., infants and toddlers) who witness violence in either the home or community are at increased risk for behavioral regression. This may include a return to more immature behavior, sleep disturbances, emotional distress (e.g., crying, fears of being alone), regression of previously acquired skills (e.g., bedwetting, expressive language), temper tantrums, and clinging behaviors (Osofsky, 2004).

Interpersonal disturbances. Trauma may also adversely affect relationships. These relationship problems may be exhibited as difficulty trusting others, responding to authority, interacting with someone who reminds them of the perpetrator, setting boundaries, and asserting oneself. Other trauma reactions that may affect interpersonal relationships include a fear of being alone; a loss of safety, trust, and hope; and loss of control over one's life and relationships (James, 1989). In the school setting, educators may perceive some of these interpersonal disturbances as the student being "defiant" or a "bully" instead of associating these reactions with a traumatic event. While this will not *excuse* the behavior, it does help to *explain* behavior. Such awareness allows educators to develop interventions that can focus on building positive coping strategies and behaviors.

Academic disturbances. Among children with disabilities, traumatic event exposure may precipitate additional developmental delays, reading disabilities, and difficulties with comprehension (Brown, 2005). In addition, youth exposed to ongoing violence in the community or home may also have a sense of a foreshortened future, which can impact how students perceive education, social relationships, and successful attainment of educational goals (Davis & Siegel, 2000). For these students, academic goals and graduation may not hold relevance, thereby influencing the student's response to interventions and support offered by the school. It is important to acknowledge, however, that unless a student goes on to develop PTSD or another serious psychopathology, it is not anticipated that trauma exposure will result in significantly lower academic achievement (Saigh et al., 1997).

PTSD's Association with Other Conditions

This section explores specific features and conditions associated with PTSD. Specifically, it examines those features that are identified in the *DSM-IV-TR* and other separate diagnoses that often are associated with PTSD.

Associated features. According to the *DSM-IV-TR*, there are a number of descriptive features that are often associated with a diagnosis of PTSD. These include survivor guilt and interpersonal relationship difficulties, often as a consequence of avoidance symptoms. In addition, in more severe cases, auditory hallucinations and paranoid thinking may also be observed (APA, 2000).

Associated disorders. There are a number of separate and distinct clinical diagnoses that can precede, follow, or develop at the same time as the onset of PTSD. According to the *DSM-IV-TR*, these include “Major Depressive Disorder, Substance-Related Disorders, Panic Disorder, Agoraphobia, Obsessive-Compulsive Disorder, Generalized Anxiety Disorder, Social Phobia, Specific Phobia, and Bipolar Disorder” (APA, 2000, p. 465). Among children and adolescents, Attention-Deficit/Hyperactivity Disorder (ADHD), and Conduct and Oppositional Defiant Disorders (CD and ODD) are also frequently comorbid with PTSD.

Major Depressive Disorder, which is characterized by at least one Major Depressive Episode (i.e., at least two weeks with depressed mood or loss of interest/pleasure in most all activities; APA, 2000), should always be considered when working with individuals who have PTSD (Briere & Scott, 2006). The importance of doing so is emphasized by the fact that among psychiatric inpatients with Major Depressive Disorder, those with comorbid lifetime PTSD were more likely to have attempted suicide as compared to those without PTSD (75% vs. 54%; Oquendo et al., 2003). Major Depressive Disorder has been observed among 13.5–60% of children and adolescents with PTSD (Saigh et al., 1999). In this age group, it is important to note that the mood may present as irritable rather than sad (APA, 2000).

Sometimes complicating matters is the fact that, at times, the symptoms of depression are the presenting concern; as a result, the trauma history goes unnoticed. Among those whose depression includes psychotic features, decreased affect regulation and/or a tendency to be cognitively disorganized is often observed. In addition, some of these psychotic symptoms can become associated with the traumatic event (e.g., “hearing” the perpetrator calling the crisis victim’s name, gunshots). Given this possibility, it is important for the school mental health professional to be aware of the possibility of comorbid PTSD among students who present with psychotic symptoms (e.g., having recurrent and intrusive distressing recollections of the event, which may include images, thoughts, or perceptions).

Substance-Related Disorder, which involves the maladaptive use of substances (i.e., alcohol or drugs) that has “recurrent and significant adverse consequences” (APA, 2000, p. 198), is widely recognized in the literature as being comorbid with PTSD (Briere & Scott, 2006). Relative to the general population, substance abuse has been found to be four times higher among individuals with PTSD (Chilcoat & Breslau, 1998). There is also an association between trauma exposure and substance abuse (Katon, Zatzick, Bond, & Williams, 2006). Although Substance-Related Disorder is not often observed

as a comorbid condition among children and adolescents (Saigh et al., 1999), it should be considered if a student is known to abuse substances.

From data provided by the National Comorbidity Survey, it is suggested that both alcohol and drug abuse/dependence are more common among men than women. Among women with PTSD, the rate of alcohol or drug abuse/dependence was 27.9% and 26.9%, respectively, whereas the rate of alcohol or drug abuse/dependence among men with PTSD was 51.9% and 34.5%, respectively (Kessler et al., 1995).

Brown (2005) suggests that substance abuse is often a way to “self-medicate” posttraumatic distress and to avoid thinking about the trauma. While the emotional distress associated with traumatic event exposure and PTSD typically diminish over time, problems related to substance misuse often persist. Thus, it is important to inquire about substance use when assessing for PTSD, as treatment may also need to address these concerns.

Panic Disorder and Agoraphobia are also suggested to be comorbid with PTSD (APA, 2000; Leskin & Sheikh, 2002). Panic Disorder, which involves the presence of, and fear of, recurrent and unexpected panic attacks, has been reported among 2–15% of children and adolescents with PTSD (Essau, Conradt, & Petermann, 2000; Saigh et al., 1999). Agoraphobia, which involves a persistent fear of being trapped in situations or places without a way to escape easily and/or obtain help (APA, 2000), has been reported as being comorbid with PTSD in 1% of a community-based sample of 1,035 German adolescents (ages 12 to 17 years; Essau et al., 2000). Similarly, 2.8% of the residents of Alcalá de Henares (following the March 11, 2004, terrorist attacks in Madrid, Spain) had both PTSD and Agoraphobia (Gabriel et al., 2007). Significantly higher rates of co-occurring PTSD and Agoraphobia are observed among people with physical injuries. Specifically, 16.5% comorbidity was observed among those injured in a terrorist attack (Gabriel et al., 2007) and 21% comorbidity was observed among fire and motor vehicle accident victims (Maes, Mylle, Delmeire, & Altamura, 2000).

From data provided by the National Comorbidity Survey, it is suggested that both Panic Disorder and Agoraphobia are more common among women than men. Among men with PTSD, the rate of Panic Disorder was 7.3% and the rate of Agoraphobia was 16.1%. However, among women with PTSD, the rate of Panic Disorder was 12.6% and the rate of Agoraphobia was 22.4% (Kessler et al., 1995).

Obsessive-Compulsive Disorder (OCD), characterized by obsessions, compulsions, or both, is also associated with increased rates of PTSD. The obsessions and compulsions characteristic of OCD are time consuming and/or cause great distress and interfere with academic or social functioning (APA, 2000). OCD has been reported as being comorbid with PTSD in 3% of a community-based sample of 1,035 German adolescents ages 12 to 17 years (Essau et al., 2000).

Among children with PTSD 1–21% have been suggested to have a comorbid Generalized Anxiety Disorder (Essau et al., 2000; Saigh et al., 1999),

characterized by persistent excessive anxiety and worry or apprehension (APA, 2000). Individuals with PTSD invariably present with symptoms of anxiety due to the experience of danger and vulnerability associated with traumatic event exposure (Briere & Scott, 2006). It is important to note that “because anxiety is probably a final common pathway for a variety of ecological factors, some of which are not trauma related, the presence of generalized anxiety in any given individual does not necessarily mean that he or she has a trauma history” (Briere & Scott, 2006, p. 20). Therefore, school-based mental health professionals should be aware of the relationship between PTSD and Generalized Anxiety Disorder, but should not assume a causal connection between the two disorders.

Social and Specific Phobias are also suggested to be comorbid with PTSD (APA, 2000). Social Phobia, which involves a marked and persistent fear of embarrassment in social settings, has been reported in up to 21% of children and adolescents with PTSD (Essau et al., 2000; Saigh et al., 1999). Specific Phobia, which involves a marked and persistent fear of specific objects or situations, has been reported among 13.8% of a community-based sample of 1,035 German adolescents (Essau et al., 2000). Given that school is necessarily a social environment that may also include specific objects or situations that can be stressful, being aware of the association between these two disorders and PTSD is important. Such comorbidity will require specific intervention strategies to both the phobia and the underlying PTSD.

Bipolar Disorder, which includes occurrences of one or more manic or hypomanic episodes often mixed with one or more depressive episodes, is the final disorder mentioned by *DSM-IV-TR* as frequently co-occurring with PTSD (APA, 2000). Among a sample of 12- to 17-year-old youth receiving public sector outpatient psychiatric care in South Texas, 38.2% of Bipolar Disorder patients also had PTSD (Dilsaver, Benazzi, Akiskal, & Akiskal, 2007). Further, it was reported that within this sample comorbid Bipolar Disorder and PTSD was significantly related to a history of suicide attempts. This relationship suggests that when addressing comorbid PTSD and bipolar disorder, school-based mental health professionals will also need to be attentive to possible suicidal thinking and be comfortable completing suicide risk assessments.

Similarly, in a sample of 100 adults with Bipolar Disorder, it was found that 51% had a history of severe child abuse and 24% were identified as having co-occurring PTSD (Goldberg & Garino, 2005). Finally, Otto and colleagues' (2004) review of the literature representing 1,214 individuals with Bipolar Disorder suggested that the mean rate of comorbid PTSD was 16%, a rate approximately double the lifetime prevalence rates observed within the general population.

Although not specifically mentioned in *DSM-IV-TR* as being frequently comorbid with PTSD, disruptive behavior disorders are often comorbid with PTSD in children (Saigh et al., 1999). Several studies of children and adolescents have identified that among those with PTSD up to 25% also have ADHD,

up to 15.4% have a comorbid Conduct Disorder, and approximately 25% have Oppositional Defiant Disorder (Saigh et al., 1999). This is of particular relevance to students with high rates of discipline referrals who are viewed as being defiant or oppositional. These statistics suggest that it is important to investigate the possibility of a trauma history among these students so as to ensure that PTSD as an explanation of these behaviors is not overlooked.

Concluding Comments

Trauma exposure is remarkably common, and at least one-third of school-aged youth have been exposed to an event severe enough to have caused PTSD. It is important to acknowledge, however, that not all trauma-exposed individuals go on to develop PTSD, and only 6–10% of school-aged youth have this disorder. Rates vary substantially depending upon the type of traumatic event to which individuals have been exposed. Finally, it has been noted that PTSD is not the only consequence of trauma exposure; other psychiatric disorders have been observed following traumatic stressors and/or to be comorbid with PTSD. Therefore, it is important for the school-based mental health professional to be knowledgeable not only of PTSD symptoms, but also of other comorbid mental health diagnoses that can complicate an accurate diagnosis.

Chapter 4

Case Finding, Screening, and Referral

The goal of this chapter is to provide school-based mental health professionals with information and guidance that will alert them to the possible presence of PTSD and the need for diagnostic assessment. It begins with a discussion of the school-based mental health professional's roles, responsibilities, and limitations in the identification of PTSD. It then explores specific risk factors and warning signs, concluding with an examination of specific case finding and screening techniques.

Roles, Responsibilities, and Limitations of School-Based Mental Health Professionals

Although diagnosing PTSD is not a primary role of school psychologists (and in fact most are not trained to make this clinical diagnosis), they are responsible for case finding, screening, referral, and conducting a psycho-educational evaluation as indicated. Thus, it is critical they are able to utilize various screening and assessment tools to identify risk factors and warning signs, have a basic understanding of the complete diagnostic evaluation, and be familiar with treatment options available (Cook-Cottone, 2004). School-based mental health professionals are in a unique position to monitor students on a daily basis, conduct ongoing screening and identification, and provide information regarding various treatment options. These options include mental health services at school and/or referrals to professionals who are specially trained to work with individuals who have been exposed to traumatic events. School psychologists also have the opportunity to identify delayed-onset PTSD and help students integrate what they have learned in outpatient therapy into the school setting.

Although students with PTSD may be referred for special education or Section 504 eligibility assessments due to the effects of this disorder on school functioning, it has been our experience that the screening for and assessment of PTSD prior to determination of a disability is often neglected. The failure to meet this responsibility means that those suffering from trauma may go unnoticed and/or be misidentified, and their symptoms left untreated. This is

problematic, as failure to identify PTSD in a timely fashion can lead to the persistence of maladaptive behavior (Kish, 2007). Consequently, it is our belief that as a part of their psychoeducational assessment responsibilities, all school psychologists must have knowledge of PTSD and its consequences; and how to screen, assess, and refer. With this knowledge, they will be poised to help guide the student and his or her family toward obtaining appropriate services.

In addition to individual screening and assessment, school-based mental health professionals may also be responsible for conducting large-scale screening efforts following school-associated crisis events (Klingman & Cohen, 2004). Such psychological triage can help differentiate students who are at risk for developing PTSD (or other psychopathology) from those who might be expected to recover. This information can be used to select appropriate interventions. These interventions may include short- and long-term follow-up programs targeting students judged to be at risk for developing PTSD (Brock, 2002b).

To successfully fill their roles in the identification and assessment of PTSD, school-based mental health professionals need to be aware of the associated risk factors and warning signs that signify the need for further diagnostic assessment. Figure 4.1 illustrates the process of identifying PTSD beginning with the

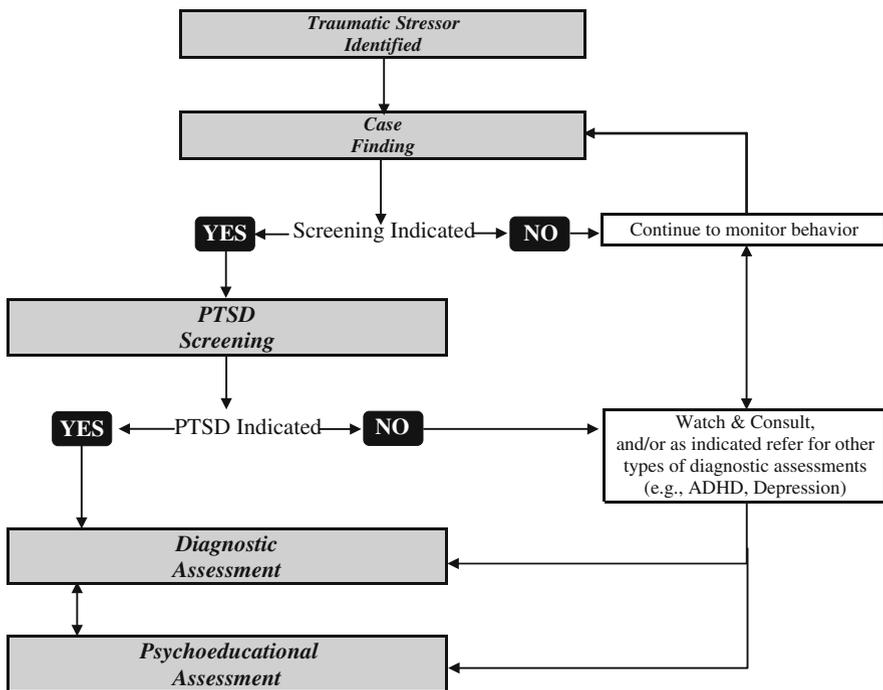


Fig. 4.1 Adapted from Filipek et al. (1999) and Brock, Jimerson, and Hansen (2006), this flowchart illustrates the process of initially identifying and screening for PTSD in the school setting

first signs of behavioral, emotional, or learning challenges (case finding), and continuing on through the completion of a diagnostic and/or psychoeducational evaluation. This chapter focuses on case finding and screening, and Chapters 5 and 6 provide a more in-depth discussion of the diagnostic assessment and psychoeducational evaluation process for students with PTSD. School psychologists have an important role in all phases of this process; however, it is important to acknowledge that their responsibilities for the diagnostic assessment are typically limited.

Risk Factors

Risk factors are variables which, when present, increase the odds of a student developing PTSD. Although not perfect predictors, the presence of risk factors should direct our attention towards warning signs, which are the concrete manifestations of psychopathology. Risk factors that increase the odds of developing PTSD include the nature of the traumatic event (i.e., the potential of the event to generate psychological trauma), the individual's traumatic event exposure (i.e., physical and emotional proximity to the trauma), threat perceptions (i.e., the degree to which the individual viewed the event as personally threatening), and internal and external individual vulnerabilities.

Figure 4.2 illustrates the relationships among PTSD risk factors, warning signs, potential development of PTSD, and recovery from (or adaptive coping with) traumatic event exposure. As illustrated in this figure, not all traumatic event exposures result in psychopathology. Given sufficient traumatic event exposure, some degree of initial crisis reactions can be considered universal. In many cases, these initial reactions are followed by adaptive coping and recovery, especially when the individual's traumatic event exposure is limited, he or she does not view the event as personally threatening, and/or is resilient. In what is typically a minority of cases, however, these reactions are durable enough to be classified as psychopathological and as representing Acute Stress Disorder and/or PTSD.

Figure 4.3 provides a checklist designed to help school mental health professionals begin to determine the probability that, following traumatic event exposure, an individual may be at risk for developing PTSD. It does so by operationalizing what the terms "low," "moderate," and "high" risk for psychological traumatization mean. When considering this checklist, and before proceeding further to discuss PTSD risk factors, it is important to acknowledge there are very few well-designed studies of variables that predict the initial development of PTSD in children (Foa, Keane, & Friedman, 2000). Therefore, at this time it is difficult to predict with certainty which children will or will not develop PTSD. However, once a child is identified as having PTSD, we are better at predicting PTSD severity based on these risk factors.

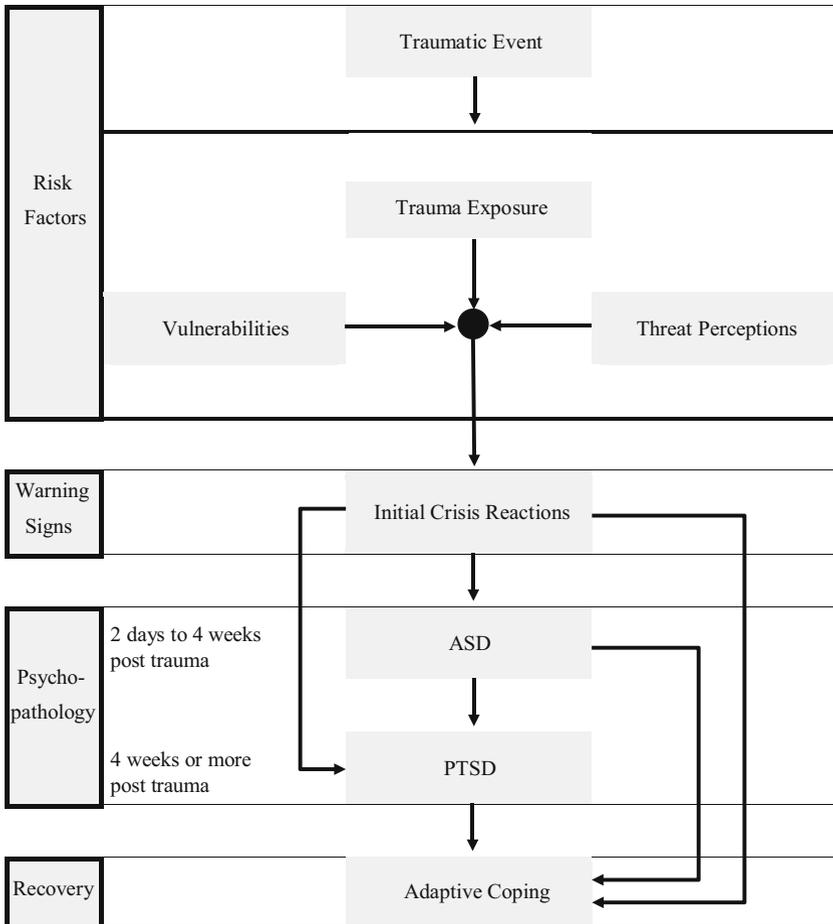


Fig. 4.2 The relationship between PTSD risk factors and warning signs, the development of Acute Stress Disorder (ASD) and PTSD, and recovery from traumatic event exposure

Nature of the Traumatic Stressor

Some traumatic events bring with them a greater risk for developing PTSD. This section reviews variables that affect the traumatizing potential of a crisis event, including predictability, type, and source of the event, as well as consequences of the trauma.

Trauma predictability. Crisis events can occur suddenly, unexpectedly, and without warning. A key factor that defines the event as traumatic is the relative lack of time to adjust or adapt to crisis challenges (Carlson, 1997) that overwhelms typical coping and problem-solving capacities. Thus, it has been suggested that relatively gradual and predictable events (e.g., death following long-term

Low Risk	Moderate Risk	High Risk
<p><i>Physical Proximity</i></p> <p><input type="checkbox"/> Out of vicinity of crisis site</p> <p><i>Emotional Proximity</i></p> <p><input type="checkbox"/> Did not know victims(s)</p> <p><i>Internal Vulnerabilities</i></p> <p><input type="checkbox"/> Active coping style</p> <p><input type="checkbox"/> Mentally healthy</p> <p><input type="checkbox"/> Good self regulation of emotion</p> <p><input type="checkbox"/> High developmental level</p> <p><input type="checkbox"/> No prior trauma history</p> <p><i>External Vulnerabilities</i></p> <p><input type="checkbox"/> Living with intact nuclear family members</p> <p><input type="checkbox"/> Good parent/child relationship</p> <p><input type="checkbox"/> Good family functioning</p> <p><input type="checkbox"/> No parental traumatic stress</p> <p><input type="checkbox"/> Adequate financial resources</p> <p><input type="checkbox"/> Good social resources</p> <p><i>Threat Perceptions</i></p> <p><input type="checkbox"/> Crisis not viewed as threatening</p> <p>Total:</p>	<p><i>Physical Proximity</i></p> <p><input type="checkbox"/> Present on crisis site</p> <p><i>Emotional Proximity</i></p> <p><input type="checkbox"/> Friend of victims(s)</p> <p><input type="checkbox"/> Acquaintance of victims(s)</p> <p><i>Internal Vulnerabilities</i></p> <p><input type="checkbox"/> No clear coping style</p> <p><input type="checkbox"/> Questions exist about pre-crisis mental health</p> <p><input type="checkbox"/> Some difficulties with self regulation of emotion</p> <p><input type="checkbox"/> At times appears immature</p> <p><input type="checkbox"/> Prior trauma history</p> <p><i>External Vulnerabilities</i></p> <p><input type="checkbox"/> Living with some nuclear members</p> <p><input type="checkbox"/> Parent/child relationship at times stressed</p> <p><input type="checkbox"/> Family functioning at times challenged</p> <p><input type="checkbox"/> Some parental traumatic stress</p> <p><input type="checkbox"/> Financial resources at times challenged</p> <p><input type="checkbox"/> Social resources/relations at times challenged</p> <p><i>Threat Perceptions</i></p> <p><input type="checkbox"/> Crisis viewed as dangerous, but not a life threat</p> <p>Total:</p>	<p><i>Physical Proximity</i></p> <p><input type="checkbox"/> Crisis victim or eyewitness</p> <p><i>Emotional Proximity</i></p> <p><input type="checkbox"/> Relative of victim(s)</p> <p><input type="checkbox"/> Best friend of victim(s)</p> <p><i>Internal Vulnerabilities</i></p> <p><input type="checkbox"/> Avoidance coping style</p> <p><input type="checkbox"/> Pre-existing mental illness</p> <p><input type="checkbox"/> Poor self regulation of emotion</p> <p><input type="checkbox"/> Low developmental level</p> <p><input type="checkbox"/> Significant prior trauma history</p> <p><i>External Vulnerabilities</i></p> <p><input type="checkbox"/> Not living with any nuclear family members</p> <p><input type="checkbox"/> Poor parent/child relationship</p> <p><input type="checkbox"/> Poor family functioning</p> <p><input type="checkbox"/> Significant parental traumatic stress</p> <p><input type="checkbox"/> Inadequate financial resources</p> <p><input type="checkbox"/> Poor or absent social resources</p> <p><i>Threat Perceptions</i></p> <p><input type="checkbox"/> Crisis viewed as life threatening</p> <p>Total:</p>

Fig. 4.3 Developed by Brock (2006) for use in the National Association of School Psychologists' PREPARE curriculum (*Crisis Intervention and Recovery: The Roles of the School-Based Mental Health Professional*), this figure offers a checklist designed to operationalize psychological traumatization risk levels (i.e., what "low," "moderate," and "high" risk look like)

terminal illness) are less traumatic than those that are sudden and unpredictable (e.g., accidental death, random shooting, tornado; Brock, 2006). When a crisis is more “predictable,” there is an increased opportunity to prepare and make necessary cognitive and emotional adjustments, which in turn can facilitate perceptions that the event is more controllable, and consequently less stressful (Saylor et al., 1997).

Trauma type. It has been suggested that events that are naturally occurring or an “act of God” (e.g., earthquakes) tend to be less traumatizing than those events that are man-made (Brock, 2006). In addition, generally speaking, crisis events that last longer are associated with more severe distress (Matsakis, 1994; Saylor, 1993) due to the duration of crisis exposure.

Trauma source. Just as the type of the trauma needs to be considered, the source of the injury or trauma threat is also important. Events that are due to accidents or illnesses are typically less threatening than those that are intentional or due to assaultive violence. For example, while Pynoos and colleagues (1987) reported 38.4% of children directly exposed to a school shooting displayed moderate-to-severe PTSD, Breslau (1998) reported a lifetime PTSD prevalence rate of 2.3% among those involved in a serious car accident and 1.1% among those with a life-threatening illness.

