

CHAPTER 9

Posttraumatic Stress Disorder

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THE DSM-5 DEFINITION OF POSTTRAUMATIC STRESS DISORDER

Posttraumatic stress disorder (PTSD) is characterized by exposure to a traumatic event and the subsequent development of symptoms that fall into four clusters (i.e., intrusions, avoidance, negative alterations in cognition and mood, and alterations in arousal and reactivity). The diagnostic criteria for PTSD are generally similar for both adults and children, though the clinical presentation of PTSD can differ across developmental stages. The current PTSD criteria outlined in the fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5; American Psychiatric Association, 2013) reflect these developmental considerations by including a preschool subtype for children 6 years of age and younger. This chapter provides a brief introduction of PTSD prevalence and diagnosis in youth, followed by an overview of evidence-based interventions for youth with PTSD. Finally, we provide a clinical guide of evidence-based assessment tools and treatment procedures for youth with PTSD.

In order to meet criteria for PTSD, an individual has to experience a traumatic stressor, defined by the DSM-5 (American Psychiatric Association, 2013) as directly experiencing a traumatic event (e.g., sexual assault, motor vehicle accident), witnessing a traumatic event (e.g., witnessing domestic violence), indirectly learning about a traumatic event that a close family member or friend experienced (e.g., learning about a family member being murdered), or experiencing repeated exposure to extreme details of a traumatic event, not through media or electronic sources (e.g., first responder). In addition to traumatic exposure, the individual must experience persistent and impairing symptoms in four separate clusters, including at least one *intrusion* symptom, which involves repeatedly reexperiencing the trauma in some form (e.g., trauma-related nightmares, emotionally and/or physiologically upset when reminded of the trauma, or flashbacks). Children

may express these intrusive symptoms through repetitive play or more generalized frightening dreams (e.g., monsters harming them). The individual must also experience at least one *avoidance* symptom (e.g., trying not to think or talk about the traumatic event, staying away from the location where the trauma occurred). Two *negative alterations in cognition and mood* are also required for a PTSD diagnosis. These negative shifts may be evidenced by persistent negative beliefs about the self (e.g., “I am to blame for the trauma”) or the world (e.g., “The world is a scary place”), persistent negative emotions (e.g., fear, guilt), reduced interest in pretrauma hobbies or activities, feeling detached from others, or an inability to feel positive emotions. While adults and children over 6 years of age require one avoidance symptom and two negative alterations in cognition and mood to be diagnosed with PTSD, children under 6 years old must express only one symptom in *either* the avoidance or negative alterations in cognition and mood cluster. Finally, two *alterations in arousal and reactivity* such as increased irritability, reckless or impulsive behavior, sleep difficulties, reduced concentration, hypervigilance, and exaggerated startle are required for a PTSD diagnosis. Overall, in order to be diagnosed with PTSD, an individual must experience a traumatic event, experience symptoms in each of the previously mentioned four clusters, experience these symptoms persistently for at least 1 month, and exhibit impairment in functioning in at least one domain (e.g., relationships, school performance). Historically, the criteria for PTSD in children and adults have been similar.

In an attempt to be more developmentally sensitive, the PTSD diagnostic criteria outlined in DSM-5 (American Psychiatric Association, 2013) include a preschool subtype. As previously mentioned, the primary change was a reduction in the number of avoidance symptoms required for a PTSD diagnosis in young children. The addition of the preschool subtype was guided by empirical findings that suggest young children tend to display symptoms in more behaviorally oriented ways and often failed to meet the symptom threshold for the avoidance cluster of PTSD symptoms (Scheeringa, Peebles, Cook, & Zeanah, 2001). For example, in a study of 62 children aged 0–18 years who were hospitalized with injuries, only 2% of children under age 7 endorsed enough avoidance symptoms to qualify for a diagnosis of PTSD (Scheeringa, Wright, Hunt, & Zeanah, 2006) based on DSM-IV (American Psychiatric Association, 2000) criteria. The level of cognitive ability required for reflection on internal states can make it difficult for young children to endorse symptoms of PTSD such as feeling detached from family members and cognitive avoidance of trauma reminders (e.g., Perrin, Smith & Yule, 2000; Scheeringa, Zeanah, & Cohen, 2011). Although young children may not be able to describe their PTSD symptoms, researchers and clinicians advocate (e.g., Scheeringa, Zeanah, et al., 2011) paying attention to behavioral manifestations of these symptoms, such as social withdrawal, restricted or repetitive play, regressive behavior (e.g., toileting issues), posttrauma-onset separation anxiety, or extreme temper tantrums (Perrin et al., 2000; Scheeringa et al., 2011). Overall, it is important for PTSD criteria to be appropriately developmentally sensitive to ensure a proper assessment, diagnosis, and potential future treatment.

PREVALENCE AND COURSE

A high percentage of youth report exposure to traumatic events, with rates ranging widely from 16 to 86% (e.g., Cuffe et al., 1998; Gwadz, Nish, Leonard, & Strauss, 2007). In a nationally representative survey of over 4,000 youth under the age of 18 years, over 60% reported directly experiencing or witnessing victimization (i.e., witnessing or experiencing intentional harm by another person) at least once in the past year (Finkelhor, Turner, Ormrod, & Hamby, 2009