Trauma consequences. It is also important to acknowledge that the presence or absence of fatalities can significantly increase the probability of psychological trauma. Crisis events that are associated with fatalities generate a greater risk for the subsequent development of PTSD than do those events that result in nonfatal injury. For example, Breslau (1998) reported a lifetime PTSD prevalence rate of 2.2% among those who learned about the nonfatal trauma (i.e., sexual/physical assault, serious injury/accident) of a significant other. In contrast, learning about the sudden and unexpected death of a friend or relative was associated with a lifetime prevalence PTSD rate of 14.3%.

Traumatic Event Experiences

The National Institute of Mental Health (NIMH, 2002) suggests that anyone with sufficient exposure to a traumatic event can, and most likely will, display initial crisis reactions. However, a guiding principle in the immediate post-incident phase is to expect recovery. Nevertheless, how the individual experiences the traumatic event is a risk factor for the subsequent development of PTSD. Therefore, it is important that psychological triage and assessment of risk factors is conducted to document the degree to which individuals are physically and emotionally proximal to a crisis event, and the degree to which they view it as personally threatening.

Physical proximity. As stated in Chapter 2, closer physical proximity to a traumatic event increases the risk of psychological trauma (Brock, 2006; Ronen, 2002) and proximity to the traumatic event is one of the factors that

consistently predicts the development of PTSD among children (Foa et al., 2000; Klingman & Cohen, 2004). For example, Russoniello and colleagues' (2002) research with fourth-grade children six months after Hurricane Floyd found that those whose homes were flooded were three times more likely to report symptoms of PTSD than those whose homes were not flooded. Obviously, those whose homes were flooded were physically closer to this traumatic event than those whose homes were not flooded. Further evidence of the importance of physical proximity is provided by Galea and colleagues (2002). These researchers found that after the September 11th terrorist attacks, residents of Manhattan Island who lived between 110th St. and Canal St. (north of the World Trade Center) had a significantly lower rate of PTSD than those who resided at what was considered to be ground zero (i.e., south of Canal St.; 6.8 vs. 20% reported PTSD).

The assessment and treatment of PTSD can be further complicated if the traumatic event happened in the school setting, as such proximity to a traumatic event means that it may be re-experienced each day the student is at school. This will need to be taken into consideration during the screening, assessment, and referral process.

As highlighted in Chapter 2, it is also important to acknowledge that those who are exposed to chronic traumatic stressors have an increased likelihood of developing PTSD (Bremner et al., 1993). This includes students who live in inner cities and/or other high-crime neighborhoods, and those who are exposed to domestic violence or ongoing sexual abuse. These factors may impact the immediate interventions that are chosen to support the child. More specifically, ensuring physical safety and security will need to precede psychological interventions (Barenbaum, Ruchkin, & Schwab-Stone, 2004).

Emotional proximity. After physical proximity, emotional proximity is the next most powerful traumatic stress risk factor (Brock & Davis, 2008). This includes knowing someone who was emotionally proximal to the event and/or being exposed to media reports. Consequently, individuals who have close relationships with crisis victims should be made crisis intervention treatment priorities. This also includes those who have a friend who knew someone killed or injured as they will often be exposed to the emotional aftermath due to their relationship and conversations with their friends (Brock, 2006; Brown & Goodman, 2005).

Threat perceptions. While physical and emotional proximity are important traumatic stress risk factors, it can be argued that the individual's perceptions of the traumatic stressor can be just as important (Brock, 2006). The perception of threat is one of the factors that consistently predicts the development of PTSD among children (Foa et al., 2000; Klingman & Cohen, 2004). Therefore, in looking at risk factors, it is not just the objective aspects of the event that need to be considered, but also the subjective perceptions of the person impacted. Younger children who exaggerate and/or perceive the situation as more dangerous are at higher risk for developing PTSD than those who do not share such perceptions. Negative appraisals combined with younger developmental levels

increase potential PTSD development. In a recent study, the majority of traumatic stress variance among young children was accounted for by negative appraisals of future harm (Bryant, Salmon, Sinclair, & Davidson, 2007).

While traumatic event experiences are important risk factors, it is also important for school-based mental health professionals to be knowledgeable of the individual personal vulnerabilities that serve to further increase the risk for PTSD. These factors can broadly be classified as both internal and external.

Internal Vulnerability

Internal vulnerabilities are personal characteristics, traits, and experiences operating within the trauma victim. These factors can significantly affect an individual's response to a traumatic event. School-based mental health professionals are at an advantage when it comes to risk screening if they have knowledge of these factors. These include mental health history, trauma history, developmental level, and psychological resources.

Mental health history. Preexisting mental health conditions such as Anxiety Disorders, ADHD, Oppositional Defiant Disorder, Conduct Disorder, and Substance Abuse Disorder increase the risk level of a student developing PTSD after a traumatic event (Brock, 2006; Foa et al., 2000). In fact, according to the NIMH (2002) the existence of pre-existing mental illness generates an exception to the rule that following traumatic event exposure we should expect recovery. Thus, vigilance for the warning signs of PTSD should be especially acute among those with a history of mental illness.

Trauma history. Those with prior losses and/or a trauma history of their own are also at higher risk for developing PTSD with each subsequent trauma. Those with repeated traumatic stressors are at higher risk for dissociation and mood swings when compared to those without such a history (Brock, 2006). Genetic sources of vulnerability (as described in Chapter 2) can also increase the risk of PTSD.

Developmental level. In the case of a threatening event, when all other variables are held constant, the lower the developmental level of the student, the greater the likelihood of psychological trauma (Brock, 2006, Giannopoulou et al., 2006; Kish, 2007) and higher levels of PTSD symptoms (McNally, Bryant, & Ehlers, 2003). Conversely, youth with more advanced cognitive skills are typically better able to cope with problematic situations (Ronen, 2002). Younger students tend to have less well-developed coping skills, smaller support networks, and less-developed emotional regulation (Lonigan, Phillips, & Richey, 2003), which increases their vulnerability to traumatic stressors.

Psychological resources. Coping style, emotional regulation, locus of control, and self-efficacy are all important psychological resources that can greatly impact a student's ability to cope with a traumatic stressor. As summarized in

the PREPaRE curriculum by Brock (2006), resiliency research makes a distinction between active and avoidance coping strategies. Active coping strategies are those wherein direct and deliberate actions are taken to solve crisis problems such as accepting the event, utilizing naturally occurring support systems to process the event, or becoming involved in an activity to help others. Avoidance coping strategies are those that involve thoughts and actions that attempt to deny or take the focus away from the traumatic situation (e.g., excessive alcohol use) and inhibit the individual from performing or participating in positive, proactive actions to return to pre-crisis functioning levels. Avoidance coping can lead to higher incidences of mental health issues and thus can be considered a risk factor signaling the need for PTSD risk screening and referral.

Regulation of emotion is also important in determining how a student copes with a traumatic stressor. Those with easy temperaments are more likely to adjust to the traumatic event, whereas those with more difficult temperaments are at an increased risk for developing traumatic reactions and symptoms. In addition to emotional regulation, those with high self-efficacy, intact self-esteem, hope, optimism, and perceived inner control (internal locus of control) are at lower risk of developing traumatic symptoms. Survivors' perceptions of their ability to cope are critical as they are more apt to cope successfully if they believe they can do so (Norris, Byrne, Diaz, & Kaniasty, n.d.).

External Vulnerability

While internal vulnerabilities are variables that operate within the individual, external vulnerabilities are those factors that surround the individual. In other words, they can be considered environmental risk factors.

Parental reactions and family history. Parent and family functioning are key environmental risk factors. In fact, parental trauma-related distress is one of the factors that consistently predict the development of PTSD among children (Foa et al., 2000; Klingman & Cohen, 2004). If there is parent conflict and irritability, PTSD, anxiety, and/or psychiatric problems, parental suppression of awareness about the child's symptoms, and/or parental behaviors that induce guilt and anxiety, the child is at greater risk for developing PTSD (Klingman & Cohen, 2004). In addition, family chaos, inadequate family cohesion, unhealthy family boundaries (i.e., enmeshed or detached), and family isolation from interactions with others outside the home adversely affect a student's ability to adaptively cope with an adverse event (Klingman & Cohen, 2004; Roberts, 2003). Conversely, research has shown that positive parent-child relationships and well-functioning families promote resiliency and decrease the likelihood of traumatic stress (Doll & Lyon, 1998). Those living in two-parent households tend to have fewer trauma symptoms (Singer, Flannery, Guo, Miller, & Leibbrandt, 2004) and fewer cases of PTSD are seen among those who live with their families (Yorbik, Akbiyik, Kirmizigul, & Söhmen, 2004).

Poverty. Often associated with community violence and a lack of health care resources, poverty is at the very least an exacerbating factor in the development of PTSD. For example, a history of exposure to community violence can exacerbate the effects of a current stressor and chronic exposure to traumatic situations increases the likelihood of PTSD development (Roberts, 2003).

Social resources. Children deprived of basic social (e.g., family support systems, positive peer groups) and psychological supports (e.g., encouragement to develop personal strengths, support in expression of feelings) will have a more difficult time adjusting to traumatic events and are at higher risk for PTSD. Thus, students who are considered to be “alone” and without caring peer and adult relationships should be considered at greater risk for developing PTSD. Conversely, students with these resources are less likely to develop PTSD (King, King, Fairbank, Keane, & Adams, 1998; Terr, 1983). School-based mental health professionals can play an integral role in facilitating positive adult connections and relationships exist at school.

PTSD Warning Signs

Warning signs are the concrete manifestations of traumatic stress. The severity of initial crisis reactions appears to influence the development of PTSD (Matsakis, 1994). Especially when displayed in conjunction with risk factors, warning signs increase the level of concern and help to direct the actions that need to be taken. In situations where traumatic stressors are unknown (as is often the case in child abuse), PTSD warning signs may be the first indication that a student has been exposed to trauma. Thus, it is important to be attentive to these reactions even in the absence of a known trauma history.

Early Emotional, Cognitive, Physical, and Behavioral Warning Signs

Table 4.1 lists some of the more common effects of traumatic event exposure. Although in the immediate aftermath of traumatic events these reactions should not necessarily be considered pathological (NIMH, 2002), they can nevertheless be considered early warning signs of traumatic stress. In particular, a higher level of acute distress (as operationalized by a PTSD symptoms checklist) in the immediate aftermath of a traumatic event is a powerful predictor of PTSD (Denson, Marshall, Schell, & Jaycox, 2007). More specifically, individuals who demonstrate significant peri-traumatic dissociative or panic reactions and have difficulty regulating arousal levels (e.g., have exaggerated startle responses, disturbed memory and concentration, and sleep disturbances; are hypervigilant and irritable) are more likely to develop PTSD (Foa et al., 2000; McFarlane & Yehuda, 1996; Wong, Looney, Michaels, Palesh, & Koopman, 2006). On the

Table 4.1 Common Reactions to Traumatic Event Exposure

Internalizing warning signs		Externalizing warning signs	
<i>Emotional effects</i>		<i>Physical effects</i>	
<ul style="list-style-type: none"> ● Emotional effects ● Shock ● Anger ● Despair ● Terror/Fear ● Guilt ● Phobias 	<ul style="list-style-type: none"> ● Sadness ● Grief ● Irritability ● Hypersensitivity ● Helplessness/ Hopelessness ● Loss of pleasure from activities ● Dissociation 	<ul style="list-style-type: none"> ● Fatigue ● Insomnia ● Sleep difficulty ● Overtly alert ● Startle response ● Become sick easily 	<ul style="list-style-type: none"> ● Gastrointestinal problems ● Decreased appetite ● Decreased libido ● Headaches
<i>Cognitive effects</i>		<i>Interpersonal/behavioral effects</i>	
<ul style="list-style-type: none"> ● Impaired concentration, decision-making ability, and memory ● Disbelief ● Confusion and distortion 	<ul style="list-style-type: none"> ● Worry ● Self-blame ● Decreased self-esteem and self-efficacy ● Intrusive thoughts/memories ● Nightmares 	<ul style="list-style-type: none"> ● Alienation ● Social withdrawal/isolation ● Increased relationship conflict ● Work/School impairment ● Refusal to go to school ● Avoiding reminders 	<ul style="list-style-type: none"> ● Crying easily ● Change in eating patterns ● Tantrums ● Regression in behavior ● Risk taking ● Aggression

Adapted from Young, Ford, Ruzek, Friedman, and Gusman (1998); and Speier (2000).

other hand, it may be that distressing and intrusive memories are not as powerful at predicting PTSD and may be indicators of normal reappraisal (McFarlane & Yehuda, 1996). Some warning signs, such as avoidance of traumatic reminders and emotional numbing, can be mistaken for other internalizing problems besides PTSD (McDermott & Palmer, 1999), so good screening and diagnosis is imperative.

Acute Stress Disorder (ASD)

The *DSM-IV-TR* diagnostic criteria of ASD are provided in Table 4.2. Although somewhat controversial, an ASD diagnosis can be considered a PTSD warning sign (Brewin, Andrews, & Rose, 2003). In particular, it has been suggested that the ASD symptoms of peri-traumatic dissociation predict PTSD (Birmes et al., 2003). ASD and its relation to the developmental course of PTSD is discussed in greater detail in Chapter 5.

Table 4.2 *DSM-IV-TR* Diagnostic Criteria for Acute Stress Disorder

-
- A. The person has been exposed to a traumatic event in which both of the following were present:
- (1) the person experienced, witnessed, or was confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others
 - (2) the person's response involved intense fear, helplessness, or horror
- B. Either while experiencing or after experiencing the distressing event, the individual has three (or more) of the following dissociative symptoms:
- (1) a subjective sense of numbing, detachment, or absence of emotional responsiveness
 - (2) a reduction in awareness of his or her surroundings (e.g., "being in a daze")
 - (3) derealization
 - (4) depersonalization
 - (5) dissociative amnesia (i.e., inability to recall an important aspect of the trauma)
- C. The traumatic event is persistently reexperienced in at least one of the following ways: recurrent images, thoughts, dreams, illusions, flashback episodes, or a sense of reliving the experience; or distress on exposure to reminders of the traumatic event.
- D. Marked avoidance of stimuli that arouse recollections of the trauma (e.g., thoughts, feelings, conversations, activities, places, people).
- E. Marked symptoms of anxiety or increased arousal (e.g., difficulty sleeping, irritability, poor concentration, hypervigilance, exaggerated startle response, motor restlessness).
- F. The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning or impairs the individual's ability to pursue some necessary task, such as obtaining necessary assistance or mobilizing personal resources by telling family members about the traumatic experience.
- G. The disturbance lasts for a minimum of 2 days and a maximum of 4 weeks and occurs within 4 weeks of the traumatic event.
- H. The disturbance is not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a general medical condition, is not better accounted for by Brief Psychotic Disorder, and is not merely an exacerbation of a preexisting Axis I or Axis II disorder.
-

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Developmental Variations in Warning Signs

Age and developmental levels influence a child's memory, perception, and understanding of the traumatic event, as well as his or her coping abilities. Foa and colleagues (2000) highlight the importance of framing the child's exposure to traumatic stress within a developmental framework. According to Dyregrov and Yule (2006), children display a wide range of stress reactions following exposure to a traumatic event, which vary with age. Specifically, their literature review suggests that "younger children display more overt aggression and destructiveness, and may also show more repetitive play (and drawing) about the traumatic event, as well as behavioural re-enactments" (p. 176). Among preschoolers, there is less agreement regarding the range and severity of stress reactions and consequently, as will be discussed in Chapter 5, Scheeringa and colleagues (Scheeringa, Zeanah, Drell, & Larrieu, 1995; Scheeringa,

Zeanah, Myers, & Putnam, 2003) have suggested alternative PTSD criteria for young children. Over the age of 8 to 10 years, the stress reactions of children become more similar to those seen among adults. In adolescence a common reaction is a sense of a foreshortened future.

When educating school staff about traumatic stress warning signs, it is important that they be made aware of the variations in warning signs exhibited at different developmental levels. Table 4.3 provides warning signs according to developmental stages. Finally, as mentioned in Chapter 2, it is important to note that developmental stages do not always correlate to chronological age, as those with developmental disabilities may exhibit warning signs closer to their cognitive developmental level, than their chronological age.

It is also important to consider that time can have a different meaning for children than what it has for adults. A young child’s sense of time is limited, so

Table 4.3 PTSD Warning Signs at Different Developmental Levels

<i>Preschool</i>	
<ul style="list-style-type: none"> ● Decreased verbalization ● Increased anxious behaviors ● Bedwetting ● Fears (e.g. darkness, animals) ● Loss or increase in appetite ● Fear of being abandoned or separated from caretaker ● Reenactment of trauma in play 	<ul style="list-style-type: none"> ● Cognitive confusion ● Regression in skills (e.g. loss of bladder/bowel control; language skills) ● Thumb sucking ● Clinging to parents/primary caretakers ● Screaming, night terrors ● Increased anxiety
<i>School-aged</i>	
<ul style="list-style-type: none"> ● Irritability ● Whining ● Clinging ● Obsessive retelling ● Night terrors, nightmares, fear of darkness; sleep disturbances ● Withdrawal ● Disruptive behaviors ● Regressive behaviors ● Depressive symptoms ● Emotional numbing 	<ul style="list-style-type: none"> ● Increase in aggressive or inhibited behaviors ● Psychosomatic complaints ● Overt competition for adult attention ● School avoidance ● Increased anxiety ● Loss of interest and poor concentration in school ● Decrease in academic performance ● Feelings of guilt
<i>Adolescents</i>	
<ul style="list-style-type: none"> ● Emotional numbing ● Flashbacks ● Sleep disturbances ● Appetite disturbance ● Rebellion ● Refusal ● Agitation or decrease in energy level (apathy) ● Avoidance of reminders of the event ● Depression ● Antisocial behaviors ● Revenge fantasies 	<ul style="list-style-type: none"> ● Increase in aggressive or inhibited behaviors ● Difficulty with social interactions ● Psychosomatic complaints ● School difficulties (e.g., fighting, attendance, attention-seeking behaviors) ● Increased anxiety ● Loss of interest and poor concentration in school ● Decrease in academic performance ● Feelings of guilt

Sources: Pfohl, Jimerson, and Lazarus (2002); Poland and McCormick (1999).

something that recently happened might be viewed as similar to an event in the distant past. Children can also recall past events while also forgetting recent ones (Ronen, 2002). Younger children may skew time and missequence trauma-related events when recalling the incident (Hamblen, 1998). Therefore, this needs to be considered when evaluating traumatic stress warning signs.

Cultural Considerations

A critical issue when evaluating the warning signs of a particular student is knowledge of his or her cultural background so as to be able to determine the degree to which behaviors are, or are not, consistent with cultural norms (Ronen, 2002). Culture plays an important role in the expression of stress reactions, vulnerability to developing PTSD, and treatment responsiveness (Klingman & Cohen, 2004). Although the sharing of emotions is a cross-cultural phenomenon, the ways of sharing can differ among cultures. Emotional expressions can vary considerably; where one culture values self-expression as a way to mobilize support, another culture may view it as self-indulgent, a weakness, or disrespectful. To the extent reactions are normative (or typical) reactions to traumatizing circumstances, it would be important not to overly pathologize symptomology. However, to the extent that reactions significantly depart from culturally expected reactions to a traumatic event, there may be reason to consider such a warning sign of PTSD (Sandoval & Lewis, 2002).

Case Finding

Case finding efforts are the more proactive strategies through which school personnel identify students who may have PTSD. These strategies include staff development regarding PTSD risk factors and warning signs, and the development of effective referral procedures.

Staff Development

As it relates to the early identification of PTSD, staff development should include increasing awareness of the signs and symptoms of traumatic event exposure (see Tables 4.3 and 4.4). While awareness of the fact students have had such exposure should naturally heighten vigilance for PTSD warning signs, it will be important to raise staff awareness of the fact that many students have trauma histories that are unknown to school personnel. Thus, school staff members need to be trained to identify those reactions that may signal a student has had a traumatic experience. For example, school personnel should be provided with the list of warning signs of child abuse provided in Table 4.4.

Table 4.4 Child Abuse Warning Signs (Child Welfare Information Gateway 2006)*The Child:*

- Shows sudden changes in behavior or school performance.
- Has not received help for physical or medical problems brought to the parents' attention.
- Has learning problems (or difficulty concentrating) that cannot be attributed to specific physical or psychological causes.
- Is always watchful, as though preparing for something bad to happen.
- Lacks adult supervision.
- Is overly compliant, passive, or withdrawn.
- Comes to school or other activities early, stays late, and does not want to go home.

The Parent:

- Shows little concern for the child.
- Denies the existence of – or blames the child for – the child's problems in school or at home.
- Asks teachers or other caretakers to use harsh physical discipline if the child misbehaves.
- Sees the child as entirely bad, worthless, or burdensome.
- Demands a level of physical or academic performance the child cannot achieve.
- Looks primarily to the child for care, attention, and satisfaction of emotional needs.

The Parent and Child:

- Rarely touch or look at each other.
- Consider their relationship entirely negative.
- State that they do not like each other.

Signs of Physical Abuse:

- Has unexplained burns, bites, bruises, broken bones, or black eyes.
- Has fading bruises or other marks noticeable after an absence from school.
- Seems frightened of the parents and protests or cries when it is time to go home.
- Shrinks at the approach of adults.
- Reports injury by a parent or another adult caregiver.
- Consider the possibility of physical abuse when the parent or other adult caregiver:
 - Offers conflicting, unconvincing, or no explanation for the child's injury.
 - Describes the child as "evil," or in some other very negative way.
 - Uses harsh physical discipline with the child.
 - Has a history of abuse as a child.

Signs of Neglect

- Is frequently absent from school.
- Begg or steals food or money.
- Lacks needed medical or dental care, immunizations, or glasses.
- Is consistently dirty and has severe body odor.
- Lacks sufficient clothing for the weather.
- Abuses alcohol or other drugs.
- States that there is no one at home to provide care.
- Consider the possibility of neglect when the parent or other adult caregiver:
 - Appears to be indifferent to the child.
 - Seems apathetic or depressed.
 - Behaves irrationally or in a bizarre manner.
 - Is abusing alcohol or other drugs.

Signs of Sexual Abuse

- Has difficulty walking or sitting.
- Suddenly refuses to change for gym or to participate in physical activities.
- Reports nightmares or bedwetting.
- Experiences a sudden change in appetite.
- Demonstrates bizarre, sophisticated, or unusual sexual knowledge or behavior.

Table 4.4 (continued)

- Becomes pregnant or contracts a venereal disease, particularly if under age 14.
- Runs away.
- Reports sexual abuse by a parent or another adult caregiver.
- Consider the possibility of sexual abuse when the parent or other adult caregiver:
 - Is unduly protective of the child or severely limits the child's contact with other children, especially of the opposite sex.
 - Is secretive and isolated.
 - Is jealous or controlling with family members.

Signs of Emotional Maltreatment

- Shows extremes in behavior, such as overly compliant or demanding behavior, extreme passivity, or aggression.
- Is either inappropriately adult (parenting other children, for example) or inappropriately infantile (frequently rocking or head-banging, for example).
- Is delayed in physical or emotional development.
- Has attempted suicide.
- Reports a lack of attachment to the parent.
- Consider the possibility of emotional maltreatment when the parent or other adult caregiver:
 - Constantly blames, belittles, or berates the child.
 - Is unconcerned about the child and refuses to consider offers of help for the child's problems.
 - Overtly rejects the child.

Following a known traumatic stressor, educating school staff about PTSD risk factors, warning signs, and longer-term trauma reactions is important. Such staff development should include the identification of a referral process to seek additional interventions for students. For schools to effectively identify potential PTSD symptoms, school staff must know *how* to refer and to *whom* to refer the student when they recognize concerns.

Options for the delivery of staff development include in-service workshops, presentations at staff or teacher meetings, and/or disseminating written materials that describe risk factors and warning signs. In many schools, school-based mental health professionals do not have the daily contact with students that teachers, teacher assistants, bus drivers, and other school staff have. Therefore, training *every* school staff member is critical as they may be the first to identify the risk factors and warning signs.

Student Psychoeducation

Another group to educate about PTSD risk factors and warning signs is students themselves, especially middle and high school students. Students need to be taught that seeking support for each other is not “narking or tattling;” it is seeking support for a friend. This can be done within a general context of establishing norms for a positive school climate where the expectations are for students to look out for and help each other. Many schools have

integrated the teaching of risk factors and warning signs into health classes, with a special emphasis on *how* to refer and to *whom* to refer a friend when concerns are recognized.

Initial Screening Referral Mechanisms

Figure 4.4 provides a sample referral form that could be used to identify PTSD risk factors and warning signs. It is intended to be used either during a brief interview with the student or parent, or could also be handed to teachers and other caregivers. This is not a standardized tool, but a checklist to provide guidance if further screening for PTSD is warranted.

When directly questioning students about risk factors and warning signs, it is important to acknowledge that inquiring about these variables can be anxiety inducing. Therefore, before conversations are initiated, it is important to ensure the student's immediate safety has been addressed. The student should exhibit the psychological stability required to be able to discuss traumatic material without unwanted outcomes such as additional unnecessary distress and possible emotional harm (Briere & Scott, 2006; Brock, 2006).

Another consideration when assessing risk factors and warning signs is that the child's problem(s) can present differently depending on the referral source. Further, students may also provide different responses depending on who is questioning them and who is present while they are being questioned (Ronen, 2002). When students are questioned in the presence of their parents, they may diminish the impact of the trauma as a way of protecting their parents from fear or concern (McDermott & Palmer, 1999). If they have been in a family where discussing these types of issues is not readily accepted, they also tend to minimize their situation when questioned in front of their parents. This is not to suggest that parent involvement should be completely avoided; rather, professionals need to be aware of the different aspects of information that may be obtained at different times, from different people, and when collected within different settings.

Students with Special Needs

Teachers and other school personnel are often the most familiar with children who have special needs (e.g., those with physical, developmental, and learning disabilities). Their familiarity with a child's physical, developmental, and emotional capabilities places school personnel in a position to identify when reactions and behaviors represent a departure from the norm and are suggestive of psychopathology. In fact, school staff are often the most qualified professionals to screen for PTSD in these populations as they understand these students and can also approach the screening in a manner that accounts for their special needs.

Traumatic Stress Referral Form

Date: _____ Parent: _____
 Student: _____ Address: _____
 Birthdate: _____ Phone: (H) _____
 Teacher: _____ (W) _____
 Primary Language Student: _____ Primary Language Parents: _____

Reason for Referral/Concern: _____

How close was the student to the traumatic event?
 Directly involved Witnessed event Close friend was victim Acquaintance was victim
 Watched media coverage Other: _____

How long was event exposure? _____

Did the student perceive as threatening to self or others? YES NO Maybe
 If YES or Maybe describe the threat perceptions: _____

Has the student experienced similar trauma at any time in the past? YES NO
 If YES describe the prior similar trauma: _____

Has the student experienced any trauma(s) in the past year? YES NO
 If YES describe the prior trauma: _____

Does the student have any known mental health challenge(s)? YES NO
 If YES describe the challenge(s): _____

Is the student eligible for special education? YES NO
 If YES describe the disability(ies): _____

Compared to chronological age peers, is the student developmentally mature? YES NO

List resources that you feel might help this student? _____

List interventions already attempted: _____

Fig. 4.4 This figure offers an adaptation of the referral form originally developed by Brock, Sandoval, and Lewis (2001)

Crisis Reaction Symptom Checklist: PTSD Risk Factors and Warning Signs
 Please check all that apply

RISK FACTORS	WARNING SIGNS
Physical Proximity <input type="checkbox"/> Personally experienced event <input type="checkbox"/> Witnessed event <input type="checkbox"/> Heard about event	Internalizing <input type="checkbox"/> Numbing/Avoidance <input type="checkbox"/> Restlessness <input type="checkbox"/> Hyperalertness <input type="checkbox"/> Poor concentration <input type="checkbox"/> Distractibility <input type="checkbox"/> Impulsivity <input type="checkbox"/> Flashbacks <input type="checkbox"/> Intrusive memories <input type="checkbox"/> Self-harm, suicidal tendencies, suicide attempts <input type="checkbox"/> Overreaction to minor problems <input type="checkbox"/> Disturbed by changes in routines <input type="checkbox"/> Poor self-esteem <input type="checkbox"/> Difficulty trusting others
Emotional Proximity <input type="checkbox"/> Close relationship with victim <input type="checkbox"/> Acquaintance of victim <input type="checkbox"/> No relationship to victim	
Trauma History <input type="checkbox"/> Grief/Loss/Personal Trauma History <input type="checkbox"/> Family History of Trauma	
Mental Health History <input type="checkbox"/> Anxiety Disorder <input type="checkbox"/> Mood Disorder <input type="checkbox"/> ADHD <input type="checkbox"/> Oppositional Defiant/Conduct Disorder <input type="checkbox"/> Sleep Disorder <input type="checkbox"/> Substance Abuse <input type="checkbox"/> Other: _____	
Family History <input type="checkbox"/> Parent history of trauma/loss <input type="checkbox"/> Parent mental health concerns <input type="checkbox"/> Parent substance abuse <input type="checkbox"/> Lack of parent awareness of symptoms <input type="checkbox"/> Parent denial <input type="checkbox"/> Family stress <input type="checkbox"/> Unhealthy boundaries <input type="checkbox"/> Isolation from others outside family <input type="checkbox"/> Lack of family support <input type="checkbox"/> Domestic violence	
Environmental Factors <input type="checkbox"/> Low-income neighborhood <input type="checkbox"/> Neighborhood violence <input type="checkbox"/> Lack of community support system <input type="checkbox"/> Unsafe caretaking environment	Externalizing <input type="checkbox"/> Loss of impulse control <input type="checkbox"/> Hyperactivity <input type="checkbox"/> Diminished control of aggression/anger <input type="checkbox"/> Increase in substance abuse/use <input type="checkbox"/> Sleeping difficulties <input type="checkbox"/> Relationship problems <input type="checkbox"/> Sexually inappropriate behavior
	Comments:

Fig. 4.4 (continued)

There are several factors that may interfere with the ability of children with special needs to understand and/or report a traumatic event. Students with developmental disabilities may (a) be trained to be compliant with authority figures; (b) be isolated from resources to whom to report abuse; (c) be impaired in their ability to communicate; (d) be impaired in mobility; (e) be more credulous and less prone to critical thinking, which can make it easier for others to manipulate them; and (f) experience cognitive and processing delays that interfere with understanding of situations and/or reporting (National Child Traumatic Stress Network, n.d.). For example, students with ADHD may have difficulty following the sequence of events and/or not understand the complexities of the situation, which can impact screening and assessment (Klingman & Cohen, 2004). Those with learning disabilities may interpret

language differently or literally, while other disabilities can lead to difficulty with temporal and spatial concepts, which can complicate reporting the specifics of the event or symptoms. Due to the unique needs of these students, it is important to involve several caregivers (e.g., parents/guardians, teachers, related service providers) in the screening, assessment, and treatment process (National Child Traumatic Stress Network, n.d.).

The authors' experiences also suggest that there is a lack of mental health professionals who are comfortable working with persons with developmental disabilities who have experienced traumatic events. School-based mental health professionals can help fill this void as they have worked with these students on a daily basis and have developed interventions and supports that allow for these challenges to be minimized. For example, when working with special populations (such as the deaf), it is important to acknowledge communication barriers, potential misunderstandings (especially if translation is involved), and the fear experienced during the disclosure or investigation of the traumatic event, in addition to exacerbated feelings of isolation and difference (National Child Traumatic Stress Network, n.d.).

Screening for Diagnostic Referral

As indicated by case finding efforts, more formal screening may be required. When beginning such screening, it is important to note that different measures may yield discrepant results (Ronen, 2002). The best way to validate self-reports of children is to administer a combination of measures, although this can often be difficult due to the short attention span of children (Ronen, 2002) and limited school resources. Although parental reports are often regarded as the "gold standard" validation of children's reports, this alone can lead to bias as children and parents often have different views about their experiences. Given the poor correspondence between parent, teacher, child, and mental health professional ratings of children's behavior (see Achenbach, McConaughy, & Howell, 1987), comparing the child's own experiences of the situation with combined reports by different assessors is essential to the screening process. These issues are examined further in Chapter 6.

Table 4.5 includes a list of PTSD screening measures that can be helpful in the early identification of this disorder. These are short, brief, and easy-to-administer measures that can be administered in large groups to help professionals determine if further diagnostic assessment is warranted. Screening tools can be extremely helpful in identifying the need for additional assessment to ask more specific questions about exposure, post-event stresses and adversities, and differential diagnosis. Strand, Sarmiento, and Pasquale's (2005) review of PTSD screening tools and measures made use of three criteria of: (a) rigorous or promising psychometric development, (b) free (or minimal cost), and (c) readily accessible in the categories of both history and symptoms. Meeting

Table 4.5 Traumatic Stress Screening Measures

Measure	Author	Age group	Administration time/items	Psychometric properties	Availability/cost
<i>Trauma Symptom Checklist for Young Children (TSCYC)</i>	Briere et al. (2005)	3–12 yrs	15–20 min. 90-item caregiver or parent report ^a	Internal consistency of clinical scales 0.78–0.92; alpha coefficient, 0.86; test-retest 0.68–0.96 (median coefficient 0.88); discriminant, predictive, construct validity all demonstrated	www.parinc.com \$185.00
<i>Trauma Symptom Checklist for Children (TSCC)</i>	Briere (1996)	8–16 yrs	15–20 min. 54 items, 8 scales	Internal consistency of clinical scales, 0.84; convergent and discriminant validity demonstrated	www.parinc.com \$152.00
<i>Child PTSD Symptom Scale (CPSS)</i>	Foa (2001)	8–15 yrs	15 min. 26-item self-report	Internal consistency, 0.70–0.89; test-retest reliability, 0.63–0.85; convergent validity total scale, 0.80	foa@mail.med.upenn.edu & www.childtrauma.com/ax.html
<i>Parent Report of Posttraumatic Symptoms (PROPS)^b</i>	Greenwald & Rubin (1999)	Grd 4–8	15 min. 32 items	Internal consistency, 0.87–0.93; test-retest reliability, 0.79; criterion validity, 0.56; good sensitivity to change and discriminant validity	www.childtrauma.com/ax.html \$16.00
<i>Child/Adolescent Report of Posttraumatic Symptoms (CROPS)</i>	Greenwald and Rubin (1999)	Grd 3–8	10–15 min. 24 items	Good convergent and internal consistency, 0.91; test-retest reliability, 0.80; criterion validity, 0.60	www.childtrauma.com/ax.html \$16.00
<i>Children's Reactions to Traumatic Events Scale (CRTES)</i>	Jones (2002)	8–12 yrs	5 min. 15-item self-report	Initial studies support internal consistency, 0.72–0.85	rtjones@vt.edu

Table 4.5 (continued)

Measure	Author	Age group	Administration time/items	Psychometric properties	Availability/cost
<i>Children's PTSD Inventory</i>	Saigh (2004)	6–18 yrs	15–20 min. structured interview	Alpha coefficient internal consistency overall, 0.95; inter-rater reliability, 0.91–0.96; test-retest reliability, 0.91; good convergent validity	www.harcourtassessment.com \$141
<i>Pediatric Emotional Distress Scale (PEDS)</i>	Saylor (2002)	2–10 yrs	5–10 min. 21-item parent report	Factor analysis revealed 3 reliable factors: anxious/withdrawn, fearful, acting out; initial studies show good internal consistency, test-retest and inter-rater reliability, discriminant analysis	conway.saylor@citadel.edu
<i>UCLA PTSD Reaction Index for DSM-IV (UPIID)^{c,d}</i>	Pynoos, Rodriguez, Steinberg, Stuber, & Frederick (1998)	7–18 yrs	15–20 min. 22 items	Good convergent validity, 0.70; Chronbach's alpha falls in the range of 0.90; test-retest reliability coefficient, 0.84	rpynoos@mednet.ucla.edu or

Note. Adapted from Broek (2006).

^a To be administered individually or in groups. ^b Can be used alone but meant to complement CROPS. ^c Recommend reading questions to children below age 12. ^d Can be self-administered paper and pencil measure, by one-to-one verbal administration, in which the instructions and questions are read to the child, or by group administration.

these criteria was the *UCLA PTSD Index*. For evaluation of PTSD and dissociative symptoms, the *Parent Report of Posttraumatic Symptoms (PROPS)* and the *Child/Adolescent Report of Posttraumatic Symptoms (CROPS)* were recommended, and for the evaluation of multiple trauma symptoms the *Pediatric Emotional Distress Scale (PEDS)* meets these criteria.

Although these measures are often a useful first step in the evaluation of PTSD, if results are suggestive of psychopathology additional assessment is needed. This additional assessment will ask more specific exposure questions, questions about post-event stresses and adversities, and also address differential diagnosis of other conditions such as depression, grief, and other anxiety disorders. The most popular screening tools are self-report measures. Although self-report measures can be used to screen for PTSD, other anxiety disorders, and mood disorders of children over the age of 8, they should not replace a clinical diagnosis (Perrin, Smith, & Yule, 2000).

Regarding the screening of children, Brown (2005) emphasizes that PTSD and other trauma sequelae are a combination of physiological and behavioral signs and symptoms, and are often mediated by maladaptive cognitive processing and caregiver functioning. Further, when screening younger children more indirect methods of discovering and addressing the trauma information such as play, writing, drawings, and art may be more appropriate as young children can encode and remember traumatic events even when they cannot express them in words (Kaplow, Saxe, Putnam, Pynoos, & Lieberman, 2006).

Concluding Comments

Risk factors are those variables that increase the likelihood of PTSD development while warning signs are the concrete manifestations of PTSD that require further assessment and possibly interventions. School-based professionals need to be aware of the risk factors and warning signs most predictive of PTSD, and have the ability to screen for this disorder so it is not overlooked. It is important to acknowledge that screening for psychological trauma is not a discrete intervention; rather it is a dynamic process that is the first step in a complex evaluative process.

Chapter 5

Diagnostic Assessment

The *DSM* is the most widely used system in North America for determining the appropriate clinical diagnoses of mental health disorders, including PTSD (Kratochwill & McGivern, 1996; Merrell, 2003). This criterion-based system of classification has been revised several times, with the most current version being the *DSM-IV-TR* (APA, 2000). In medical and clinical settings, a *DSM* diagnosis is often required by insurance companies before treatment can be authorized. However, in the school setting the *DSM* is not considered a controlling authority (Brock et al., 2006).

Students receive special education and related services only after an Individual Education Planning (IEP) team assessment (which typically includes a psychoeducational evaluation) has been conducted and the team concludes that the student meets one of the 13 different Individuals with Disabilities Education Improvement Act (IDEIA, 2004) eligibility criteria. These IDEIA classifications are used as a criterion-based system and are unique to the school context. Despite the mandated use of these categories by existing special education laws, use of the *DSM-IV-TR* within schools has become increasingly relevant for obtaining services through Section 504 of the Rehabilitation Act of 1973 and as schools search for alternative sources of funding (e.g., health agencies) to support student psychological services (House, 2002). Although school-based mental health professionals do not typically employ the *DSM-IV-TR* to formally diagnose students, it is nevertheless imperative they are familiar with these diagnostic criteria. With such knowledge they will be able to provide input to the diagnosing clinician regarding the criteria being observed in the school setting. In addition, knowledge of *DSM* will allow the school-based mental health professional to interpret and critically evaluate psychological and psychiatric reports conducted outside of the school setting. Given these observations, this chapter offers a review of the *DSM-IV-TR* diagnostic criteria for PTSD, including specifiers, developmental course, associated features, age-specific features, gender-related features, and differential diagnosis. Assessment

methods to be used when making a clinical diagnosis are also reviewed, with a particular emphasis on child and parent diagnostic interviews, and self-report behavior rating scales.

Diagnostic Criteria

PTSD was introduced as a formal diagnosis in the *DSM-III* (APA, 1980) with the provision that children and adolescents would be evaluated using adult criteria (Hawkins & Radcliffe, 2006). In part due to the inadequacy of this practice, the *DSM-III* was revised (APA, 1987) and included alternative criteria to diagnose children with PTSD. Specifically, repetitive play was included as part of re-experiencing criteria, while the loss of recently acquired developmental skills was included as part of the avoidance/numbing symptom cluster. In the *DSM-IV* (APA, 1994), the loss of recently acquired developmental skills was removed, but disorganized or agitated behavior, frightening dreams, and trauma-specific reenactment were included (Hawkins & Radcliffe, 2006).

The essential features of a *DSM-IV-TR* PTSD diagnosis include: (a) exposure to a traumatic event and intense fear, hopelessness, or horror in response to it; (b) persistent re-experiencing of the event; (c) persistent avoidance of stimuli associated with the trauma; and (d) persistent symptoms of increased arousal. After trauma exposure, the duration of these symptoms must occur for more than one month and the disturbance must result in clinically significant distress or impairment across social, occupational, and other areas of functioning. These *DSM-IV-TR* criteria are delineated in Table 5.1.

As previously mentioned, PTSD differs from other diagnoses in that an external event, namely a “traumatic event,” is required. Besides PTSD, only ASD shares this diagnostic requirement. In the *DSM-IV* (1994, 2000) the definition of a traumatic event (criterion A) is “. . .an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others” (p. 467). This is a much more inclusive definition than that offered in the previous version of *DSM* (APA, 1987), which was “. . . an event that is outside the range of usual human experience and that would be markedly distressing to almost anyone” (p. 250). As was suggested in Chapter 2, this change may have resulted in higher estimates of traumatic event exposure in the general population (Breslau & Kessler, 2001). Further, PTSD symptoms must coincide with traumatic event exposure. Therefore, the diagnostic assessment needs to determine the chronology of symptoms and their relation to traumatic event exposure. As will be discussed later in this chapter, any mismatch between symptom onset and traumatic event may necessitate a diagnosis other than PTSD.

In the case where a traumatic event that has been experienced, witnessed, or learned about generates “intense feelings of fear, helplessness, or horror” or among children “disorganized or agitated behavior” (criterion A; APA, 2000,

Table 5.1 *DSM-IV-TR* Diagnostic Criteria for Posttraumatic Stress Disorder

-
- A. The person has been exposed to a traumatic event in which both of the following were present:
- (1) the person experienced, witnessed, or was confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others.
 - (2) the person's response involved intense fear, helplessness, or horror. **Note:** In children, this may be expressed instead by disorganized or agitated behavior.
- B. The traumatic event is persistently re-experienced in one (or more) of the following ways:
- (1) recurrent and intrusive distressing recollections of the event, including images, thoughts, or perceptions. **Note:** In young children, repetitive play may occur in which themes or aspects of the trauma are expressed.
 - (2) recurrent distressing dreams of the event. **Note:** In children, there may be frightening dreams without recognizable content.
 - (3) acting or feeling as if the traumatic event were recurring (includes a sense of reliving the experience, illusions, hallucinations, and dissociative flashback episodes, including those that occur on awakening or when intoxicated). **Note:** In young children, trauma-specific reenactment may occur.
 - (4) intense psychological distress at exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event.
 - (5) physiological reactivity on exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event.
- C. Persistent avoidance of stimuli associated with the trauma and numbing of general responsiveness (not present before the trauma), as indicated by three (or more) of the following:
- (1) efforts to avoid thoughts, feelings, or conversations associated with the trauma
 - (2) efforts to avoid activities, places, or people that arouse recollections of the trauma
 - (3) inability to recall an important aspect of the trauma
 - (4) markedly diminished interest in participation in significant activities
 - (5) feeling of detachment or estrangement from others
 - (6) restricted range of affect (e.g., unable to have loving feelings)
 - (7) sense of foreshortened future (e.g., does not expect to have a career, marriage, children, or normal life span)
- D. Persistent symptoms of increased arousal (not present before the trauma), as indicated by two (or more) of the following:
- (1) difficulty falling or staying asleep
 - (2) irritability or outbursts of anger
 - (3) difficulty concentrating
 - (4) hypervigilance
 - (5) exaggerated startle response
- E. Duration of the disturbance (symptoms B, C, and D) is more than one month.
- F. The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.
-

Note. Reprinted with permission from the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision* (Copyright 2000). American Psychiatric Association.

p. 467), the diagnostic assessment should then document the specific symptoms required to diagnose PTSD, which include one or more re-experiencing symptoms (criterion B), three or more avoidance symptoms (criterion C), as well as the presence of two or more symptoms of increased arousal (criterion D).

Specifiers

Three specifiers are included in the *DSM-IV-TR*, including the categories of “Acute,” “Chronic,” and “With Delayed Onset” (APA, 2000, p. 465). PTSD symptoms lasting less than three months are designated as Acute, whereas the Chronic specifier is applied to instances where symptoms last three months or longer. Delayed Onset refers only to symptoms that do not become present until at least six months have passed from the time of traumatic exposure. Either Acute or Chronic specifiers may be coupled with the Delayed Onset designation as necessary. It should be noted that among children, evidence of Delayed Onset PTSD has not been well studied. However, in one study of car accident victims ages 5 to 18 years, 15% who were previously assessed (at 2–16 days and 12–15 weeks after their accident) as having “doubtful” or “mild” PTSD symptoms, manifested “moderate” symptoms 18 months after their accident (Gillies, Barton, & Di Gallo, 2003).

Developmental Course

As illustrated in Fig. 4.2, PTSD may be preceded by Acute Stress Disorder (ASD). ASD was introduced into the *DSM-IV* (APA, 1994) to describe abnormal stress reactions that occur after two days and before four weeks post trauma with the goal of identifying individuals likely to develop PTSD. ASD criteria include intrusion, avoidance, and arousal, and the presence of at least three of five dissociative symptoms (e.g., emotional numbing, dissociative amnesia). Existing research has consistently shown that a high proportion of individuals diagnosed with ASD go on to develop PTSD (Classen, Koopman, Hales, & Spiegel, 1998; Creamer, O’Donnell, & Pattison, 2004; Kassam-Adams & Winston, 2004; Meiser-Stedman, Yule, Smith, Glucksman, & Dalgleish, 2005), although the presence of symptoms of ASD is not reported in all cases of PTSD (as indicated by the With Delayed Onset specifier; Creamer et al., 2004; Kassam-Adams & Winston, 2004). Given these findings, school-based mental health professionals should not make the mistake of using the current ASD criteria as the sole predictor of future PTSD. While research regarding the power of ASD in predicting PTSD among children and adolescents is limited, research finding 243 youth (ages 8 to 17 years) who were hospitalized following traffic-related injuries revealed that while ADS and PTSD symptom severity scores were significantly associated with each other ($r = 0.56, p < 0.0005$), 60% of those who developed PTSD had not met ASD criteria (Kassam-Adams & Winston, 2004). Nevertheless, ASD may serve as a valuable guide for treatment planning for children who have exhibited these symptoms after suffering trauma and has been suggested to be a reasonable predictor of PTSD (Meiser-Stedman et al., 2005).

The duration of PTSD symptoms vary. Although symptoms remit in some children with PTSD, a substantial number of children continue to experience symptoms for long periods of time. Complete recovery and remittance of symptoms after three months occurs for approximately half of individuals. In other cases, individuals continue to experience symptoms for more than a year after onset (American Academy of Child and Adolescent Psychiatry [AACAP], 1998). Again, these variations necessitate the accurate assessment and diagnosis of PTSD among children and adolescents to target effective interventions. In addition, due to students changing grade levels and teachers on a yearly basis, and the frequent mobility of some students, it is very important for the school-based mental health professional to closely follow those students who have been exposed to a trauma in the event there is the delayed onset of PTSD.

Associated Features and Comorbidity

As described in the *DSM-IV-TR* and discussed in Chapter 3, a number of symptoms may be associated with the presence of PTSD. These may include feelings of guilt on the part of trauma survivors, as well as avoidance patterns that may affect academic, social, and/or work domains. Other associated symptoms may include auditory hallucinations, paranoid ideation, impaired affect modulation, and self-destructive/impulsive behavior. Sleep disturbances, including nightmares and insomnia, are common following trauma exposure, and have been suggested to contribute to the development of PTSD (Mellman & Hipolito, 2006; Noll, Trickett, Susman, & Putnam, 2006). Nightmares typically are associated with re-experiencing symptoms, while difficulty getting and staying asleep are typically associated with arousal symptoms (Maher, Rego, & Asnis, 2006). As detailed in Chapter 3, the symptoms of PTSD often closely resemble other mental health disorders. In addition, PTSD often occurs with other disorders, with individuals suffering from PTSD having increased rates of Major Depressive Disorder, Substance-Related Disorders, Panic Disorders, Obsessive-Compulsive Disorder, Generalized Anxiety Disorder, Social and/or Specific Phobias, as well as Bipolar Disorder.

Age-Specific Features

An understanding of how symptoms may vary among children from birth through late adolescence is critical for school-based mental health professionals, which is a knowledge base that has traditionally not been represented within *DSM-IV-TR* criteria for PTSD. Identifying PTSD in infants and very young children is challenging. One of the primary reasons for this is that many *DSM* criteria require a verbal description of a subjective state, despite the fact that this age group often expresses symptoms nonverbally through traumatic play, acting out, regressive behaviors, and clinging (Cook-Cottone, 2004). Scheeringa et al. (1995) applied the *DSM-IV* criteria to several children under the age of 48 months

and found that although they had numerous symptoms, none met sufficient criteria for the diagnosis. Particularly problematic were the *DSM-IV* criteria regarding showing fear, helplessness, and horror concerning the trauma, as well as avoidance and numbing symptoms.

To address the underdiagnosis of PTSD among children, Scheeringa and colleagues (1995) developed alternative criteria for young children that were more behaviorally anchored and operationalized. For example, the criteria for persistent re-experiencing were expanded to include posttraumatic play, play reenactment, nightmares, and distress at exposure to reminders of the event. In addition, the number of symptoms required within specific criterion clusters was sometimes reduced. For example, only one item (as opposed to three), including constricted play, social withdrawal, and loss of recently acquired developmental skills, was needed to meet emotional numbing criteria. Similarly, only one item was needed for increased arousal, including night terrors and difficulties getting to sleep. New fears or aggressive behavior was added as a major criterion cluster and the need for significant impairment in functioning was deleted. When the *DSM-IV* and alternative criteria were applied to 12 new cases of traumatized children, none met *DSM-IV* criteria sufficient for a diagnosis, whereas nine out of 12 met the alternative criteria. In addition, reliability between the raters was better for the alternative criteria. These alternate criteria for assessing PTSD in the very young are provided in Table 5.2. Recent research using these criteria have found rates of diagnosis in the very young to mirror the prevalence of PTSD in the general adult population, which stands in marked contrast to the limited diagnosis of PTSD in the very young using traditional *DSM*-based assessments (Scheeringa, Peebles, Cook, & Zeanah, 2001; Scheeringa, Zeanah, Myers, & Putnam, 2003). In practice, these criteria may be necessary to address the needs of very young children and infants, since members of this age group suffering from PTSD often fail to meet traditional *DSM* criteria, especially when they are applied most literally (AACAP, 1998).

It has also been argued that the core features of PTSD may be too narrow in scope for diagnosing school-aged children. For example, children may respond to a trauma with avoidance and numbing for a long period of time, as opposed to re-experiencing, which may preclude a diagnosis from being made (Tierney, 2000). When they do re-experience the event, it tends to occur during leisure time, such as when bored in school (Terr, 1991). For school-aged children, symptoms are often expressed behaviorally, through regressive behavior (e.g., bedwetting, clinging, refusing to go to school) and internalizing (e.g., withdrawal) or externalizing (e.g., fighting) behaviors (Yule, 2001). School-aged children are also likely to report somatic complaints (e.g., stomachaches and headaches), and be fearful of being alone (Yule, 2001). Repetitive play, although more elaborate than that of preschoolers, may include themes of the trauma (Terr, 1991). In the school setting, most often the externalizing behaviors are seen at recess or other activities which provide less structure and the somatic complaints are signified by frequent visits to the school nurse or excessive absences.

Table 5.2 Alternative Criteria for Diagnosing Infants and Young Children with PTSD

-
- A. Criteria A (2) deleted; preverbal children cannot report on their reaction (e.g., intense fear, helplessness, or horror) at the time of the traumatic event, and an adult may not have been present to observe this.
- B. The re-experiencing criteria are met through one of the following: (1) play that is compulsively repetitive, represents the trauma, does not relieve anxiety, and is less elaborative and imaginative than typical; (2) reenactment of part of the trauma through play (without the repetition of criteria B1); (3) recurrent recollection of event, which is not necessarily distressing; (4) nightmares with obvious link to trauma or of increased frequency without known content; (5) flashback or dissociation; (6) distress at traumatic event reminders.
- C. The numbing criteria of efforts to avoid thoughts, feelings, conversations, activities, and people that are reminders are deleted. An inability to recall aspects of the trauma and a sense of foreshortened future criteria are also deleted.
One of the following criteria must be met:
- (1) constriction of play behavior
 - (2) social withdrawal
 - (3) restricted range of affect
 - (4) loss of a previously acquired developmental skill, such as toileting or speech
- D. The alternate criteria require only ONE (or more) of Group D symptoms to diagnose PTSD; emphasis placed on new criteria related to sleep disturbances, including (1) night terrors, (2) difficulty getting to sleep (not related to fears of dark or of having nightmares), (3) waking up in the night (not due to nightmares or night terrors); criteria related to decreased concentration, hypervigilance, and exaggerated startle response deleted.
- E. New cluster: new fears and aggression, with *at least one (or more) of the following*:
- (1) new separation anxiety
 - (2) new onset of aggression
 - (3) new fears without obvious links to the trauma, such as fear of going to the bathroom alone or fear of the dark.
- F. The clinically significant impairment in social, occupational, or other areas of functioning is deleted as a criterion for young children.
-

Note. Adapted from Scheeringa et al. (1995). Two approaches to the diagnosis of posttraumatic stress disorder in infancy and early childhood. *Journal of the American Academy of Child and Adolescent Psychiatry*, 34, 191–200.

As children get older and they are more able to cognitively process their experiences, symptoms become increasingly similar to those of adults (AACAP, 1998). Therefore, among school-aged youth the *DSM-IV-TR* diagnostic criteria are most appropriate for adolescents, although it should be noted that it is common for adolescents to have difficulty separating from parents after a traumatic event (Yule, 2001).

Gender-Related Features

As was discussed in Chapter 3, while males are more likely to be exposed to a traumatic event, females are more likely than males to be diagnosed with PTSD. As was also mentioned in Chapter 3, Olf and colleagues (2007) suggested that among girls their higher rate of PTSD may be due to increased sensitivity to

threatening stimuli and social patterns that permit (relative to boys) greater expression of negative emotions. They further conclude that the increased PTSD risk among women might be due to the type of trauma they experience (i.e., more interpersonal violence and sexual abuse); that they tended to be younger at the time of their trauma exposure, had greater threat perceptions and peri-traumatic dissociation, and inadequate social supports; and that they are more likely to use alcohol to manage their trauma symptoms.

In another careful analysis by Tolin and Foa (2006), it was suggested that while males are more likely to be exposed to potentially traumatizing events, such as accidents, combat or war, witnessing death, and nonsexual assault, females are more likely to be victims of sexual abuse or child abuse. The sex differences in prevalence of PTSD did not appear to be specific to the increased likelihood of females experiencing sexual assault or childhood abuse, as there was an equivalent chance that a male or female exposed to these specific traumas would go on to develop PTSD. Tolin and Foa acknowledge that reasons for the gender differences are complex and not fully understood, although symptom expression, cognitive appraisals, and measurement issues may all play a role. In addition, males are more likely to express PTSD symptoms in the form of aggressive behavior and belligerence, whereas females are more likely to react with anxiety and depression. In the school setting, it is easy to recognize the student demonstrating externalizing behaviors, but it is also equally important for school staff to receive training in recognizing those internalizing behaviors that can easily be missed because the student is not a behavior problem. In addition, Tolin and Foa report that there appear to be gender differences in cognitive appraisals of events, with females showing a greater tendency of viewing the event as devastating, blaming themselves, and perceiving the world as a dangerous place.

Differential Diagnosis

According to the *DSM-IV-TR*, there are a number of diagnoses that need to be distinguished from PTSD (APA, 2000), and one diagnostic challenge is the fact that the symptoms of traumatic stress can resemble psychiatric disorders other than PTSD. It has been suggested that many children with PTSD who exhibit a high degree of emotional and dysregulated behavior may receive erroneous diagnoses if the association between their symptoms, and traumatic stress(ors), is not recognized (Kaplow et al., 2006). For example, a student's sudden and extreme emotional or impulsive behavior may be considered a Mood Disorder or ADHD if the stimuli that provoked the behavior are not specified and associated with a traumatic event. More specifically, if there is a picture in a history book of a soldier holding a gun during combat, this will typically not elicit any unusual reaction from a child without a trauma history. However, the same picture may generate significant reactions from a child who had recently witnessed a parent being held at gunpoint. This traumatic reminder may elicit strong emotional and/or behavioral reactions (e.g., agitation, irritability, being

out of seat, difficulty concentrating, and aggression) that might be mislabeled as ADHD, a Mood Disorder, or Oppositional Defiant Disorder (ODD). Thus, it is critical for school-based mental health professionals to be knowledgeable of the various mental disorders associated with PTSD to assist in making an accurate differential diagnosis.

It is also important to highlight that PTSD is not the only diagnosis linked with crisis exposure (APA, 2000). While only Acute Stress Disorder and PTSD *require* a traumatic stressor, there are other diagnoses that have been associated with such exposure (i.e., Generalized Anxiety Disorder, Panic Disorder, Specific Phobia, Major Depressive Disorder, Bipolar Disorder, Somatization Disorders, Sleep Disorders, Adjustment Disorders, and Substance-Related Disorders). Table 5.3 lists the diagnoses that have overlapping symptoms with

Table 5.3 Associated Disorders and Symptoms

Disorder	Symptoms
<i>Anxiety Disorders</i>	
Acute Stress Disorder	Fear Helplessness Numbing Detachment Absence of emotional response Re-experiencing <ul style="list-style-type: none"> • recurrent images, thoughts, dreams, illusions, flashbacks, sense of reliving Anxiety or increased arousal <ul style="list-style-type: none"> • difficulty sleeping, irritability, poor concentration, hypervigilance, exaggerated startle response, motor restlessness
Generalized Anxiety Disorders	Excessive anxiety and worry Difficulty controlling worry Restlessness Easily fatigued Difficulty concentrating Irritability Sleep disturbance
Panic Disorder	Palpitations, pounding heart, accelerated heart beat Sweating Trembling Nausea or abdominal distress Derealization (feelings of unreality) or depersonalization (being detached from oneself) Fear of losing control or going crazy Fear of dying
Specific Phobia	Marked or persistent fear (excessive or unreasonable) cued by presence or anticipation of specific object or situation Exposure or phobic stimulus invariably provokes immediate anxiety response – in children may be expressed by crying, tantrums, freezing, or clinging

Table 5.3 (continued)

Disorder	Symptoms
	Recognizes fear may be excessive or unreasonable (this may be absent in children) Situation avoided or endured with extreme anxiety or distress
<i>Mood Disorders</i>	
Major Depressive Disorder	Depressed mood Diminished interest or pleasure in most activities Significant weight loss or weight gain (in children failure to make expected weight gain) Insomnia or hypersomnia Psychomotor agitation or retardation Fatigue or loss of energy Feelings of worthlessness or excessive or inappropriate guilt Diminished ability to think or concentrate Recurrent thoughts of death, recurrent suicidal ideation, or suicide attempt
Bipolar Disorder	Persistently elevated, expansive, or irritable mood lasting at least four days Decreased need for sleep Flight of ideas or subjective experience thoughts are racing Distractibility Depressed mood Markedly diminished interest or pleasure in all or almost all activities Significant weight loss or weight gain Insomnia or hyper-insomnia Psychomotor agitation or retardation Fatigue or loss of energy Feelings of worthlessness or excessive or inappropriate guilt Diminished ability to think or concentrate
<i>Other Disorders</i>	
Somatization Disorder	Pain symptoms (e.g., abdomen, during urination, joints) Gastrointestinal symptoms (e.g., nausea) Sexual symptoms (e.g., sexual indifference) Pseudoneurological symptoms (e.g., touch or pain sensation, amnesia) Chronic fatigue Loss of appetite
Sleep Disorders	Difficulty initiating or maintaining sleep Repeated awakenings from major sleep period with detailed recall of frightening dreams Sleep disturbance causes significant distress Sleep terror episodes – intense fear, signs of autonomic arousal yet no recall of dream (amnesia for episode)
Adjustment Disorders	Onset related to an identifiable or ongoing stressor Marked distress Depressed mood, tearfulness, feelings of hopelessness Nervousness, worry, in children a fear of separation Anxiety Truancy, fighting

Table 5.3 (continued)

Disorder	Symptoms
ADHD	Difficulty sustaining attention Difficulty organizing Easily distracted Forgetful Fidgets
Oppositional Defiant Disorder	Loses temper Refuses to comply Touchy or easily annoyed Angry and resentful
Conduct Disorder	Bullies, threatens, intimidates others Initiates physical fights Truant Runs away from home
Substance-Related Disorders	Failure to fulfill major roles (e.g., school, work, suspensions from school) Continued substance use despite having personal problems Neglect duties or responsibilities Mood lability, cognitive impairment due to effects of substance Disturbances in perception, wakefulness, judgment, psychomotor behavior, interpersonal behavior
Borderline Personality Disorder	Avoid real or imagined abandonment Unstable or intense interpersonal relationships Unstable self-image or sense of self Impulsivity Suicidal behavior, gestures, threats, or self-mutilating behavior Affective instability (e.g., irritability, anxiety) Chronic feelings of emptiness Inappropriate, intense anger or difficulty controlling anger Paranoid ideation or severe dissociative symptoms

Note. Adapted from APA (2000).

PTSD and may also be *associated* with a traumatic event. It also lists diagnoses that are not associated with trauma exposure, but also have symptom overlap with PTSD (i.e., ADHD, Borderline Personality Disorder, Conduct Disorder, and ODD). Chapter 3 details the comorbidity rates for PTSD and other disorders. Therefore, this section does not repeat this information. Rather, it focuses on how PTSD can be differentiated from other disorders when making a diagnosis.

Adjustment Disorder. According to the *DSM-IV-TR* (APA, 2000), Adjustment Disorder (AD) is a “psychological response to an identifiable stressor or stressors that results in the development of clinically significant emotional or behavioral symptoms” (p. 679). Qualifying stressors can be a single event or multiple events; or be recurrent or continuous. AD can also be associated with depression, anxiety, and/or conduct disturbances. Typically the disorder begins within three months of stressor onset and lasts no longer than six months.

However, it is possible that there may be a progression to other severe disorders (e.g., Major Depression).

The differential diagnosis of PTSD from AD should first involve consideration of the fact that AD does not require an “extreme” (i.e., life-threatening) stressor. In AD the stressor(s) may include the low-magnitude traumatic events listed in Table 3.2. In addition, AD may manifest as a broad range of distress-related symptoms, while PTSD is characterized by the presence of specific clusters of symptoms (i.e., distressing recollections, avoidance and numbing, and increased arousal). Thus, in situations where extreme traumatic event exposure does not result in specific PTSD symptoms, but nevertheless has caused excessive distress that impairs daily functioning (e.g., school performance), an AD diagnosis should be considered (AACAP, 1998; APA, 2000).

Mood Disorders. Symptoms of Mood Disorders that might be considered as overlapping with PTSD include psychomotor agitation, insomnia, and decreased ability to concentrate. In addition, PTSD’s “disorganized and agitated behavior” in response to traumatic event exposure (APA, 2000, p. 467) might be mistaken for the irritability often associated with mania in pediatric Bipolar Disorder. Further, as was discussed in Chapter 3, complicating the differential diagnosis of PTSD and Mood Disorders is the fact that they are frequently comorbid (Saigh et al., 1999), and both may be precipitated by exposure to a traumatic stressor.

In making a differential (or co-occurring) diagnosis, careful consideration of trauma history and symptom presentation is required. If there is an absence of a trauma history, then PTSD can be ruled out. If PTSD-like symptoms were present before trauma exposure, then there is reason to question the presence of PTSD and a Mood Disorder diagnosis should be considered. Finally, if symptoms that follow traumatic event exposure meet criteria for a Mood Disorder, that diagnosis should be made instead of, or in addition to, PTSD (APA, 2000).

Acute Stress Disorder. As discussed above, ASD is new to the *DSM-IV* (APA, 1994). This diagnosis is similar to PTSD in that it also requires traumatic event exposure and involves the manifestation of similar symptoms (APA, 2000). However, it is differentiated from PTSD by the fact that the symptoms manifest themselves between two days and four weeks following traumatic event exposure (vs. the four weeks or more requirement of PTSD). The ASD diagnosis is appropriate when after an initial adjustment period (two days), symptoms do not progressively decline. Although similar, the symptoms of ASD do differ from PTSD. Specifically, ASD emphasizes dissociative symptoms (i.e., psychic numbing and detachment, depersonalization, and/or derealization), and has fewer effortful avoidance and hyperarousal requirements (APA, 2000).

As illustrated in Fig. 4.2 and discussed above, there is not necessarily a one-to-one relationship between ASD and the later development of PTSD, and some individuals may meet criteria for ASD and not PTSD and vice versa (Briere & Scott, 2006; Klingman & Cohen, 2004). This reiterates the importance of the school-based mental health professional being aware that symptoms related to trauma can manifest themselves at different times and there may be a delayed onset of symptoms.

Other Anxiety Disorders. In addition to ASD, there are other Anxiety Disorders that have symptoms overlapping with PTSD. For example, among some individuals with PTSD, exposure to stimuli associated with the traumatic event may trigger a panic attack similar to that seen in a Panic Disorder. Differentiating a Panic Disorder from PTSD involves determining if the panic attack occurs only in situations associated with the extreme traumatic stressor. If this is the case, then only the PTSD diagnosis is appropriate. However, as was discussed in Chapter 3, PTSD can be comorbid with Panic Disorder (Saigh et al., 1999), and both diagnoses would be appropriate if panic attacks are also unexpectedly experienced in situations not associated with the traumatic stressor (APA, 2000).

Agoraphobia is another Anxiety Disorder that has symptoms similar to PTSD. Like PTSD, Agoraphobia includes avoidance symptoms (APA, 2000). However, unlike PTSD the avoidance is not associated with an extreme traumatic stressor. As discussed in Chapter 3, PTSD can be comorbid with Agoraphobia (Saigh et al., 1999), and both diagnoses would be appropriate if anxiety regarding being trapped in situations or places without a way to escape easily and/or to obtain help is not only associated with the extreme traumatic stressor (APA, 2000).

Obsessive-Compulsive Disorder (OCD), which is characterized by obsessions, compulsions, or both (APA, 2000), is similar to PTSD in that it includes recurrent and intrusive thoughts. Differentiating OCD from PTSD involves ascertaining whether or not these thoughts are related to an extreme traumatic stressor. If they are not, and, further, the individual recognizes the thoughts as inappropriate, the diagnosis of OCD may be appropriate and PTSD can be ruled out (AACAP, 1998; APA, 2000).

Generalized Anxiety Disorder includes persistent excessive anxiety and worry or apprehension (APA, 2000), and among individuals with PTSD these symptoms are invariably present (Briere & Scott, 2006). Here again, in making a differential diagnosis careful consideration of trauma history is required. If there is an absence of a trauma history and/or the symptoms of anxiety are not associated with a specific traumatic event, then PTSD can be ruled out.

Finally, the Anxiety Disorder of Specific Phobia, which is characterized by significant anxiety and fear associated with specific objects or situations (APA, 2000), can appear similar to PTSD symptoms that involve avoidance of people, places, and situations (Briere & Scott, 2006). However, unlike Specific Phobias, in PTSD the avoidance follows the experience of an extreme traumatic stressor and is associated with additional symptoms (e.g., re-experiencing the trauma; APA, 2000).

Attention-Deficit/Hyperactivity Disorder. Overlap between PTSD and ADHD symptoms include inattention, deficits in executive functioning and affective responsiveness, difficulty regulating arousal levels, and poor impulse control. Further, children with ADHD can misread social cues and miss messages concerning safety, which can influence initial trauma exposure and the potential to develop PTSD in the first place (Kingman & Cohen, 2004).

Although there is symptom overlap, the *DSM-IV-TR* does not include ADHD as a differential diagnosis and diagnosticians often do not include ADHD as a consideration in the differential diagnosis of PTSD (Kish, 2007). Thus, during the screening and assessment process for ADHD, it is critical that trauma history be addressed to ensure the student's symptoms are not associated with trauma exposure.

Somatization Disorder. Physical or bodily symptoms, also called somatoform responses, can be influenced by psychological factors and are common among trauma survivors (Briere & Scott, 2006). There can be a variety of pain, neurological, sexual, and/or gastrointestinal symptoms, and in the case of a Somatization Disorder, symptoms cannot be explained by a medical issue alone (APA, 2000). It is possible that one may become preoccupied with somatic vulnerability after experiencing a physical trauma. Thus, it could serve as an expression of distress when certain psychological symptoms are not culturally accepted (Kirmayer, 1996), and/or there is a medical trauma associated with the trauma (i.e., sexual abuse). Again, differentiating PTSD from Somatization Disorder requires determining that symptoms are preceded by an extreme traumatic stressor and that the other core PTSD symptoms are present.

Pain symptoms are also common in individuals diagnosed with PTSD, and PTSD symptoms are also common among people who experience chronic pain, particularly those with higher pain severity and more negative affect (Asmundson, Coons, Taylor, & Katz, 2002). Physical pain can be exhibited due to injuries sustained during the traumatic event and/or through somatization issues. There may be a shared vulnerability for both PTSD and pain, and, when symptoms occur, they may maintain each other (Asmundson et al., 2002). Some children or adolescents convey their emotional responses by reporting physical pain, which may or may not be real. Whether they are truly experiencing pain or it is imagined, it is crucial to pay attention to these signs and integrate this information into the evaluation process (James, 1989). School nurses may also play a critical role in differentiating between real or imagined pain during the screening process.

Sleep Disorders. It is possible for the distressing dreams and difficulty sleeping associated with PTSD to resemble the symptoms of Sleep Disorders. In particular, Sleep Terror Disorder has been suggested to occur with increased frequency among individuals with PTSD. Although nightmares frequently occur as a part of PTSD, the diagnosis of Nightmare Disorder would not be made if the nightmares occur only during the course of PTSD. Insomnia can be a comorbid condition (i.e., Insomnia Related to Another Mental Disorder) if the sleep-related symptoms are temporally and causally related to PTSD, and are severe enough to be an independent focus of clinical attention (APA, 2000; Krakow et al., 2007).

Schizophrenia and other Psychotic Disorders. It is possible for the flashbacks associated with PTSD to resemble the delusions, hallucinations, and other perceptual disturbances that may occur in Schizophrenia and other Psychotic Disorders. Here again, verifying whether or not an extreme traumatic stressor

predates symptom onset (as well as verifying the presence of other PTSD core symptoms) is key to distinguishing PTSD from these other disorders (AACAP, 1998; APA, 2000).

Chronic vs. Acute Trauma

It has been proposed that there should be greater differentiation in the diagnosis of PTSD based on the complexity of the trauma and the tendency for children exposed to chronic trauma to exhibit more severe and pervasive symptoms than adults (Terr, 1991; van der Kolk, 2005). Terr differentiated between Type I trauma, a time-limited trauma (e.g., rape, natural disaster, or a shooting) and Type II trauma, or chronic trauma experience (e.g., war, ongoing sexual abuse, or a prolonged catastrophic illness). Terr (1991) argued that children exposed to Type I trauma may (a) display more full, detailed memories of the trauma; (b) attempt to find reasons for why the event occurred; and (c) misidentify time, people, and other aspects of the crisis. In contrast, children exposed to chronic trauma exhibit more severe psychopathology, including persistent maladaptive attributional style, dissociation, stress-related coping strategies, and poor responses to anger.

More recently, the Complex Trauma Taskforce of the National Child Traumatic Stress Network proposed the creation of a diagnosis of Developmental Trauma Disorder for children who have endured multiple, chronic, and adverse traumatic events (e.g., sexual or physical abuse, war, community violence) with an early-life onset. The task force members suggest that the PTSD diagnosis appropriately describes the discrete, conditioned behavioral and biological responses to reminders that occur after exposure to an isolated traumatic event, but that it does not describe the pervasive effects of children who are exposed to chronic violence.

The proposed definition of Developmental Trauma Disorder includes the following criteria: (a) multiple or chronic exposure to one or more forms of adverse interpersonal trauma (e.g., abandonment, physical or sexual assaults, emotional abuse, witnessing violence or death) accompanied by a subjective experience (e.g., rage, defeat, shame); (b) a triggered pattern of repeated affective, somatic, behavioral, cognitive, relational, or self-attribution dysregulation in response to trauma cues (e.g., reenactment, cutting, thinking it is happening again, clinging, self-hate); (c) persistently altered attributions and expectancies (e.g., negative self-attribution, distrust of protective caretaker, loss of expectation of protection by other people and social agencies, inevitability of future victimization); and (d) functional impairment in educational, familial, peer, legal, and/or vocational domains (van der Kolk, 2005). For those working in the schools, this proposed definition of Developmental Trauma Disorder may be applicable and these criteria often describe students who are exhibiting the greatest amount of difficulty academically, socially, and/or behaviorally.

Although being informed about the potential differences in symptom expression for children exposed to various types of trauma is helpful, the aforementioned diagnoses and differentiation of trauma have not been formerly adopted. Therefore, it is prudent for practitioners to adhere to the established classification systems when making diagnoses. In addition, models that emphasize trauma-type effects have been criticized for not taking into account the many other individual and ecological factors that affect a child's response (Cook-Cottone, 2004).

Assessment Methods

When conducting an assessment, it is important for a practitioner with appropriate training to obtain information from both the parent and child about the trauma and PTSD symptoms to maximize the likelihood of obtaining an accurate diagnosis. Errors can be made in terms of under- and overdiagnosing PTSD. Underdiagnosis may occur because parents commonly minimize their children's symptoms, and children and adolescents often do not talk about the incident and their symptoms with parents and friends (Yule, 2001). In addition, it may be difficult for children to report symptoms related to avoidance and numbing (AACAP, 1998). There is also a risk that a mental health professional may overdiagnose the disorder from the misperception that any child who has been traumatized and exhibits anxious or depressed symptoms should be diagnosed with PTSD. Therefore, it is important for practitioners to be familiar with the relevant literature and aware of the fact that a large majority of people who are exposed to a trauma do not go on to develop PTSD (Yule, 2001).

Background Information

Before meeting with a youth who has been traumatized, the professional should review available hospital, school, and/or agency records (Saigh & Yasik, 2002) to assess the child's functioning prior to the traumatic event. A well-derived set of practice parameters is available from the *American Academy of Child and Adolescent Psychiatry* (AACAP, 1998), which recommends both general and specific information-gathering techniques to comprise the assessment of children at risk for PTSD. While they are not a prescription, these parameters are a good start to guide assessment for PTSD within the school setting or other community environments. A semi-structured parent interview adapted from the AACAP guidelines and several other sources is provided in Fig. 5.1. Given that the collection of these data is typically a part of any psychoeducational evaluation, it is important for all school psychologists to be aware of these factors.



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**POSTTRAUMATIC STRESS DISORDER DIAGNOSTIC EVALUATION:
HEALTH, FAMILY, DEVELOPMENTAL, & BEHAVIORAL HISTORY INTERVIEW FORM**

Child's Name: _____	Birth date: _____
School: _____	Grade: _____
Parent(s): _____	E-mail: _____
Home phone: _____	Alt. Phone: _____
Languages spoken in the home: _____	
Siblings (ages): _____	
Other adults living in the home: _____	

Referring concern: _____

At what age did the referring concerns first emerge? _____

Health History (Perinatal Factors)

- | | Optimal | Adequate | Poor |
|--|----------------|----------|------|
| 1. General obstetric status (circle one): | | | |
| 2. Prenatal care (describe): | _____
_____ | | |
| 3. Maternal stressor (list and describe): | _____
_____ | | |
| 4. Complications during pregnancy: | _____
_____ | | |
| 5. Maternal illnesses during the pregnancy: | _____
_____ | | |
| 6. Maternal accidents during the pregnancy: | _____
_____ | | |
| 7. Mother's age at time of the pregnancy (list): | _____ | | |

Fig. 5.1. This form could be used when collecting health, family, developmental, and behavioral history regarding a child suspected to have PTSD. Adapted from AACAP (1998); APA (2000); Brock (2006); Roberts (2003); Scheeringa et al. (1995).

Health History (Perinatal Factors; Continued)

8.	Nicotine exposure during pregnancy (circle):	YES	NO	If YES answer the following:	
a.	How often did mother smoke?	Every day	Once a week	Rarely	
b.	How much did mother smoke?	< 10 cigarettes	≥ 10 cigarettes		
c.	When during pregnancy did the mother smoke?	1 st trimester	2 nd trimester	3 rd trimester	
9.	Alcohol exposure during pregnancy (circle):	YES	NO	If YES answer the following:	
a.	How often did mother drink?	Every day	Once a week	Rarely	
b.	How much did mother drink?	Just a little	One drink	Several drinks	
c.	When during pregnancy did the mother drink?	1 st trimester	2 nd trimester	3 rd trimester	
10.	Medication/Drug exposure during pregnancy (circle):	YES	NO	If YES answer the following:	
	What drugs were taken? (list):	_____			

a.	When during pregnancy were medications/drugs taken?	1 st trimester	2 nd trimester	3 rd trimester	
11.	Birth weight (list):	_____ lbs. _____ oz.			
		(if exact weight not known check one of the following)			
		_____ less than 2.2 lbs.	_____ less than 5.5 lbs.		
		_____ less than 3.3 lbs.	_____ more than 5.5 lbs.		
12.	Length (list):	_____ inches			
13.	Length of pregnancy (circle/list):	Full term	Premature @	_____ weeks	
14.	Was an incubator required (circle):	YES	NO	If YES report how long:	

15.	Was oxygen therapy required (circle):	YES	NO	If YES report how long:	

16.	Complications during labor/delivery (circle)?	YES	NO	If YES answer the following:	
a.	What complications?	Respiratory distress	Meconium aspiration		
		Prolonged labor	Prolapsed umbilical cord		
		Fetal postmaturity	Forceps delivery		
		Cardiopulmonary abnormalities			
		Other (list): _____			

b.	C-section	YES	NO	Planned	Emergency
c.	APGAR (list):	1-min. _____	5-min. _____	10-min. _____	

Fig. 5.1. (continued)

Health History (Infancy and childhood; Continued)

- 25. Medications currently prescribed (list): _____

- 26. Vision Screening (list): Date: _____ Near 20/____ Far 20/____
- 27. Suspected hearing loss YES NO If YES describe reasons for concern: _____

- 28. Hearing Screening (list): Date: _____ Result: _____

Family History

- 29. Siblings with PTSD (circle)? YES NO
 - a. Is sibling an identical twin? YES NO
- 30. Siblings with PTSD-like behavior (circle)? YES NO
 - a. Is sibling an identical twin? YES NO
- 31. Parent with PTSD (circle)? YES NO
 - a. Relationship to child (circle): biological father biological mother step-parent
- 32. Parent with PTSD-like behavior (circle): YES NO
 - a. Relationship to child (circle): biological father biological mother step-parent
- 33. Other family members with PTSD (circle)? YES NO
 - a. Relationship to child (list): _____
- 34. Other family members with PTSD-like behavior (circle)? YES NO
 - a. Relationship to child (list): _____
- 35. Any family member with any other anxiety or mood disorder history (circle)? YES NO
 - a. Disorder (list): _____
 - b. Relationship to child (list): _____
- 36. Any family members with any medical condition that may present as a mood or anxiety disorder (e.g., thyroid disease)? YES NO
 - a. Disorder (list): _____
 - b. Relationship to child (list): _____
- 37. Family history of alcoholism (circle)? YES NO

Fig. 5.1. (continued)

Family History (Continued)

38. Highest parental educational attainment (list)

Mother _____ grade Father _____ grade

39. Current family conflict (e.g., parental separation or divorce (circle)?

YES NO If YES describe situation:

40. Number of family moves (list):

41. Other family disruptions (e.g., death, illness, disability, substance abuse):

42. Is child aware of any parental traumas?

YES NO If YES describe reactions:

School History

43. School changes (list):

44. Changes in child's school behavior?

YES NO If YES describe: _____

45. Changes in the ability to concentrate?

YES NO If YES, are they related to traumatic event exposure? _____

46. Changes in activity level?

YES NO If YES, are they related to traumatic event exposure? _____

47. Changes in academic performance?

YES NO If YES, are they related to traumatic event exposure? _____

Traumatic Event Exposure History

48. Is there a history of child abuse/neglect?

YES NO If YES describe: _____

Fig. 5.1. (continued)

Traumatic Event Exposure History (Continued)

49. Has there been exposure to other stressful events in the past (e.g., community event, death of friend or relative)? YES NO If YES describe:

50. Child's reactions to prior stressful events?

51. Has the child (within the past 3 months) been exposed to a traumatic event? YES NO If YES, describe the event:

 When did the event occur? _____
 Where did the event occur? _____
 How close was the child to the traumatic event? _____

 What did the child see and hear? _____

 How intense was the exposure? _____

 Was the child physically injured? YES NO If YES describe the injury _____

52. Coping behaviors demonstrated?

53. Is child able to control reactions? YES NO If NO describe reactions: .

54. Caregiver exposure to the trauma? YES NO If YES describe exposure:

55. Caregiver reactions to the trauma?

56. Caregiver PTSD symptoms? YES NO If YES describe:

57. Caregiver support offered to child since the trauma?

Fig. 5.1. (continued)

Traumatic Event Exposure History (Continued)

58. Support available to the family since the trauma?

59. What are the child’s reactions to the traumatic event?

Criterion	Symptoms Demonstrated Since Trauma Exposure	YES	NO
A	Intense fear, helplessness, or horror	YES	NO
A*	Disorganized or agitated behavior	YES	NO
B ¹	Recurrent and intrusive distressing recollections of the event	YES	NO
B ^{SC}	Recurrent and intrusive recollections of the event	YES	NO
B ^{1*}	Repetitive play in which themes or aspects of the trauma are expressed	YES	NO
B ²	Recurrent distressing dreams of the event	YES	NO
B ^{2*}	Frightening dreams without recognizable content	YES	NO
B ³	Acting or feeling as if the traumatic event were recurring	YES	NO
B ^{3*}	Trauma-specific reenactment	YES	NO
B ⁴	Psychological distress at exposure to cues that symbolize/resemble the event	YES	NO
B ⁵	Physiological reactivity on exposure to cues that symbolize/resemble the event	YES	NO
C ¹	Avoids thoughts, feelings, or conversations associated with the trauma	YES	NO
C ²	Avoids activities, places, or people that arouse recollections of the trauma	YES	NO
C ³	Unable to recall an important aspect of the trauma	YES	NO
C ⁴	Markedly diminished interest in participation in significant activities	YES	NO
C ^{SC}	Markedly constricted patterns of play	YES	NO
C ⁵	Feeling of detachment or estrangement from others	YES	NO
C ^{5 SC}	Social withdrawal	YES	NO
C ⁶	Restricted range of affect (e.g., unable to have loving feelings)	YES	NO
C ⁷	Sense of foreshortened future (e.g., does not expect to have normal life span)	YES	NO
D ¹	Difficulty falling or staying asleep	YES	NO
D ²	Irritability or outbursts of anger	YES	NO
D ³	Difficulty concentrating	YES	NO
D ⁴	Hypervigilance	YES	NO
D ⁵	Exaggerated startle response	YES	NO
E ^{SC}	Loss of a previously acquired developmental skill (e.g., toileting or speech)	YES	NO
E ^{SC}	New separation anxiety	YES	NO
E ^{SC}	New onset of aggression	YES	NO
E ^{SC}	New fears without obvious links to the trauma (e.g., fear of going to bathroom alone, the dark)	YES	NO

Notes. * = DSM (APA, 2000) criteria for children (see Table 5.1). SC = Scheeringa et al.’s (1995) alternative criteria for very young children (See Table 5.2).

60. Were any of the symptoms listed above demonstrated before trauma exposure(s)?
NOTE: in the case of chronic exposure this distinction may be difficult.

YES NO If YES list: _____

Fig. 5.1. (continued)

attended); previous medical history, including any illnesses or injuries and treatment; previous psychological difficulties and treatment (either special education or mental health services); and relationships and activities (Thornton, 2000). It is very helpful if the school-based mental health professional contacts the prior school(s) and/or teacher(s) to obtain information regarding the student's behavioral and academic successes and challenges in prior school settings. It has been the experience of the authors that record reviews are often completed; however, phone contact with the prior school(s) is less likely to occur. A personal conversation can often reveal a more comprehensive picture of the student's level of functioning than paperwork and how his or her functioning may be consistent or different with current school functioning. Of course, it is important to be sure proper release-of-information forms are obtained before these conversations take place.

Information about the lifetime crisis history is also important, as there is evidence to suggest that children exposed to chronic trauma, such as sexual abuse, are far more likely to meet full PTSD criteria than are children exposed to a discrete natural disaster (Tierney, 2000). In addition, directly witnessing domestic violence tends to be more strongly associated with increased rates of PTSD when compared to other types of trauma (Silva et al., 2000).

Interviews

Interviews are a vital component of the PTSD diagnostic process. While interviews with the student him- or herself are critical, caregiver interviews are also essential, especially for younger children.

Students. It is widely acknowledged that questioning the child directly about the trauma and PTSD symptoms is essential (AACAP, 1998; Perrin et al., 2000). Because children are often reluctant to share information about their traumatic experience, it is critical to establish rapport by appearing relaxed and avoiding showing signs of disapproval, shock, and/or anxiety (Saigh & Yasik, 2002). In addition, the interviewer should convey that he or she recognizes how difficult it must be to answer the questions that will be asked (Friedman, 2003).

After rapport has been established, Saigh and Yasik (2002) recommend asking if the youth has had a very frightening experience, then allowing the child to tell his or her story. If the child does not acknowledge exposure to the traumatic experience, the practitioner should indicate the source of the person who told the information and describe the event, asking the child to tell about it. For example, "Your mother told me that you saw your friend get attacked by a dog. I know this may be hard, but I would like you to tell me about what happened." It may be helpful for the interviewer to use verbal prompts such as "What happened next?" to continue the conversation (Thornton, 2000). If the child continues to refuse to talk about it, it may be helpful to engage in a nonthreatening conversation or activity to put the child at ease and then try

again to discuss the reported incident. If the youth still refuses to acknowledge the incident, the interview should be discontinued and the practitioner may need to rely on input from caregivers and records to make the diagnosis (Saigh & Yasik, 2002).

In the school setting, it is also important to consider the time of day chosen to interview the student. It is recommended this be earlier in the day in case the school-based mental health professional needs to seek additional support. For example, one of the authors was interviewing a student regarding a traumatic event when suicidal ideation was revealed. The author needed to complete a thorough suicide assessment and seek support to ensure the student's safety. This would have been much more challenging if the interview had started an hour before school was dismissed.

As the child is telling his or her story, the practitioner must also be able to assess critical elements of the event, such as proximity (both physical and emotional) and subjective appraisal of the event (Brock, 2006; Thornton, 2000). In terms of proximity, the practitioner should find out what the child witnessed (either through seeing or hearing) and his or her emotional involvement in the event, such as in the case of the injury or death of a loved one, as these factors can influence the response to the trauma (Pfefferbaum, 1997). Similarly, the extent to which the child was injured is important; this information can be gathered from the child, parent, and/or hospital records. In addition, understanding the child's subjective appraisal of the event is important. For example, the practitioner may inquire about whether or not the child thought a family member would die, the extent to which the child felt responsible for the event, and when he or she felt under control and safe (Thornton, 2000).

After the youth describes the traumatic experience, the practitioner should inquire about the presence of PTSD symptoms and associated functional impairment. If the child does not mention a symptom, it should be asked about directly. Tracking the course of the symptoms (e.g., reactions the day of the incident, when the first nightmare occurred) is also important for greater clarity in making the diagnosis (Perrin et al., 2000). Finally, asking the child about his or her thoughts, feelings, and relationships with others since the incident will help the interviewer to better understand the child's experiences and intervention needs. The interview should close with a review of the session, an explanation of what will happen next (Pfefferbaum, 1997; Saigh & Yasik, 2002), and empowerment to emphasize the resiliency factors and support systems in place for the child.

Caregivers. Parents and other caregivers should be asked questions similar to those asked of children, as well as additional information about previous functioning levels. The mental health professional should explore what happened to the child during the traumatic incident and how the child has been functioning since the incident (Perrin et al., 2000; Saigh & Yasik, 2002). Figure 5.1 may be helpful in gathering these data.

Complicating matters is the fact that some children with PTSD have not suffered from one traumatic event, but rather have had a series of traumatic stressors (e.g., ongoing physical, sexual, or emotional abuse). If this is the case, a more specialized multidisciplinary assessment may be needed to address issues of child protection, child custody, and criminal prosecution (Thornton, 2000). Although these duties are beyond the scope of practice for most school-based mental health professionals, it is critical to remember that all school personnel are mandated reporters of abuse. In addition, it is important to find out how the parents have reacted to the trauma and their expectations about how the child should be reacting (Perrin et al., 2000). As detailed in Chapter 2, children's reactions to trauma are clearly influenced by the reactions of their parents (Dyregrov & Yule, 2006). Therefore, finding out information about parental reactions may help guide intervention.

Assessment Instruments for PTSD

In addition to more open-ended interview questions like those described above, there are a number of assessment tools that may be used to aid in the diagnosis. Descriptions, use, psychometric properties, and research findings regarding selected diagnostic interviews and rating scales are summarized in Table 5.4. As delineated in the table, there are several diagnostic interviews that can be used with parents and children, such as the *Diagnostic Interview for Children and Adolescents – Fourth Edition (DICA-IV)*; Reich, Welner, & Herjanic, 1997) and the *Kiddie Schedule for Affective Disorders and Schizophrenia for School-age Children (K-SADS)*; Kaufman, Birmaher, Brent, Rao, & Ryan, 1996). Both of these semi-structured interviews are used to assess a number of disorders (e.g., Major Depressive Disorder, Conduct Disorder, and Substance Abuse), and also include a PTSD module that corresponds to the *DSM* diagnostic criteria. The *Clinician-Administered PTSD Scale for Children and Adolescents (CAPS-CA)*; Nader et al., 1996) is similar to the aforementioned tools in that it is a semi-structured clinical interview; however, it is administered only to the child and it is designed specifically to assess PTSD and its associated symptoms. Both current and lifetime diagnoses are derived, while other information obtained include symptom frequency, intensity, social, developmental, and academic functioning.

In addition to diagnostic interviews, there are a number of child and adolescent self-report scales used to assess trauma reactions. For example, the *Impact of Events Scale – Revised (IES-R)* assesses hyperarousal, intrusion, and avoidance (Weiss & Marmar, 1997). In addition, the *Child Post-Traumatic Stress Disorder Reaction Inventory (CPTSD-RI)* assesses intrusiveness, numbing, avoidance, fear, anxiety, as well as sleep and/or concentration disturbances related to a specific traumatic event (Pynoos et al., 1987).

Table 5.4 Assessment Instruments for Childhood Trauma and PTSD

	Description	Use	Psychometrics	Research Findings
Diagnostic Interviews				
<i>Diagnostic Interview for Children and Adolescents – Fourth Edition (DICA-IV</i> ; Reich et al., 1997)	Broad-spectrum semi-structured interview Youth ages 6–17 Child and parent versions	To diagnose and assess PTSD symptoms Requires training	Good reliability Excellent diagnostic validity and sensitivity Provides critical items	Can diagnose using <i>DSM-IV-TR</i> or <i>DSM-III</i> (Saigh & Yasik, 2002)
<i>Kiddie Schedule for Affective Disorders and Schizophrenia for School-age Children (K-SADS</i> ; Kaufman et al., 1996)	Includes PTSD module Semi-structured interview 2 scales: present and lifetime	PTSD diagnosis Full and partial criteria	Moderate-to-good reliability Uses independent child and adult interviews	(Ambrosini, 2000; Friedman, 2003)
<i>Structured Clinical Interview for DSM-IV-TR – Dissociative Disorders – Revised (SCID-D-R</i> ; Steinberg, 1994)	Parent and child versions Structured interview Child, parent, and adolescent forms Ages 7 and up	The PTSD module assesses PTSD symptoms	Excellent reliability and validity	Cannot assess severity and response to intervention (RTI) (Friedman, 2003)
<i>Clinician Administered PTSD Scales – Child and Adolescent Version (CAPS-CA</i> ; Nader et al., 1996)	Expansion of the <i>SCID</i> Based on <i>DSM-IV-TR</i> criteria 33 items for ages 8–18	Assesses lifetime and current diagnoses Diagnosis using <i>DSM-IV-TR</i> criterion	Good reliability and validity	Can be used to assess symptom severity and recovery (Blake et al., 1995)
Self-Report Measures <i>Impact of Events Scale – Revised (IES-R</i> ; Weiss & Marmar, 1997)	Brief self-report measure Adult and child forms	Assesses intrusion, avoidance, and hyperarousal Screens for PTSD	Excellent reliability and validity Lacks some comprehensiveness	Good clinical utility Can be used to monitor RTI (Sundin & Horowitz, 2002)

Table 5.4 (continued)

	Description	Use	Psychometrics	Research Findings
<i>Child Post-Traumatic Stress Disorder Reaction Inventory (CPTSD-RI</i> ; Pynoos et al., 1987)	20-item self-report scale For ages 6–17 Interview format Child and parent versions	Self-report or semi-structured interview	Good internal consistency Good validity and utility	Higher composite scores indicate severity Limited coverage of <i>DSM-IV-TR/III</i> criteria Has been shown to measure <i>RTI</i> (Perrin et al., 2000)
<i>Child PTSD Symptom Scale (CPSSI</i> ; Foa et al., 2001)	26-item self-report measure For ages 8–18	Assesses presence of PTSD	Good reliability and convergent validity	Assesses symptom severity, as well (Foa et al., 1993)
<i>Trauma Symptom Checklist for Children (TSCC</i> ; Briere, 1996)	54-item self-report measure For ages 8–16	Assesses reaction to trauma across six clinical subscales	Moderate-to-high reliability Excellent validity	Used in assessment and diagnosis of PTSD Effective <i>RTI</i> yields lower <i>TSCC</i> scores (Crouch, Smith, Ezzell, & Saunders, 1999)
Support and Coping				
<i>Social Support Scale for Children and Adolescents (SSSC-A</i> ; Harter, 1985)	24 forced-choice items Rating of “how true”	Measures current levels of social support	Good reliability and validity	Support can mediate symptom severity (LaGreca & Lopez, 1998)
<i>KidCope</i> (Spirito, Stark, & Williams, 1988)	Brief checklist of 10 coping strategies Self-report measure with 34 items	Can be used as a screening measure	Good reliability and validity One measure 7–12 (15 items) One for children 13 and up (10 items)	Brief nature requires secondary assessment post-screening (Spirito et al., 1988)

Table 5.4 (continued)

	Description	Use	Psychometrics	Research Findings
Acute Stress Disorder				
<i>Stanford Acute Stress Reaction Questionnaire (SAQRS);</i> Cardena & Spiegel, 1989)	30-item self-report questionnaire Adults and children	Assesses anxiety and dissociation post trauma Early intervention	Assesses immediate symptoms of ASD across many criteria Good predictive validity Good-to-excellent reliability	Finalized version of the <i>AQRS</i> Assesses immediate symptoms which correlate moderately to future PTSD (Cardena et al., 2000)
<i>Peritraumatic Dissociative Experiences Questionnaire (PDEQ);</i> Marmar, Weiss, & Metzler, 1997)	10 items Clinician or self-report Adults and children	Assesses ASD symptoms	Good reliability and validity	ASD diagnosis is related to later PTSD (Classen et al., 1998; Freidman, 2003)
Comorbidity				
<i>Strengths and Difficulties Questionnaire (SDQ);</i> Goodman, 1997)	25-item scale For children 4–10 Parent and teacher version	Assesses behavioral and emotional problems Multimodal screening	Good reliability Good predictive validity	Adequately distinguishes between psychiatric and nonpsychiatric (Stallard, Salter, Vellerman, 2004)
<i>Revised Childhood Manifest Anxiety Scale (RCMAS);</i> Reynolds & Richmond, 1985)	37 true/false items Self-report of child Ages 6–19	Assesses for anxiety Brief and simple to give	Good reliability and validity Indicates presence and severity of anxiety	A PTSD cohort had higher <i>RCMAS</i> scores than nonclinical control group (Saigh, 1989)

Table 5.4 (continued)

	Description	Use	Psychometrics	Research Findings
<i>Children's Depression Inventory (CDI, Kovacs, 1992)</i>	27 forced-choice items Ratings of "how true" Ages 7–17	Assesses the presence of depression	Good reliability and validity Indicates severity, as well Norms 7–12 and 13–17	A PTSD cohort had higher <i>CDI</i> composite scores than a control group (Saigh, 1989)
<i>State-Trait Anxiety Inventory for Children (STAI-C, Spielberger, 1973)</i>	Two scales of 20 items Ages 6–14 Yields sum for each scale	State Scale: Assesses current level of anxiety Trait Scale: Describes individual's typical response to stress	Good sensitivity Good reliability and validity Screens for anxiety Screens for deficits in coping	Children with PTSD have elevated scores on the <i>STAI-C</i> Decreases in anxiety 2 to 4 months after trauma indicated by lower <i>STAI-C</i> scores (Vila, Porche, & Mourén-Simeoni, 1999)

As reviewed in Chapter 2, individual coping strategies, as well as the presence and quality of social support, are important variables that predict whether or not a child will develop PTSD. Examples of instruments that assess these factors are also presented in Table 5.4. In addition, the issues of comorbidity and symptom overlap have been discussed in detail above and in Chapter 3. Table 5.4 reviews selected instruments that can be used in a comprehensive diagnostic assessment to differentiate PTSD from other related disorders.

Despite the well-researched nature and adequate psychometrics of many of these measures, there are several limitations when using these and other existing measures of PTSD with children (Hawkins & Radcliffe, 2006). First, despite the fact that children have been shown to manifest different symptoms than adults, most PTSD measures are designed for adults and retroactively adapted for use with children. In addition, most of these measures assess a specific trauma, as opposed to chronic or multiple traumas, which may limit their utility with children suffering ongoing trauma or abuse. Furthermore, most of these measures rely solely on the child's self-report, which is not the most comprehensive or unbiased assessment practice. Last, many of the instruments have limited standardization samples consisting of non-Hispanic, White populations (Hawkins & Radcliffe, 2006). Therefore, these measures should be used with caution, and a multimodal assessment should be used to ensure the accuracy and exhaustiveness of each assessment.

Concluding Comments

Diagnosing PTSD in children is a complex process. Practitioners engaging in this process should be well informed about the diagnostic criteria and associated features of this disorder. In addition to a comprehensive interview, there are a variety of diagnostic interviews and self-report measures to aid in diagnosing this disorder.

Chapter 6

Psychoeducational Assessment

Although a *DSM-IV* diagnosis of PTSD is valuable, it is not sufficient to determine the educational needs of children in school. For example, not every student who is diagnosed with PTSD automatically qualifies for special education services. As noted in previous chapters, *IDEIA* (2004) broadly defines 13 disabilities and their unique accompanying diagnostic criteria, which are used in schools. To receive special education and related services within the school, a student must be assessed and classified under one (or more) of these broadly defined eligibility categories and the disability must be impacting their educational and/or social achievement.

Although the *DSM-IV-TR* and *IDEIA* have considerable overlap for some disorders, such as autism, the relationship between *IDEIA*'s definition of Emotional Disturbance (ED), which is most relevant for PTSD, and the *DSM-IV-TR*'s many emotional and behavioral disorders is poor and unclear (Power & Eiraldi, 2000). The ED category for classification is broad and may encompass *DSM* diagnoses such as PTSD, Depression, and Schizophrenia. The two systems also serve different purposes. While the *DSM-IV* establishes objective criteria for every mental health disorder, the method of assessment is essentially left up to the practitioner. This is in contrast to the broad disability definitions in *IDEIA*, which are often left up to individual schools and states to further refine, but wherein the processes of assessment (e.g., multidisciplinary, parent involvement, timelines) are detailed and mandated (House, 2002). House (2002) also emphasizes that the *DSM-IV* is aimed at reliable and valid classification for clinical treatment, whereas *IDEIA* attempts to provide safeguards so that all children can benefit equally from their public education.

This chapter provides an overview of the *IDEIA* definition of ED, including relevant considerations for children with PTSD. It then details recommendations for conducting a psychoeducational assessment of these students, including cognitive, academic, and language assessment; parent, child, and teacher interviews; behavior rating scales; observations; and coping and social support questionnaires. Although the definition of ED is broad, this classification is discussed in this chapter as it most appropriately encompasses the major symptoms of PTSD as defined by the *DSM-IV-TR*.

Emotional Disturbance

Most relevant to students with PTSD is the *IDEIA* disability classification of ED. To be classified as ED, students must have a “condition” (such as PTSD) that meets one or more of the five criteria provided in Table 6.1. Because state regulations can also slightly differ from federal regulations, it is important to be knowledgeable about specific state qualification guidelines regarding ED.

A child with a *DSM* diagnosis of PTSD may meet the following criteria of ED: a tendency to develop physical symptoms or fears associated with personal or school problems; the inability to build or maintain satisfactory interpersonal relationships with peers and teachers; or inappropriate types of behavior or feelings under normal circumstances. Since *IDEIA* is an educational classification system, however, it is critical that symptoms of PTSD adversely affect the child’s educational performance to meet criteria for ED (House, 2002). If a student with PTSD is maintaining adequate academic success and appears to be adjusting personally and socially within the school environment, regular school-based programming will likely be sufficient in meeting his or her educational needs (Kruczek & Salsman, 2006). In this case, psychotherapy or other treatments may be recommended, although the treatment may fall outside the purview of special education services, and may not be legally required. For some students whose PTSD is not severe enough to require *IDEIA* services, Section 504 accommodations may be appropriate.

Although students with PTSD may meet or even exceed age-appropriate academic expectations, children who have experienced traumatic stress have also shown an increased risk for academic problems (see Lipschitz, Rasmusson, Anyan, Cromwell, & Southwick, 2000; Pynoos, Steinberg, & Goenjian, 1996; Saigh et al., 1997). For example, Shonk and Cicchetti (2001) compared maltreated children to a matched group of children from low-income families and

Table 6.1 *IDEIA* 2004 Criteria for Emotional Disturbance

300.8 (4) (i).	<i>Emotional disturbance</i> means a condition exhibiting one or more of the following characteristics over a long period of time and to a marked degree that adversely affects a child’s educational performance:
(A)	An inability to learn that cannot be explained by intellectual, sensory, or health factors.
(B)	An inability to build or maintain satisfactory interpersonal relationships with peers and teachers.
(C)	Inappropriate types of behavior or feelings under normal circumstances.
(D)	A general pervasive mood of unhappiness or depression.
(E)	A tendency to develop physical symptoms or fears associated with personal or school problems.
(ii)	Emotional disturbance includes schizophrenia. The term does not apply to children who are socially maladjusted, unless it is determined that they have an emotional disturbance under paragraph (c)(4)(i) of this section.

found that the maltreated children were more likely to have academic problems and to receive special education services. It should be noted that many of these studies were not conducted with students with PTSD, per se, but rather those who had experienced traumatic stress. Still, for a teacher or other school staff member concerned about the anxiety symptoms of a child with PTSD and their adverse impact on educational functioning, a psychoeducational assessment is warranted.

Children and adolescents exposed to trauma often experience anxiety, depression, concerns about safety and security, and fears (La Greca & Silverman, 2006). These are typical responses to abnormal situations, and do not warrant an ED classification. If, however, these symptoms are severe and meet the aforementioned criteria for ED, including the adverse impact on educational performance, IEP teams may consider this classification. A subsequent classification of ED then entitles the classified student to special education and related services. It should be noted that a diagnosis of PTSD is not necessary to be classified as ED. Rather, the child must display the symptoms delineated for ED. The following section reviews components to be included in a comprehensive assessment of social-emotional functioning, with a particular emphasis on considerations for assessing a child with PTSD.

Conducting a Psychoeducational Assessment for PTSD

There are several recommendations for conducting reliable, valid, and comprehensive assessments of emotional and behavioral problems. “Best practices” involve gathering various sources of assessment data from multiple informants (e.g., parents, teachers, students) across settings (Achenbach & McConaughy, 1997; McConaughy & Ritter, 2002). According to Cook-Cottone (2004), when PTSD is suspected, a school-based mental health professional can conduct a psychoeducational assessment (cognitive, academic, and behavioral measures) and supplement it with measures specific to PTSD.

Establishing rapport is always important when conducting an assessment; this may be particularly true for children who have been traumatized. For example, the considerations in developing rapport outlined in Chapter 5, such as appearing relaxed and nonjudgmental, and conveying how difficult it must be to answer questions about the trauma, are relevant when conducting a psychoeducational assessment. The school psychologist conducting the assessment should also be aware that a child exposed to chronic trauma may be preoccupied by monitoring the nonverbal affective messages conveyed by the evaluator (Coster & Cicchetti, 1993). For example, the student may be verbalizing that everything is fine and that he or she is coping well while at the same time tears are beginning to form. Therefore, attending to both verbal and nonverbal cues and avoiding signs of disapproval are critical in establishing and maintaining rapport.

Cognitive, Academic, and Language Assessment

Whenever cognitive ability is in doubt, a reliable and valid individual cognitive assessment should be conducted (Saigh & Yasik, 2002). Children exposed to chronic maltreatment tend to have lower general cognitive levels as compared to same-aged peers (Coster & Cicchetti, 1993; Saigh, Yasik, Oberfield, Halamandaris, & Bremner, 2006). In addition, children with maltreatment-related PTSD demonstrate significant deficits in attention (e.g., greater distractibility and impulsivity) and abstract reasoning/executive function when compared with children with similar demographics that had not been maltreated. The children with PTSD were more susceptible to making errors on a task of sustained attention (Beers & De Bellis, 2002). Further, it is interesting to note that there is some evidence suggesting that the intelligence test profiles of children with PTSD are unique. For example, in a sample of 115 children and adolescents, when compared to trauma-exposed children without PTSD and non-trauma-exposed children, children with PTSD scored significantly lower on *Wechsler Intelligence Scale for Children (WISC)* verbal subtests, but not on performance subtests (Saigh et al., 2006). Finally, children who have higher cognitive functioning are more able to cope with complex emotions and overcome anxiety and fear (Ronen, 2002). For these reasons, administering a standardized cognitive assessment may be warranted in some, though not necessarily all, circumstances where a child is suspected of having PTSD.

Administering a standardized memory test may also be helpful in a psychoeducational assessment. Support for the inclusion of such measures is provided by a study of 131 children and adolescents, which found that on the *Wide Range Assessment of Memory and Learning (WRAML)*, verbal memory deficits were associated with PTSD (and not with trauma exposure in the absence of PTSD), and general memory and learning deficits were found among youth with PTSD (when compared to non-traumatized children; Yasik, Saigh, Oberfield, & Halamandaris, 2007). When intelligence and memory test results are suggestive of cognitive impairments, information about PTSD symptoms and daily functioning may need to be gathered primarily from parents and teachers instead of relying heavily on child self-reports.

The adverse impact on the educational performance criterion required for a classification of ED is typically interpreted as deficiencies in academic achievement. Therefore, examining school report cards, standardized achievement test scores, and daily classroom work before and since the incident may be useful in determining trends in functioning (Saigh & Yasik, 2002). Teacher reports are also very helpful in assessing adverse impact on educational performance. It should also be noted that interpreting this adverse impact on educational performance solely in terms of changes in academic performance has been argued to be too narrow an interpretation (Forness & Knitzer, 1992). Some have recommended a broader interpretation of educational performance to encompass functioning in academics, extracurricular activities, and other

important aspects of school (Epstein, Cullinan, Ryser, & Pearson, 2002). Wodrich, Stobo, and Trca (1998) suggest that practitioners aim to understand the unique manner in which a child's emotional problems may impact his or her schooling and use multiple indicators (e.g., school attendance, mastery of the curriculum) to assess whether there is an adverse impact on educational performance. Therefore, depending on the specific referral question, the school psychologist may choose to administer a standardized academic achievement test, review school records (e.g., grades, attendance, scores on group-administered assessments, office discipline referrals), collect teacher reports about present levels of academic functioning, and/or engage in curriculum-based assessment.

A thorough language evaluation may also be warranted for children who have been maltreated or traumatized (Cole et al., 2005; Coster & Cicchetti, 1993). Consistent with the previously described reports of lower verbal IQ and verbal memory scores among youth with PTSD (Saigh et al., 2006; Yasik et al., 2007), school-aged children who have been chronically maltreated are more likely to have language difficulties, likely due to the cumulative effects of being reared in an environment that does not provide the quality social interactions important for language development (Coster & Cicchetti, 1993). Therefore, the speech and language specialist should assess all aspects of language, including linguistic aspects, pragmatics, expressive and receptive language, and narrative functions in cases where the child has been the victim of chronic traumatization.

Parent, Teacher, and Child Interviews

Parent interviews provide information regarding the child and family history, a description of the problem, and related environmental factors (Busse & Rybiski Beaver, 2000; McConaughy & Ritter, 2002). Obtaining such information is particularly important in documenting the ED criterion that the condition has existed "over a long period of time and to a marked degree." Many of the questions detailed in the previous chapter about symptoms and onset are relevant for a psychoeducational assessment. In addition, the degree of functional impairment needs to be assessed. Therefore, examiners should ask caregivers about the youth's behavior in the home, school, and community, including specific questions about whether or not the child has been fighting at home or in school or avoiding social interactions (Saigh & Yasik, 2002).

Teachers are also able to provide important information regarding the child's behavior within the school setting (Busse & Rybiski Beaver, 2000; McConaughy & Ritter, 2002). Here again, obtaining such information is important in documenting the ED criterion that the condition has existed "over a long period of time and to a marked degree," and that it adversely affects educational performance. Teachers should be asked if the child displays any of the following signs that may interfere with schoolwork: (a) excessive daydreaming or appearing to be in a daze; (b) unexplained outbursts of

emotions, or tantrums, that may be in response to cues that teachers and others are unaware of; and (c) difficulty completing tasks due to intrusive thoughts or images (Graham, 1993). For those students who have multiple teachers, it is important that each teacher is asked about the child's behavior; for example, the behaviors and academic achievement displayed in math class may be different from those displayed in gym or art class.

Finally, child interviews allow practitioners to directly assess children's perceptions of events and individuals in their lives (Hughes & Baker, 1990). Specific precautions to take and questions to ask when assessing a child with PTSD are found in Chapter 5. It should be noted that the school may be an appropriate setting to conduct a child interview because it is recommended that the child be interviewed without the parent present. As stated previously, this is because children often tend to diminish the impact of the traumatic event when questioned in front of their parent(s), likely because they want to protect their parents from being concerned or because they may receive signals that certain things should not be talked about (Ronen, 2002).

Behavior Rating Scales

Behavior rating scales are valuable assessment tools in the evaluation of ED. Because they reduce the amount of subjectivity inherent in adults' judgments of children by operationalizing behavior, providing structured responses, and yielding quantitative, norm-based standard scores (McConaughy, 1993), these tools are important complements to the interview strategies just discussed. Behavior rating scales also allow for behavior to be assessed in a variety of settings and by different raters, such as parents, teachers, and students themselves. Rating scales also allow perceptions or reports of a child's behavior to be compared to that of same-aged peers. This is particularly important because many children experience behavior problems as part of their normal development; in fact, many symptoms of childhood mental disorders are comprised of symptoms that are displayed to some extent by all children (Ronen, 2002).

It is wise to administer an omnibus, or broadband, rating scale, to assess a wide range of potential problems that may be present in a child who has experienced a traumatic event. For example, the *Achenbach System of Empirically Based Assessment (ASEBA)* (Achenbach & Rescorla, 2001) and the *Behavioral Assessment System for Children – Second Edition (BASC-2)* (Reynolds & Kamphaus, 2004) each have parent, teacher, and child self-report rating forms that assess both internalizing and externalizing dimensions of behavior. It is also important to follow up with more focused narrow-band self-report scales assessing global anxiety. The *Multidimensional Anxiety Scale for Children (MASC)* (March, 1997) is the most widely used general measure of anxiety for children (Langley, Bergman, & Piacentini, 2002) and assesses a range of anxiety symptoms, as well as four domains: Physical Symptoms, Social Anxiety, Harm

Avoidance, and Separation/Panic. The *Screen for Child Anxiety Related Emotional Disorders (SCARED)* (Birmaher et al., 1997) is another tool with adequate psychometric properties that assesses Panic/Somatic, Generalized Anxiety, Separation Anxiety, Social Phobia, and School Phobia. Other measures include the *Revised Children's Manifest Anxiety Scale (RCMAS)* (Reynolds & Richmond, 1985), now in its second edition (Reynolds & Richmond, 2008) and the *State-Trait Anxiety Inventory for Children* (Spielberger, 1973), which can be helpful in differentiating children with anxiety disorders and PTSD from those with externalizing disorders, but are not as helpful in differentiating anxiety from affective disorders (Seligman, Ollendick, Langley, & Baldacci, 2004). For more comprehensive reviews of anxiety measures, see Langley et al. (2002), Myers and Winters (2002), and Velting, Setzer, and Albano (2004).

Although obtaining rating-scale information from multiple informants (e.g., parents, teachers, and students) is the "gold standard" in assessment, it is important to note there is little correspondence between different informants of children's symptoms (see e.g., Achenbach et al., 1987). This is particularly true when informants rate internalizing, as opposed to externalizing, behaviors (Kolko & Kazdin, 1993; Nickerson & Nagle, 2001). There are several possible reasons for this lack of correspondence. Situational specificity is a commonly cited explanation that focuses on a contextual basis for behavior, based on the assumption that behavior varies as a function of the setting in which it occurs (Kazdin, 1979). In addition, parents and teachers have different opportunities to observe behavior, with parents tending to have greater familiarity with their children's pattern of speech and nonverbal cues (Diamond & Squires, 1993; Kaufman, Swan, & Wood, 1980). Rater biases of informants, including response set, social desirability, and frame of reference, have been found to affect convergence (Nickerson & Nagle, 2001; Youngstrom, Loeber, & Stouthamer-Loeber, 2000). In addition, parent ratings may be affected by their own psychological disturbance and, possibly, denial of the severity of the child's trauma reaction (Ronen, 2002). Last, children tend to underreport their acting-out behaviors as compared to parents and teachers (Edwards, Schulz, & Long, 1995).

Despite these issues, evidence supports the conclusion that composite measures obtained from multiple sources are superior to reports from a single informant in predicting outcomes for victims of peer aggression (Ladd & Ladd, 2002). Therefore, it is important to examine information and data provided by all informants and identify patterns. A general rule of thumb is that if anyone reports a symptom, it should be considered indicative of a potential problem. Clearly, consistency across informants and sources of information enhances confidence in drawing conclusions about the extent of a problem. For example, if a child reports having intrusive thoughts about the trauma, this should be noted as an indication of persistent re-experiencing of the trauma. A teacher or parent report of a child having difficulty concentrating or appearing as if his or her mind were wandering would likely increase the school-based mental health practitioner's confidence that the child is, indeed, re-experiencing the trauma in a way that interferes with functioning.

Observations

Direct observation procedures are a standard part of a multimethod, multi-source evaluation and are useful because they involve low levels of inference (McConaughy & Ritter, 2002; Skinner, Rhymer, & McDaniel, 2000). Direct observations are another tool for documenting that PTSD meets the ED eligibility criterion of existing “to a marked degree” and “adversely affects a child’s educational performance.” The school-based mental health practitioner engages in observations throughout the assessment process. For example, during the student interview, the practitioner should note any behaviors that are suggestive of anxiety, such as fidgeting, biting nails, or avoidance of certain topics. In addition, behavioral avoidance tasks (*BATs*) can be used in school or playground settings to observe and record the degree to which a child approaches a distressing situation (Kendall & Suveg, 2006). In the case of PTSD, this would involve identifying the situations that cause the anxiety reactions (e.g., cues that remind the child of the trauma) and observing these situations to assess the child’s degree of avoidance.

Direct observations are also useful as part of a functional behavioral assessment to determine the conditions that may be cueing and maintaining the behaviors (Skinner et al., 2000). Because students with PTSD may engage in extreme withdrawal or aggressive behaviors to avoid trauma reminders, it is critical that the functional behavioral assessment identify the antecedents and consequences of these behaviors (Cole et al., 2005). This information can then be used directly in planning positive behavioral interventions. Parent and teacher interviews will also be important to the functional assessment of behavior. O’Neill and colleagues (1997) provide recommendations for such interviews. Adapted from the work of O’Neill and his colleagues, Fig. 6.1 provides Brock and colleagues’ (2006) functional assessment interview.

Coping and Social Support Questionnaires

In addition to assessing the specific behaviors relevant to PTSD, anxiety, or depression as part of a psychoeducational evaluation, it is also useful to assess children’s coping, as this is relevant for exposure to traumatic events and recovery (Evans & Oehler-Stinnett, 2006). In addition to the coping and social support questionnaires listed in Chapter 5, the child and parent versions of the *Coping Questionnaire* (Kendall, 1994) may be useful. This measure assesses the child’s ability to cope with anxiety-provoking situations. Teachers can also be important sources of information regarding how the child typically copes with anxiety-provoking situation or aversive situations. Obtaining information about coping can also be useful in guiding interventions.

Functional Assessment of Behavior

Student: _____ Age: _____ Gender: _____
Date of interview: _____ Interviewer: _____

Target Behavior(s):

Behavior History:

How long have the target behavior(s) been a problem? _____

What has been tried previous to address the target behavior? _____

What has been the effect of the previous behavior interventions? _____

Consequences of the Target Behavior(s):

What happens immediately after the behavior(s) that might be reinforcing? _____

What does the student get? _____

What does the student avoid? _____

Are there specific/unique situations that typically generate specific consequences? If so, what are those situations? _____

Fig. 6.1 This figure provides an interview form appropriate for use when collecting behavioral data. Adapted from Brock and colleagues (2006) and O'Neill and colleagues (1997)

Replacement Behavior(s):

What other behavior(s), which are incompatible with the target behavior(s) and ideally obtain the same goals as target behavior, can be encouraged? Define the replacement behavior(s) in terms that are measurable readily observable. _____

Does the student currently display this behavior(s), or does it need to be taught to the student? _____

Consequences of the Replacement Behavior(s) [S_{RF}]:

What happens immediately after the behavior(s) that might be reinforcing? _____

What does the student get? _____

What does the student avoid? _____

Are there specific/unique situations that typically generate specific consequences? If so, what are those situations? _____

Establishing Operations

What events, when present, make it more or less likely that the target or replacement behaviors be viewed as reinforcing and are thus more likely to occur?

a) *What medications is the student taking?* _____

Fig. 6.1 (continued)

What effect do they have on the target behavior? _____

What effect do they have on the replacement behavior? _____

b) *Does the student have any medical or physical conditions (e.g., asthma, allergies, rashes, dental problems, sinus infections, seizures, etc.)?* _____

What effect do they have on the target behavior? _____

What effect do they have on the replacement behavior? _____

c) *What are the student's sleep patterns?* _____

What effect do they have on the target behavior? _____

What effect do they have on the replacement behavior? _____

d) *What are the student's eating patterns or diet?* _____

What effect do they have on the target behavior? _____

What effect do they have on the replacement behavior? _____

e) *How predictable is the student's daily routine?* _____

What effect does the routine have on the target behavior? _____

What effect does the routine have on the replacement behavior? _____

f) *What are some of the choices the student may be able to make during the course of a school day?*

Fig. 6.1 (continued)

What effect does the ability to make choices have on the target behavior? _____

What effect does the ability to make choices have on the replacement behavior? _____

g) Are there some situations, settings, or days that present the student with an unusually crowded and/or noisy environment? _____

What effect does a crowded or noisy environment have on the target behavior? _____

What effect does a crowded or noisy environment have on the replacement behavior? _____

h) What is the pattern of staffing support present in the student's environment (e.g., 1:1 or 2:1)? _____

Is there a particular staffing level that has an effect on the target and/or replacement behavior? _____

Are their types of staff interactions that appear to have an effect on the target and/or replacement behavior? _____

Does the type of staff training have an effect on the target and/or replacement behavior? _____

i) Are there any other events, occurring either the night before, or the morning that the behavior was displayed, that are suspected to play a role in the target and/or replacement behaviors? _____

Immediate Antecedents [S^D]:

What are the specific events that immediately precede/predict the target and replacement behaviors? These events are the cues, signals, or signposts that tell the student that a given behavior will yield a reinforcing outcome.

a) Time of day.

When is the target behavior most likely to occur? _____

When is the replacement behavior most likely to occur? _____

When is the target behavior least likely to occur? _____

Fig. 6.1 (continued)

When is the replacement behavior least likely to occur? _____

b) Setting.
Where is the target behavior most likely to occur? _____
Where is the replacement behavior most likely to occur? _____
Where is the target behavior least likely to occur? _____
Where is the replacement behavior least likely to occur? _____

c) People.
With whom is the target behavior most likely to occur? _____
With whom is the replacement behavior most likely to occur? _____
With whom is the target behavior least likely to occur? _____
With whom is the replacement behavior least likely to occur? _____

d) Activity.
During what activities is the target behavior most likely to occur? _____
During what activities is the replacement behavior most likely to occur? _____
During what activities is the target behavior least likely to occur? _____
During what activities is the replacement behavior least likely to occur? _____

e) Other antecedents.
Are there any other antecedents that appear to cue or trigger the target behavior (e.g., specific task demands, noises, lights, clothes, smells, etc.)? _____

f) *If you wanted to guarantee that the target behavior would occur, what would you do?* _____

Fig. 6.1 (continued)

Summary Statements: EO[(S^D)R>S_{RE}]

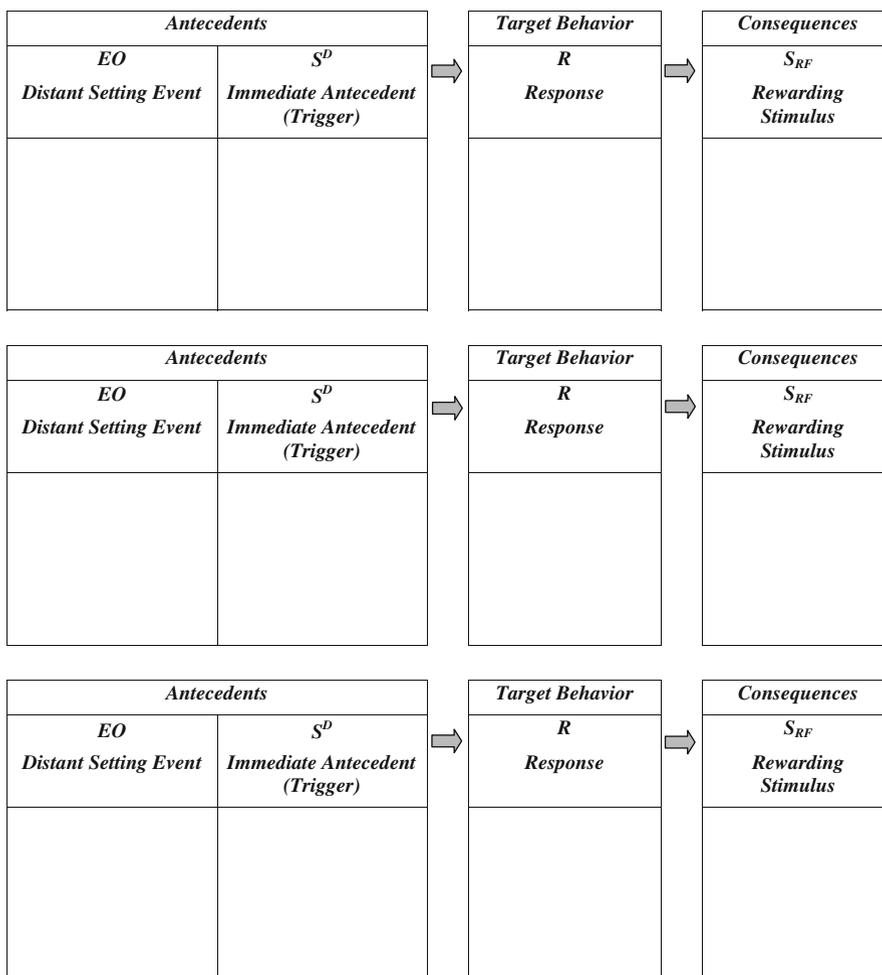


Fig. 6.1 (continued)

Linking Assessment to Intervention

The primary emphasis of the psychoeducational assessment should be how the information can be used to guide school personnel and others in educating and supporting the child. As stated by Ronen (2002):

...perhaps too much effort is...put into classifying and diagnosing children who exhibit rapid changes, instead of adapting ourselves to the child's new needs, whether caused by PTSD or not... We should aim to offer support and a steadfast presence for

the child, helping him or her where possible and, most of all, providing coping skills that he or she can apply independently when necessary. (p. 102)

In written reports, it is far less important to provide information about how the child has become traumatized as it is to provide school personnel with an understanding of what the child needs to be successful (Cole et al., 2005). The final report should include information about academic functioning, behavioral functioning, symptom severity, diagnosis, and recommendations (Cook-Cottone, 2004). Other specific information that is important to include in a report includes: (a) traumatic triggers; (b) specific ways to help the child regulate emotion and feel safe; and (c) supports to be provided. In addition, the IEP (or any other individualized behavior or accommodation plan) should describe in detail the accommodations, supports, services, and actions to be taken if a traumatic event is triggered (Cole et al., 2005). More detail on these recommendations for educators working with PTSD is provided in Chapter 7.

Concluding Comments

Not all students with PTSD will need special education services. This decision depends on a number of factors, including the severity of the symptoms, the extent to which the impairment meets the criteria specified in *IDEIA*, and the adverse impact on educational performance. A comprehensive psychoeducational assessment should obtain multiple forms of information from different sources, including cognitive and academic assessments, if indicated, as well as interviews, rating scales, and observations. It is extremely important that the assessment result in useful recommendations for educators working with the student, regardless of whether the student is served in general or in special education.

Chapter 7

Treatment

As mentioned in the previous chapter, school-based mental health professionals must be able to provide practical, useful, and empirically based recommendations to ensure that students with PTSD can benefit from their schooling. Because the experience of a traumatic event is one of the required criteria for PTSD, this chapter begins with a review of more general issues relevant for preventing and intervening when traumatic events occur. These issues include the importance of being sensitive to faith and culture, preventing traumatic responses to crises by promoting resilience, and initial and secondary crisis interventions recommended for children and their caregivers. The chapter then focuses on specific recommendations for educators working in schools with children with PTSD, including an overview of school-based PTSD treatments. Because the school is often not the most appropriate treatment setting for children with PTSD, information is provided about making referrals for community-based PTSD treatment. Psychotherapeutic and psychopharmacological treatments for PTSD are also reviewed. Finally, issues of recovery and school reintegration for students with PTSD are discussed.

Cultural Sensitivity and Trauma Response

Before reviewing more specific strategies for treating PTSD, it is critical to acknowledge that school-based mental health professionals must be sensitive to issues of faith and culture (Kinchin & Brown, 2001; Sandoval & Lewis, 2002). The *DSM-IV-TR* definition of a traumatic event involves death or threatened death, a subject that gives rise to questions about the meaning and purpose of life, as well as what will happen next. Many of the feelings, beliefs, and meanings surrounding death are guided by a person's faith (Kinshin & Brown, 2001).

The complexities of language and cultural issues as they relate to children and PTSD were illustrated by Armstrong's (1991) account of the Stockton schoolyard shootings. Over 70% of the students involved in this incident were of Southeast Asian descent: Cambodian, Vietnamese, Hmong, or Laotian. Although many of these Southeast Asian students appeared to display PTSD

symptoms, many of these children suffered silently, a response typical of their culture. The strong religious influence in the lives of these children was evident, as some experienced intense fears of spirits or shadows, particularly those of deceased children and their murderers. Many school and community crisis interveners, unaware of the culture and religious beliefs, responded in ways that were not comforting to the children and the families of the deceased children. In fact, a Buddhist monk and local leader came to the school grounds after hours and conducted two exorcisms. According to Armstrong (1991), telling children of the ceremony was the only thing that counselors could do to comfort them. Clearly, this situation provides many examples of how an understanding of the culture or cultures represented within a group of children who have been exposed to a trauma is an essential prerequisite to PTSD treatment.

When working with an individual in treatment, it is also important for professionals to be cognizant of the cultural context. For example, gestures and physical contact can be misinterpreted if it is not well understood how these are valued by a specific culture. Some cultures value physical contact as a helpful comforting response that conveys care, whereas other cultures might find this inappropriate and even unacceptable. Although each situation is unique, it is important to apply knowledge of and sensitivity to cultural considerations when providing interventions for children with PTSD.

Prevention of PTSD

Prevention is a proactive rather than reactive approach of delivering mental health services to promote the social, emotional, and psychological well-being of school-aged youngsters (Dawson et al., 2003). As discussed in Chapter 2, when resiliency factors are absent, the risk for PTSD increases. Therefore, promoting resiliency in children can be viewed as a preventive intervention for PTSD. Resiliency can be promoted by strengthening the child's inner resources, the family, and the larger social environment (Brock, 2006; Klingman & Cohen, 2004). There is a growing body of evidence supporting the effectiveness of universal prevention programs to promote positive youth development in a variety of domains, such as building resilience and social-emotional competence (see Catalano, Berglund, Ryan, Lonczak, & Hawkins, 2002). These systematic approaches can be utilized by schools to help ensure that students develop skills known to protect them from the negative effects of a trauma.

Initial Crisis Interventions for Traumatic Event Exposure

As reviewed in Chapter 5, one of the diagnostic criteria for PTSD is that the person experienced, witnessed, or was confronted with an event or events that involved actual or threatened death, serious injury, or threat to the physical

integrity of self or others and the response involved intense fear, helplessness, or horror. Although not in and of themselves treatments for PTSD, the initial responses to traumatic event exposure consist of a variety of crisis interventions that are often highly directive and focused on meeting basic physical and emotional needs (Pfefferbaum, 1997). As discussed previously, there are many environmental risk factors that increase one's susceptibility to PTSD, such as exposure to chronic stressors, lack of economic resources, and disruptions in social support. Therefore, the initial crisis response should aim to ensure physical and emotional safety and reestablish social support systems.

Ensure Physical and Emotional Safety

The first intervention when a traumatic event occurs is not treatment, per se, but rather meeting children's needs for physical and emotional safety. For example, in the case of child abuse or neglect, an initial treatment strategy would be to report the abuse so as to stop the abuse and ensure physical safety. If a child has been exposed to a natural disaster, the initial response focuses on meeting physical needs, such as obtaining food, clothing, shelter, and applying for disaster grants and loans (Evans & Oehler-Stinnett, 2006). After basic physical needs have been met, the next step is to ensure that students believe they are safe. Whether or not a student goes on to develop PTSD, recovery can only begin when the student believes that trauma-related dangers have passed (Barenbaum, Ruchkin, & Schwab-Stone, 2004; Brock, 2006).

Reestablish Social Support Systems

Another essential immediate response to traumatic event exposure is to facilitate reunification with parents and other caregivers, and to provide caregiver training to support natural recovery and adaptation (Brock, 2006). As stated in Chapter 2, social supports are associated with both acute and long-term stress reactions (Pine & Cohen, 2002). Being with and sharing crisis experiences with positive social supports facilitates recovery from trauma, and lower levels of such support is a strong predictor of PTSD. This support is especially important to the recovery of children (Barenbaum et al., 2004; Caffo & Belaise, 2003; Litz, Gray, Bryant, & Adler, 2002; Ozer et al., 2003; Yorbik, Akbiyik, Kirmizigul, & Söhmen, 2004). Therefore, reconnecting children with their families and others in their social support network is critical for children to begin the natural process of healing. In some cases, separation from parents may be the "traumatic stressor" that results in PTSD (Yorbik et al., 2004), emphasizing the critical importance of quickly reuniting children with their caregivers.

Secondary Crisis Interventions

After ensuring physical safety, perceptions of safety, and reuniting children with caregivers, there are several recommended interventions that schools can implement with and for psychologically traumatized children. Because the duration of symptoms must occur for at least one month before diagnosing PTSD, it is likely that children who are suffering, yet not formally diagnosed with PTSD, will require immediate treatment in the days and weeks following an event. Therefore, a brief review of secondary crisis interventions are reviewed next, with particular attention to indications and contraindications for children suspected of having PTSD (e.g., those with ASD), as well as those who are at high risk for PTSD. Again these interventions are not “treatments” for PTSD, but they do set the stage for such interventions.

Psychoeducation with Parents and Teachers

Providing psychoeducation after a traumatic event is a widely advocated crisis intervention (Brock, 2006; Klingman & Cohen, 2004; Kruczek & Salsman, 2006). Information to be shared with teachers and parents may include general information about crises, children’s responses, and ways to help children cope (Brock & Jimerson, 2004). Even a short meeting with staff where the principal and mental health professional acknowledge feelings, provide clear, accurate information, describe safety and security measures being taken, and outline the plan for the day can be helpful in preparing teachers to feel supported and, in turn, be ready to help their students (Klingman & Cohen, 2004).

Allowing opportunities for parents to receive information, ask questions, and consult with school staff about how to help their children after a crisis results in better coping and fewer problems for children over time (Pynoos, Steinberg, & Goenjian, 1996). There are a number of resources available to guide parents in helping their child after a traumatic event (see Appendix). Parents should be educated about the types of behaviors that are typical in response to a traumatic situation so that they do not mistake typical responses for ADHD, oppositional behavior, or depression. In addition, they should be given guidance on the signs and symptoms of PTSD. The information provided in Chapters 2 and 4 can also be used to develop psychoeducational programs that inform caregivers of the risk factors and warning signs of PTSD.

Parents can also be taught appropriate ways to manage these responses and facilitate healthy coping of their children. It is critical to remind caregivers that children take their cues from the adults around them and that adult PTSD predicts a greater likelihood of child PTSD (Green et al., 1991). Therefore, helping parents to monitor their own reactions and get the help they need to model appropriate ways of managing their responses is vital. Caregivers should also be advised that letting the child express his or her thoughts and feelings

when ready is better than avoiding the subject or pressing the child to share before he or she is ready. It is also important for parents to strive to make certain their child has an expectation of safety, although this should be based on factual information so that the perception is realistic. Parents and caregivers should also minimize repeated exposure to the trauma through watching the event on TV, as this has been correlated with increased symptomatology (e.g., Hoven et al., 2004; Pfefferbaum et al., 2001).

Although the main focus of psychoeducation is to educate parents and teachers to help children, it is also important that the session(s) end with a brief summary of how the adults can help themselves and support each other. It is also valuable if a list of resources, including support services for both children and the adult caregivers, in addition to contact numbers, is provided to caregivers. The caregivers will have a lot to do following an event and the easier the mental health professionals can make it for the adults in regards to helping with the logistical aspects of providing support services, the more the caregivers can focus on helping the children.

Psychoeducation with Students

Teachers, under the guidance of the school-based mental health professional (Klingman & Cohen, 2004) or together with this professional (Brock, 2002c), can provide a primarily psychoeducational intervention with intact classrooms or groups of students who have been exposed to a traumatic event. A typical psychoeducation session may include answering questions and dispelling rumors about the crisis, preparing students for common crisis reactions, teaching them how to manage reactions, and developing a crisis reaction management plan (Brock, 2002c, 2006). In addition, the intervention may include teaching simple, situation-specific coping strategies (e.g., taking appropriate safety measures; understanding that each person grieves in their own way; implementing strategies to minimize anxiety; Klingman & Cohen, 2004). Students should also be told about atypical reactions that may signal the development of PTSD. Again, it is important to acknowledge that such psychoeducational approaches are not designed in and of themselves to either prevent or treat PTSD. However, they do give students a psychological road map to follow that should facilitate the provision of appropriate treatments.

Psychological First Aid

Psychological first aid, first proposed by Slaikeu (1990), has the goal of helping an individual who is in crisis to reestablish immediate coping or problem-solving skills. Oftentimes people are immobilized in the face of a crisis; this immediate intervention can help individuals manage their feelings. As described

by Brock (2006), one psychological first aid model includes the following steps: (a) establishing rapport; (b) identifying and prioritizing the crisis-related problems; (c) addressing the crisis problem by taking action; and (d) reviewing progress to ensure the individual is moving in the right direction. An important element of this intervention includes minimizing feelings of isolation by reassuring the child that he or she is safe and encouraging him or her to use significant others (e.g., caregivers, friends) as supports (Phipps & Byrne, 2004). This is an important first step in the recovery process for people who have experienced a crisis, whether or not they develop PTSD. Therefore, it should not be conceptualized as therapy, but rather a first step in the therapeutic process (i.e., a response that gets individuals with PTSD to the therapist's office). It may also be helpful in identifying students who have developed PTSD (Litz et al., 2002).

A widely used, though controversial approach, to helping people who have experienced a crisis or who have helped others in a crisis is Critical Incident Stress Debriefing (CISD), which involves having individuals share their crisis experiences (e.g., sights, sounds, smells) and describe their crisis reactions. This is a controversial intervention given that studies have demonstrated that one-time ("one-off") psychological debriefing sessions fail to prevent PTSD and may even be related to increased symptomatology in the long term (Bisson, 2003; Deahl, 2000). It is thought that brief exposure sessions, in the absence of other treatment, may leave individuals aroused, thus sensitizing them instead of habituating them (Yule, 2001). In light of the research findings related to critical-incident stress debriefing described previously, Reeves, Nickerson, and Brock (in press) and Brock (2006) recommend that group approaches to psychological first aid be (a) voluntary; (b) not provided to acute trauma victims (these individuals will need more individualized assistance); (c) offered within a more integrated approach that includes large group meetings, family counseling, and referrals for outside therapy (Brock, 2006; Brock & Jimerson, 2004; Everly et al., 2002); (d) conducted with groups that are homogeneous in terms of having had *vicarious* crisis exposure; and (e) focused primarily on facts and sharing of adaptive coping rather than on specific details and reminders of the trauma. Therefore, group approaches to psychological first aid, such as CISD, are *not* recommended as interventions for students who have PTSD or are at high risk for developing PTSD.

Psychological Triage

The interventions described thus far are not necessarily designed to either prevent or treat PTSD. Rather, they are used more generally in crisis prevention and intervention. They can be considered a part of the treatment process in that they help to identify those with PTSD and might also be thought of as away to reestablish the immediate coping that is necessary to begin treatment and eventual recovery. Identifying those in need of more intense individual

attention includes judging the extent to which a student may be at risk for developing PTSD (Gillis, 1993; Weinberg, 1990). Chapters 3, 4, and 5 discuss screening, diagnostic, and assessment issues more in depth; therefore, this chapter only highlights the most salient issues that guide intervention decisions.

Psychological triage involves assessing individuals' need for service based on a number of risk factors or predictors. The most important predictor of psychological trauma is physical proximity to the crisis, as individuals who require medical attention and those with intense and/or long crisis exposures have been shown to be at highest risk for traumatic stress reactions (Hoven et al., 2004; Kolaitis et al., 2003; National Institute of Mental Health, 2002). Emotional proximity, or having a close relationship with a crisis victim or victims, is also a powerful predictor of traumatic stress reactions (Galea et al., 2002; Kolaitis et al., 2004; National Institute of Mental Health, 2001). Other factors to consider include a person's pre-crisis functioning, coping skills, and external supports. Psychological triage can help identify those most at risk for trauma who may benefit from school-based crisis interventions. The ultimate goal of psychological triage is to ensure that all mental health needs, including those generated by the development of PTSD, are identified and appropriate treatments provided (Brock, 2002a).

Recommendations for Educators Working with Children with PTSD

Whether or not treatment should be provided for children with PTSD is discussed later in this chapter. Regardless of the extent to which psychological treatment is provided, there are some practical, useful, and empirically based recommendations for how educators can best work with children who have PTSD. Although these recommendations will vary depending on the individual needs of each student, there are some strategies that may be particularly helpful for students with PTSD. These strategies focus primarily on striving to help the child or adolescent feel safe and in control (Demaree, 1994; Grosse, 2001).

Use Effective Teaching Strategies to Meet the Needs of Traumatized Students

Because students with PTSD are often more responsive to nonverbal cues than verbal ones, teachers should use multiple ways to present information (Cole et al., 2005). For example, verbal instructions could be paired with written instruction or picture cues. In addition, asking students to repeat instructions and using role-play may be helpful to ensure understanding and the learning of skills. Students may also benefit from external prompting through oral directions, reminders, or cues that action is required. Students who have been

traumatized may need curriculum supports such as breaking down directions into steps, asking the child or adolescent to repeat the directions, or posting directions on the board (McCloskey, 2004).

As mentioned in Chapter 6, trauma can impact verbal memory (Yasik et al., 2007); therefore, delivering information through verbal means only compounds the student's struggle with attending and retaining information. Additional learning tools include providing graphic organizers to begin an assignment. These can include writing webs, color-coded outlines for beginning lengthy writing assignments, and graph paper to help align columns in a math problem (McCloskey, 2004).

Other teaching strategies can be used to help students be active participants in their learning and focus on assets, which can be valuable in helping them reestablish a sense of control. It is important to ask the child or adolescent what he or she feels his or her strengths are, and then build academic assignments, job tasks, and interventions to focus on enhancing these strengths. Cooperative learning can also promote social skills and encourage self-differentiation by empowering students to accomplish projects, in a group format, that they might find overwhelming when working alone. It is also important for the teacher to realize the emotional ups and downs a student with trauma exposure can have and to offer exceptions to cooperative learning if the student is not emotionally available for learning. If necessary, the student may need direct instruction in the social skills of how to work cooperatively with other students. For example, if a child with PTSD avoids particular social situations, additional instruction in working with others may be needed.

Maintain Clear, Appropriate, Academic, and Behavioral Expectations

There should be appropriate and clear expectations for academics and behavior for all students, including those with PTSD. Although teachers and other school personnel may want to give these students a break from work, it is more helpful for teachers and other adults to maintain expectations for academic work (Cole et al., 2005). The use of structured and effective teaching practices (e.g., beginning with an anticipatory set, clearly explaining the goals and objectives of the lesson, involving hands-on practice, using reinforcement and error-correction procedures) can help students know what to expect both in regards to routine and academic expectations.

Clear rules for behavior that are enforced fairly and consistently are also helpful in providing a sense of security and reinforcing the message that school is a safe, predictable place (Cole et al., 2005; Demaree, 1994). Rules should be posted and reviewed often; students also benefit from being informed about transitions and schedule changes in advance. For example, issuing a five-minute notice before transitioning to another activity or giving advanced notice and

assurance when there will be a substitute teacher may be helpful. Students with PTSD need to be accountable for their behavior, although this should be balanced with an understanding of the impact of the trauma on behavior (Cole et al., 2005). For example, helping teachers to focus on the feeling, not just the behavior, is important (e.g., “It seems like you are feeling really scared right now, but it is not OK to hurt someone else. Because you pushed Sophie, you will not be able to have free time at the end of the day. It is important for everyone in our school to be safe.”).

Discourage Avoidance and Encourage the Sharing of Feelings

Teachers should gently discourage the student with PTSD from avoidance. Helping ease the child or adolescent back into his or her routine is one way to do this. Adults should also gently encourage students to express their feelings about the traumatic event in developmentally appropriate ways, such as through drawing, journaling, talking, or acting. When a student shares these feelings, it is important for the adult to respond by listening and understanding (Grosse, 2001).

Heath and Sheen (2005) reviewed several ways that teachers and staff can listen to support students in crisis which are applicable to those with PTSD. First, the adult can ensure that the student feels comfortable, whether this be sitting, walking, or providing small objects (e.g., stress balls) or gadgets for a student to fiddle with. Boys, in particular, may respond well to the opportunity to move around instead of having to talk face-to-face. Second, the adult should remain calm and present during this exchange. Concentrating on what the student is saying, being careful not to overreact, and using a soft, calm voice to validate the student’s experience can be very reassuring. For example, if a student is sharing about how scared he or she was during a hurricane, it would be much more helpful for a teacher or other adult to say, “It sounds like you were really scared. I am glad that you shared that with me.” rather than saying, “The hurricane is over now and there is nothing to be scared of.” The former statement validates the feeling and reinforces the student for expressing him or herself, whereas the latter sends the message that a student *should* feel a certain way. Third, the adult should guide the student in how to be proactive in coping with feelings. Suggestions may include identifying other people with whom the student can talk, engaging in activities that allow the student do something productive to help the situation (e.g., making cards for others), or, when problems are severe, consulting with the school’s mental health professional. It is important for the student to have a signal or specific phrase to say that helps the teacher know when he or she may need additional support from another adult. Last, the adult should make a plan to follow up with the student at a specific time and place to check in to see how the student is doing. This could be just a quick check-in to let the student know that the adult is there and cares.

Another way to help students with PTSD regain a sense of control might include teaching them how to get help in the case of an emergency. Teaching students about (a) appropriate versus inappropriate touching, (b) limiting information to share with others, and (c) reporting inappropriate interactions also provides them with important survival skills (Grosse, 2001). The family or the school psychologist can also provide teachers and classroom staff information about signs that reveal the student may be experiencing reminders of the traumatic event (e.g., watching an adult closing a door, drawing pictures of the event). That way staff can be attuned to the heightened need for understanding and providing safety to the student during these times (Demaree, 1994).

Help Students Cope with Triggers

Many students with PTSD are hypervigilant; therefore, they may be very sensitive to sound and touch. The best thing a teacher can do with regard to this is to be sensitive to this reaction and to inform the student, when possible, when such stimuli will occur (Demaree, 1994). For instance, the teacher can tell a student who has been traumatized when a loud noise will occur (e.g., fire drill, construction work). Each student may have his or her own triggers, or traumatic reminders (e.g., a moustache, the closing of a door, a particular smell), so it is important for these to be identified (Cole et al., 2005). Some students, particularly those who have been sexually abused, use touch in inappropriate ways. Therefore, teachers and other school personnel can help by providing appropriate boundaries, such as telling the student when his or her touch is not appropriate and providing an alternative behavior (either a more appropriate touch or a verbalization).

Children and adolescents with PTSD may exhibit extreme behaviors of withdrawal or aggression. As noted previously, a carefully conducted functional behavioral assessment to assess the events that trigger these reactions can be helpful in informing school personnel about ways to help the student prepare for these events. A responsive teacher will recognize that this reflects the student's feelings of lack of control over his or her environment and will take steps to make the student feel safe. There are a variety of ways that teachers can help students feel safe, including creating a safe, peaceful place in the classroom and providing a student with a goal-directed, movement-oriented task (e.g., collecting papers) to help a student who is hyperaroused (Cole et al., 2005).

School-based PTSD Treatments

There is a lack of research on school-based treatments for children with PTSD, with some notable exceptions. Brown, McQuaid, Farina, Ali, and Winnick-Gelles (2006) used a cognitive-behavioral classroom intervention over 10 weeks

with inner-city children exposed to the World Trade Center attacks of September 11, 2001. The intervention consisted of psychoeducation; affect regulation (including cognitive, physiological, and behavioral components); the development of coping skills, such as controlled breathing, muscle relaxation, cognitive restructuring, positive imagery, problem-solving, and anger management; and development of a safety plan (including a review of all skills and a sheet of emergency phone numbers for children). Children who met criteria for PTSD prior to the intervention reported decreased arousal and total symptoms following the intervention, although there were no changes in terms of general anxiety, depression, or anger.

Chemtob, Nakashima, and Hamada (2002) delivered four weekly sessions to individuals or small groups (4–8 students) of elementary school children who met criteria for PTSD two years after a natural disaster. The sessions focused on restoring a sense of safety, grieving losses, expressing anger related to the disaster, and achieving closure and moving forward through discussion, play, and expressive art. Children receiving the intervention had reductions in self-reported trauma-related symptoms compared to untreated children. The results did not differ for children who received the treatment in individual versus group format.

There is ongoing debate about the advisability of providing this type of treatment in school settings. This is part of the larger controversy of whether schools should focus exclusively on academic concerns without infringing on family rights or provide full health and mental health services to address mental health and psychosocial problems that may interfere with learning (Burrows-Horton & Cruise, 2001). With regard to treatment of PTSD, Cook-Cottone (2004) advises that stress management and cognitive restructuring techniques are appropriate for the school setting, but exposure and direct exploration of the trauma are inappropriate for school settings because of the tendency to exacerbate symptoms. For instance, it is not uncommon for the therapy itself to lead to heightened arousal and re-experiencing of the trauma (Pfefferbaum, 1997). Merrell (2001) recommends using imaginal desensitization in school settings, but does not advise that in-vivo exposure be used due to its potential to create extreme anxiety reactions. Given these considerations, the school-based practitioner must be aware of when a referral for outside treatment is needed.

Making Referrals for Community-Based PTSD Treatment

There are a number of factors to consider when deciding whether to provide treatment in the school setting or to make a referral for community-based treatment. As mentioned previously, the intervention provided (e.g., direct focus on the trauma versus psychoeducation or skill building) may guide whether or not the school is the appropriate setting. In addition, school-based

mental health professionals must practice within their areas of competence. Many school psychologists do not have the formal clinical training to provide psychotherapy to children who have experienced severe trauma and developed PTSD. Other factors related to the school-based mental health professional include their workload, the availability of supervision and consultation, and the philosophy of the school administrator and teachers in having this type of service offered to students (Burrows-Horton & Cruise, 2001).

There are also a number of student and family factors that should be considered when deciding whether the treatment should be provided at school or outside of school. A referral is warranted when PTSD symptoms change from mild to moderate or severe, which may include hyperarousal, intrusive memories, suicidal ideation or attempts (Cook-Cottone, 2004). If the student is a danger to self or others, or if the child continues to be in a dangerous situation in the home, these intense needs are likely to be better served outside of the school setting. It is also important to find out whether the student and family want services provided in the school or whether they would prefer outside services.

Lastly, the availability of services in the community that can meet the family's needs (e.g., expertise in treating children and adolescents exposed to trauma; acceptance of insurance family or offer of a sliding fee scale) is a critical consideration (Burrows-Horton & Cruise, 2001). Within this context, it is important to keep in mind that many children and adolescents in need of mental health services do not receive them. For example, Fairbrother, Stuber, Galea, Pfefferbaum, and Fleischman (2004) conducted a random survey of children and adolescents in New York City four months after the September 11th World Trade Center attacks and found that only 27% of children with severe PTSD reactions received services from any source.

School psychologists should keep an updated referral list of experienced mental health professionals and agencies who provide such treatment for traumatized children and families, particularly for those from diverse backgrounds and who speak a language other than English (Nickerson & Heath, 2008). Many schools, agencies, and private practitioners maintain such lists. Consulting with colleagues, contacting local agencies, reviewing the phone book, contacting state and local professional associations, and searching the Internet are other ways to create or update such lists. In addition, the United Way keeps an updated list of community resources in cities and suburban areas (United Way, n.d.) and the American Psychological Association (<http://locator.apa.org/> or 1-800-964-2000) helps locate a psychologist in any community.

To improve the chances that a family will follow through with a referral, it is imperative not to simply provide the family the name and phone number of a provider. When making a referral to an outside mental health professional, Merrell (2001) recommends that the school-based mental health professional meet with the parents of the child to discuss the concerns and determine if the parents are willing to consider such a referral. If the parents decide to pursue this and provide the proper consent, it can be helpful for the school psychologist

or other mental health professional to write a 1–2 page letter to the outside professional to describe concerns and provide a brief history (Burrows-Horton & Cruise, 2001; Merrell, 2001). It is also important the school-based mental health professional consult with the school administrator on the best way to make these referrals, given growing concerns on the part of administration about parents asking for schools to pay for such services (Merrell, 2001). Schools have started using phrases such as “we suggest you may want to look into counseling that utilizes a cognitive-behavioral approach,” instead of “the school recommends counseling with a cognitive-behavioral approach.”

When considering treatment referrals and options, it is always important to consider the preferred pathway to recovery of the specific culture with which the student and family identify. Some cultures may prefer options other than mental health interventions and may view attempts to offer these services as forceful or meddling. Therefore, the availability of a “cultural broker” from the affected cultural group, which is preferred over a layman “translator” (Klingman & Cohen, 2004), who may refrain from translating messages because of perceived cultural insult, is most preferred. Recovery is best facilitated when knowledge and sensitivity of cultural group characteristics are conveyed to the student and parents.

To facilitate ongoing progress monitoring, the school-based mental health professional should also talk to the parent(s) about the importance of having contact between the school and the outside service provider to ensure that the child is being helped consistently. The parents must sign separate releases for the school to provide information and receive information from the community service provider. The release should detail the specific type of information to be shared, the length of time for which the release is valid, and how the information is to be used. If a parent is uncomfortable with this, creating a release limited to obtaining information related to the child’s needs in school only or arranging for a 3-way phone call between the school, the parent, and the outside professional may be helpful (Cole et al., 2005). Ancillary school services may be provided as long as the services are not redundant or in conflict with outside services (Burrows-Horton & Cruise, 2001). For example, the school may provide anger management training that does not directly address the abuse while the community service provider engages in more direct exploration of the trauma.

Psychotherapeutic PTSD Treatments

More intensive individual work is indicated for children who experience severe traumatic reactions. Cognitive-behavioral therapies (*CBT*) are the most widely studied and promising interventions for PTSD (Cohen, Mannarino, Berlinger, & Deblinger, 2000; March, Amaya-Jackson, Murray, & Schulte, 1998). A growing body of research has shown that trauma-focused *CBT* is superior to

standard community care (Deblinger, Lippmann, & Steer, 1996; Deblinger, Steer, & Lippmann, 1999), nondirective supportive therapy (Cohen, Deblinger, Mannarino, & Steer, 2004; Cohen & Mannarino, 1996, 1998), and wait-list control conditions (King et al., 2000) for children who have been sexually abused.

There have been a few notable school-based interventions implemented and evaluated with children who have been exposed to violence and who exhibit PTSD symptomatology. For example, Stein and colleagues (2003) randomly assigned middle school students who were exposed to violence and who exhibited PTSD symptoms to Cognitive Behavioral Intervention for Trauma in Schools (CBITS), an early intervention *CBT* group led by school-based mental health professionals or a wait-list (delayed-intervention) condition. The students receiving *CBT* had lower self-reported PTSD than did students in the delayed-intervention group. Moreover, once the delayed-intervention group received the *CBT* group, their symptoms also reduced so that there were no differences between the groups after each had received the intervention. This study was unique in that it was implemented by school-based mental health professionals in the schools without the use of exclusionary criteria (e.g., comorbidity, symptom severity), which enhances the generalizability of findings. Similarly, Kataoka and colleagues (2003) randomly assigned children in third through eighth grades that were exposed to violence and displayed clinically significant levels of PTSD and/or depression to an 8-week *CBT* group or a wait-list control condition and found that those in the intervention condition had modest reductions in PTSD and depression compared to the control group. Again, these interventions were implemented by school-based mental health professionals and the participants were Latino, which further enhances the generalization and application of the effectiveness of this treatment. It should be mentioned that some school districts have set strict limits regarding the delivery or nondelivery of “therapy” in the school setting. Being able to deliver certain cognitive-behavioral therapy approaches in the schools is showing promising results and can help students who may have barriers to receiving services otherwise. However, it is best for the school-based mental health professional to check with his or her school district regarding the job description and if “therapy” is included.

Despite the expanding treatment outcome literature on interventions for PTSD, it is not yet clear which specific components of *CBT* lead to reduced PTSD symptoms and improved functioning. However, there are several components of *CBT* that are often included in interventions that have yielded good results, including psychoeducation, exposure, cognitive restructuring, and stress inoculation skills. Because psychoeducation was reviewed previously, this section focuses on the other components of *CBT*.

Exposure, or reliving the memories of the traumatic event and/or confronting situations that are avoided because they serve as traumatic reminders, has been found to be a critical treatment component for adults with PTSD (Foa et al., 1999). There is also preliminary support for the use of exposure in treating

children with PTSD (Feeny, Foa, Treadwell, & March, 2004). Exposure can be intense and prolonged, as in the case of flooding, or more gradual, which involves ongoing exposure to stimuli that represent certain aspects of the traumatic event (Cohen et al., 2000). This repeated or prolonged exposure decreases the hyperarousal and negative affect that accompany the traumatic reminders (AACP, 1998; Cohen et al., 2000), thereby unpairing the thoughts of the trauma and the overwhelming negative emotion, which in turn reduces the intensity of intrusive reminders and minimizes the need to use avoidant behavior (Cohen et al., 2000). If this is done within the school setting, timing must be considered due to the emotional impact of this approach. For example, sending a child back to class prematurely (after he or she has responded significantly to a particular aspect of a psychotherapeutic session) can be problematic. In addition, if it is conducted outside of school, it is very helpful if school-based mental health professionals are aware of the treatment so behaviors and emotions that arise from this treatment can be intervened with and supported during school hours.

Challenging faulty thinking and restructuring cognitive distortions about the traumatic event is another important element of cognitive-behavioral treatments (AACP, 1998; Cohen et al., 2000). Children who have been traumatized may develop distortions such as blaming themselves for the event, survivor guilt ("it should have been me"), or feeling like the world is not a safe place. Cognitive restructuring begins with the therapist asking the child specifically about his or her thoughts and attributions about the event and identifying distortions. Next, the therapist and child carefully evaluate the child's reasoning for the distortions, which leads finally to replacing the distortion with a more accurate cognition (Cohen et al., 2000).

Another component of cognitive-behavioral treatments is stress inoculation, which involves teaching coping skills to manage trauma-related anxiety, such as relaxation and thought stopping (Cohen et al., 2000; Foa et al., 1999). This often involves teaching progressive muscle relaxation. It should be noted that in a study of adult female assault victims, exposure, stress inoculation, and a combination of the two treatments were found to be superior to a control condition in ameliorating PTSD symptomatology, but exposure alone was superior to stress inoculation and the combined exposure and stress inoculation treatment in that there were fewer dropouts, larger effect sizes in symptom reduction, lower anxiety, and greater social adjustment (Foa et al., 1999).

Although far less research has been conducted on other modalities of therapy, there exists some support for eye movement desensitization reprocessing (EMDR; Shapiro, 2002) and brief psychoanalytic therapy (for a review, see Taylor & Chemtob, 2004). The goal of EMDR is to reform unhealthy perceptions that result from traumatic experiences by discussing and reprogramming memories, identifying and desensitizing anxiety-provoking stimuli, and promoting positive social functioning (Shapiro, 2002). One technique used in EMDR is to have clients visualize an anxiety-provoking situation while focusing their eyes on the therapist's finger as it moves back and forth (Lilienfeld & Arkowitz, 2007). When EMDR has been used to treat children with PTSD, it

results in decreased symptoms of avoidance and reexperiencing (Ahmad, Larsson, & Sundelin-Wahlstein, 2007; Oras, Cancel de Ezpeleta, & Ahmad, 2004) and improved functioning on the Global Assessment of Functioning (Oras et al., 2004). Although it is superior compared to a wait-list control condition (Ahmad et al., 2007), when *EMDR* has been compared to *CBT*, both treatment methods have been found to be equally effective in treating PTSD (Lilienfeld & Arkowitz, 2007; Siedler & Wagner, 2006). For more comprehensive reviews of the literature on the efficacy of treatment for child and adolescent traumatic stress, the reader is encouraged to consult Cohen and colleagues (2000), Feeny and colleagues (2004), and Taylor and Chemtob (2004).

The majority of the aforementioned interventions require cognitive skills that young children do not yet possess. Describing traumatic events and reminders and exposure is not appropriate for young children and preliminary research suggests that exposure may not be a critical element of treatment for young children. For example, Deblinger, Stauffer, and Steer (2001) found that *CBT* to help children communicate about and cope with feelings, identify touches that are OK and not OK, and learn abuse response skills that did not involve asking children to talk directly about their experiences resulted in reduced PTSD symptomatology in 2- to 8-year-old children who had been sexually abused. It has also been recommended that play, art, or storytelling be used with children to help them express their feelings about the trauma (Pfefferbaum, 1997). The use of artwork and free writing with elementary school children is associated with increased expression of feelings (Klingman, 1985; Schwarz, 1982).

In addition, treatment for young children often involves a parent component. For example, Deblinger et al. (2001) included a *CBT* parent group that assisted them in managing their emotional reactions so that they could be more supportive to children, provided education about open parent-child communication, and taught behavior management skills. Parents in this intervention had reductions in intrusive thoughts about their children's abuse and experienced less emotional distress compared to a nondirective parent support group. The authors attributed this to the fact that the *CBT* parent group involved having parents talk specifically about the abuse. Other studies (Deblinger et al., 1996; King et al., 2000) have found that children's PTSD symptoms improve regardless of whether the child receives child-only *CBT* or if the child *CBT* was supplemented with a parent *CBT* component. Although the parent component does not appear to directly affect children's PTSD symptomatology, Deblinger and colleagues (1996) found that the parent *CBT* component resulted in the additional benefits of reduced child depression and behavior problems. It should also be noted that the aforementioned studies by Cohen and Mannarino (1996, 1998) that found *CBT* to be superior to nondirective supportive therapy included a parent component in the *CBT* condition, but not the nondirective supportive therapy condition, so it is possible that the addition of the parent component led to the improved results for children.

There are many considerations to take into account when deciding whether or not to add a parent component to treatment. The age of the child is a consideration. As stated above, treatment for young children may have a strong emphasis on the parent component, as they are the primary providers of support. Second, the reactions of parents to the traumatic event may help guide the decision about involving parents in treatment. A parent can certainly be as affected, if not more affected, than the child by a traumatic event; this may impact the parent's ability to provide the necessary support to the child. For instance, self-blame on the part of the parents is not atypical, and helping the parent to identify and reframe inaccurate cognitions can be a powerful component to treatment. Third, the behaviors that the child is exhibiting may dictate the need for parental involvement in treatment. For instance, parent involvement may be especially warranted for externalizing behavior problems (Cohen, Berliner, & Mannarino, 2000), as interventions that are most effective for these problems involve how parents and teachers manage the behavior.

In summary, treatment that adheres to the *CBT* framework and includes psychoeducation, exposure to the traumatic reminders through age-appropriate methods, cognitive restructuring, and teaching coping skills (e.g., stress management, problem-solving) appears most appropriate for children with PTSD. Adapting the treatment to be suitable for young children minimizes the emphasis on direct exposure to the traumatic reminders and incorporates methods such as art, play, storytelling, and drama to help the child express feelings.

Psychopharmacological PTSD Treatments

As a general rule, psychotherapy should be the primary method of intervention, whereas medical treatments should be used in addition to ongoing therapy (Donnelly, Amaya-Jackson, & March, 1999; Foa et al., 1999). Despite the limited empirical support for the use of drugs for PTSD with children and adolescents, their use has been increasing. Although far from perfect, there are good reasons why pharmacological interventions are often used with adolescents and adults despite the lack of a thorough research base (Cohen, 2001). One reason is that medical services may often be less expensive and more likely to be covered under many insurance plans than psychotherapy. More importantly, studies have found that many children and adolescents are nonresponders to psychosocial and therapeutic interventions for PTSD. In these cases, pharmacologic interventions become the next-best treatment for this disorder and are highly recommended (Cohen, 2001; Friedman, 1988).

Pharmacological interventions should be tailored to the needs and symptoms of the individual, as common symptoms of PTSD draw from a number of different disorders, including symptoms indicative of major depression, panic, anxiety, inattention/hyperactivity, nightmares, mood destabilization, and psychoses (Mellman, David, & Barza, 1999; Seedat et al., 2002). Each class or type

of drugs used targets a limited number or range of symptoms. Therefore, the use of multiple medicines may be necessary, which requires the ongoing evaluation of a knowledgeable medical provider.

Although the symptoms and pathology of PTSD in children and adolescents are mixed, some studies suggest that this disorder is characterized by a disruption or disturbance in the neurotransmitter serotonin (Seedat, Lockhart, Kaminer,

Table 7.1 Drug Effectiveness Research Across Adults and Children with PTSD

Drug class/type	Chemical effects	Associated PTSD symptoms	Findings from research on PTSD	Examples from this drug class
Monoamine Oxidase Inhibitors	Increases levels of serotonin, dopamine, epinephrine, etc.	Depression and Anxiety Core PTSD symptoms Nightmares Hyperarousal/ Hypervigilance	Reduces length and intensity Reduces frequency Increases sleep quality	Marplan, Nardil, Parnate
Anxiolytics	Acts chemically to reduce arousal	Anxiety and Panic	Reduces symptom intensity and frequency	Xanax, Ativan, Valium Guanfacine
Adrenergic	Relaxes blood vessels of the circulatory system	Re-experiencing Nightmares Insomnia Hyperarousal/ Hypervigilance Panic	Better sleep quality Less frequent Reductions of symptoms in both cases	Minipress, Inderol, Hytrin
Psychostimulants	Increases dopamine	Inattention Hyperactivity	Increases attention to task Decreased hyperactivity	Ritalin, Adderall, Dexedrine
Antipsychotics	Reduces psychoses in schizophrenics by blocking dopamine receptors	Intrusive Thoughts Hyperarousal Self-Injury Dissociation Re-experiencing of Trauma	Reduced frequency and intensity of each	Risperdal, Clozaril
Mood Stabilizers	Increases emotional regulation	Emotional extremes and dysregulation	Decreases emotional instability	Topamax, Neurontin, Depakote
Pain Regulation	To decrease pain during and after the crisis event	Progression to PTSD	Reduced rates and severity of PTSD when pain is managed	Morphine

Adapted from a review of current literature (including: Cohen, 2001; Donnelly, 2003; Horrigan, 1996; Kant, Chalansani, Chengappa, & Dieringer, 2004; Mellman et al., 1999; Reich, Winternitz, Hennen, Watts, & Stanculescu, 2004; Saxe et al., 2001; Seedat et al., 2001, 2002).

Zungu-Dirwayi, & Stein, 2001; Seedat et al., 2002). Symptoms which are thought to be mediated by changes in serotonin include re-experiencing, numbing, avoidance, and hyperarousal. In fact, the most generalized pharmacological response to PTSD often involves intervention with selective serotonin reuptake inhibitors (SSRIs), which have been shown to reduce anxious and depressive symptoms in children and young adults (Donnelly, 2003). Despite the wide-ranging effects of SSRIs in treating PTSD symptoms, ongoing monitoring for symptoms that do not respond to these and other drugs is advised. Table 7.1 highlights findings regarding some current treatments and classes of drugs.

Recovery and School Reintegration

Recovery from PTSD is a complex process that is likely to be marked by both gains and setbacks (Kinchin & Brown, 2001). Although not specifically created for individuals with PTSD, Harvey (1996) has suggested several outcome criteria that may be indicative of recovery from a trauma that may be helpful to consider when examining outcomes for PTSD. These include: (a) having authority over the remembering process; (b) integrating memory and affect; (c) tolerating affect; (d) mastering symptoms; (e) having a restored sense of self-esteem and self cohesion; (f) maintaining safe connectedness in relationships; and (g) making new meaning of trauma. It is important to note that the memory of the event or events will always remain for a child who has survived a trauma; therefore, the child must incorporate the event into his or her life experience (Kinchin & Brown, 2001). Despite the extreme negativity of the event, recovery from PTSD requires being able to tolerate the negative affect and control the memories associated with it so that the symptoms do not continue to interfere with functioning.

As mentioned previously, it is likely that many children with PTSD will be treated by a professional outside the school setting. Some children with severe PTSD symptoms may require intensive treatments, such as day treatment programs, residential treatment, or hospitalization. The school-based mental health professional can play an important role in transitioning the child from these settings back to school. Reintegrating children with PTSD into the school setting after they have been hospitalized or away involves several steps (Cook-Cottone, 2004). As mentioned previously, establishing the relationship, with the school psychologist acting as the liaison between school, home, and hospital or inpatient setting, is critical. This may involve obtaining mutual releases of information to talk to the psychiatrist and other medical treatment providers, having joint sessions, and ongoing consultation. Finding out specific information from the treatment provider about useful self-soothing or calming techniques when triggers occur may also be helpful to school personnel working directly with the child (Cole et al., 2005). The school psychologist or other mental health professional can also educate family members, school personnel,

and the child about the recovery process, relapse prevention, coping skills, relaxation, and self-monitoring.

At the individual level, it is important to develop a plan for reintegration, including goals, treatment guidelines, lists of names and contact information, plans for meetings and conferences (Cook-Cottone, 2004). Goals may include keeping the child safe within boundaries (limiting office visits, etc.). It may also be important to schedule preventative sessions to address anniversaries or other high-stress circumstances. The primary goal is to facilitate independence and regular, full-day attendance. This may need to be achieved gradually, with scaled-back supports over times where the school-based team monitors success (Cook-Cottone, 2004).

Concluding Comments

Although there is much more to learn, the knowledge base regarding treatment of children with PTSD is increasing. Schools can play an important role in promoting positive youth development to increase children's resilience in the event of a crisis. *CBT* is the most well-studied and effective treatment for PTSD, although there are some important considerations to take into account in treating children with PTSD, such as the age-appropriateness of the intervention and the role and competence of the school-based mental health practitioner. School-based mental health professionals may be most appropriate in serving in a consultative role with parents and school personnel and as a liaison between outside treatment providers and the school.

Appendix

Posttraumatic Stress Disorder Internet Resources: Valuable Information on the Internet

The Internet can be an important tool for families, teachers, and practitioners seeking information on PTSD and related topics. The vast amount of information that can be retrieved in any given search, however, can also make it a time-consuming and unwieldy resource. Some useful websites are listed below. The list is by no means exhaustive, but it contains links to some of the most valuable web-based materials that are currently available.

Epidemiology and General Information

Anxiety Disorders Association of America

<http://www.adaa.org/>

The Anxiety Disorders Association of America (ADAA) promotes the early diagnosis and treatment of anxiety disorders, and is committed to improving the lives of the people who suffer from them. The ADAA website is a valuable resource for information about PTSD, including: statistics and facts, a PTSD self-test, chat rooms, and useful links and resources. The ADAA Bookstore Catalog also offers books, tapes, and other literature for both professionals and consumers.

National Center for Posttraumatic Stress Disorder

<http://www.ncptsd.org>

This website is developed by the National Center for Posttraumatic Stress Disorder (NCPTSD), within the Department of Veterans Affairs. The mission of the NCPTSD is to advance the clinical care and social welfare of America's veterans through research, education, and training in the science, diagnosis, and treatment of PTSD and stress-related disorders. This website is provided as an educational resource concerning PTSD and other enduring consequences of traumatic stress. It is of use to a vast array of consumers, including families, practitioners, and researchers. This website includes a breadth of information

and research literature. This site also has many links to other PTSD-relevant information and carries resources in a number of multimedia formats. Although the design of this site began with a focus on veterans, it has since grown into a comprehensive website addressing many aspects of PTSD.

National Institute of Mental Health

<http://www.nimh.nih.gov/healthinformation/ptsdmenu.cfm>

The National Institute of Mental Health (NIMH) focuses on reducing the burden of mental illness and behavioral disorders through research on mind, brain, and behavior. This website includes links to publications and resource materials as well as basic information and briefs on research examining PTSD and other anxiety disorders. The NIMH Post Traumatic Stress Disorder Research Fact Sheet is a particularly valuable link that provides a summary of contemporary knowledge regarding PTSD.

International Society for Traumatic Stress Studies

<http://www.istss.org>

The International Society for Traumatic Stress Studies (ISTSS) is a trauma organization dedicated to treatment, education, research, and prevention of trauma. Through this organization and the website, professionals share information about the effects of trauma, seeking to reduce the immediate and long-term consequences of traumatic stressors. This site is a forum for sharing research, clinical strategies, public policy concerns, and theoretical formulations about trauma in the United States and around the world. ISTSS also provides training for professionals and helps them gain expertise in the field by providing contacts. This site provides extensive and regularly updated resources for practitioners and researchers.

The Posttraumatic Stress Disorder (PTSD) Alliance

<http://www.ptsdalliance.com/home2.html>

The PTSD Alliance is comprised of a group of professional and advocacy organizations that have joined forces to provide educational resources to individuals diagnosed with PTSD and their families, those at risk for developing PTSD, and medical, healthcare, and other professionals. The website maintains a large collection of information from numerous different resources with ongoing updates in multimedia formats. Information includes: what is PTSD, who is at risk, myths, symptoms, screening, diagnosis, and treatment. This website also maintains a variety of links to associated traumatic stress and PTSD sites.

Assessment

National Center for Posttraumatic Stress Disorder

<http://www.ncptsd.org/publications/assessment/>

The website of the NCPTSD provides extensive information regarding assessment of trauma and PTSD. The website provides basic information about a number of measures including format, target age group, number of items, time to administer, contact information, and references. More extensive information and requests for the *Clinician-Administered PTSD Scale – Child and Adolescent Version* and the *Traumatic Events Screening Inventory – Child* (both developed by the NCPTSD) are available on the website.

The Child Trauma Institute

<http://www.childtrauma.com/ax.html>

The Child Trauma Institute website includes valuable information on the assessment of trauma. This site provides several articles and conference presentations, related to assessment of children's traumatic reactions and PTSD. Descriptions, references, and sample items from various measures are included. A copy of the *Impact of Events Scale* (a popular measure of PTSD by researchers) is included as a link as well as the following measures: *Child Report of Post-traumatic Symptoms (CROPS)*; *Parent Report of Post-traumatic Symptoms (PROPS)*; *Lifetime Incidence of Traumatic Events (LITE)* – Student and Parent Forms; *Problem Rating Scale (PRS)*.

American Academy of Child and Adolescent Psychiatry

<http://www.aacap.org/clinical/Ptsdsum.htm>

This website includes the American Academy of Child and Adolescent Psychiatry's 1998 publication: Summary of the practice parameters for the assessment and treatment of children and adolescents with posttraumatic stress disorder. These practice parameters give an overview of assessment guidelines and include a discussion of developmental considerations in assessing PTSD.

University of Massachusetts Medical Center, Department of Psychiatry

<http://users.umassmed.edu/Kenneth.Fletcher/scales.html>

This website includes information and references for multiple measures of PTSD in children. This website includes information about the following scales:

The *When Bad Things Happen Scale*, *The Childhood PTSD Interview – Parent Form*, *The Parent’s Report of the Child’s Reaction to Stress*, several lifetime stressor scales for different age groups of children, *The Dimensions of Stressful Events (DOSE)* scale, and *The World View Survey*.

Treatment

American Academy of Child and Adolescent Psychiatry

<http://www.aacap.org/clinical/Ptsdsum.htm>

This website includes the American Academy of Child and Adolescent Psychiatry’s 1998 publication: Summary of the practice parameters for the assessment and treatment of children and adolescents with posttraumatic stress disorder. These practice parameters give an overview of treatment guidelines and include a discussion of developmental considerations in providing treatment to children and adolescents with PTSD.

The Association for Behavioral and Cognitive Therapies

<http://aabt.org/>

The Association for Behavioral and Cognitive Therapies (ABCT) is an interdisciplinary organization committed to advancing a scientific approach to the understanding and amelioration of problems of the human condition. These aims are achieved through the investigation and application of behavioral, cognitive, and other evidence-based principles to assessment, prevention, and treatment. This website includes information regarding effective intervention strategies to address anxiety disorders, including PTSD.

Resources for Teachers and Parents to Help Children Cope with Trauma

American Academy of Child and Adolescent Psychiatry

http://www.aacap.org/cs/root/resources_for_families/disaster_resources

The American Academy of Child and Adolescent Psychiatry website includes fact sheets for families about how to help children cope with disasters and terrorism. These fact sheets include information about violence, terrorism and war, grief, and firearms. These helpful sheets include relevant statistics and definitions, warning signs, and specific tips for parents on how to address these topics or get help for their children.

American Psychological Association

www.apa.org/practice/kids.html

The American Psychological Association website contains a fact sheet on helping children cope in the aftermath of the Oklahoma City bombing, although it is useful for a wide variety of disasters. The fact sheet includes signs indicating a child needs help, how to help them at home (e.g., monitor television viewing, help child feel protected, teach skills).

American Red Cross (Masters of Disaster)

http://www.redcross.org/disaster/masters/aftermath/download_aftermath.html

The American Red Cross created the Masters of Disaster curriculum for teachers to incorporate general disaster preparedness education into their classroom lessons. The materials provided to teachers include three kits: one for grades K–2, one for 3–5, and one for 6–8. Each kit contains lesson plans, videos, worksheets, stickers, and certificates. The lesson plans include age-appropriate and hands-on activities such as making an earthquake house. The lesson plans can be downloaded for free on the website.

Federal Emergency Management Agency

<http://www.fema.gov/kids/teacher.htm>

The Federal Emergency Management Agency's (FEMA) teacher- and parent-friendly website has information, activities, teaching curriculum, and free materials (e.g., coloring books) to help students. Topics include school safety, natural disasters, terrorism, and fire safety. There are also links to other websites that provide information on lesson plans, fact sheets, and guidebooks. Some materials are offered in Spanish.

National Association of School Psychologists

http://www.nasponline.org/resources/crisis_safety/index.aspx

The National Association of School Psychologists' website has a collection of school crisis prevention and intervention resources (e.g., publications, hand-outs, links to other web-based resources) developed for school psychologists and other educational professionals. Topics include preventing school violence, identifying seriously traumatized students, and tips for parents and teachers on how to control their strong emotions and to help children do this. Some resources are available in Spanish and other languages.

National Child Traumatic Stress Network

http://www.ncatsnet.org/nccts/nav.do?pid=typ_main

The National Child Traumatic Stress Network (NCTSN) provides resources for professionals, teachers, and parents. Resources cover the following types of trauma: violence, complex trauma, domestic violence, medical trauma, natural disasters, abuse (neglect, physical, and sexual), refugee and war zone trauma, terrorism, and traumatic grief. The site provides many resources and resource links in both Spanish and English.

National Institute for Mental Health

<http://www.nimh.nih.gov/publicat/helping-children-and-adolescents-cope-with-violence-and-disasters/parents.pdf>

This National Institute for Mental Health 20-page handout entitled *Helping Children and Adolescents Cope with Violence and Disasters: What Parents Can Do* describes how parents can help children cope with violence and disasters.

Massachusetts Advocates for Children

<http://www.opi.ma.gov/pdf/indianed/TeachTraumatizedKids.pdf>

Helping Traumatized Children Learn: Supportive School Environments for Children Traumatized by Family Violence is a 118-page document that includes information about the impact of trauma on learning, how to make schools trauma-sensitive, and recommendations for policy. Many comprehensive and useful suggestions are offered for school personnel working with this vulnerable population.

Legal Issues and Advocacy

Sidran Traumatic Stress Institute

<http://www.sidran.org>

The Sidran Institute is a nonprofit organization that focuses on supporting people with traumatic stress conditions, providing education and training on treating and managing traumatic stress, providing trauma-related advocacy, and informing the public on issues related to traumatic stress. Sidran also publishes books about traumatic stress. The website focuses on providing literature and advocacy for the public as well as those involved in treatment and research. This site is directed more toward the survivors of trauma and laypersons, but also includes many reputable sources of professional interest.

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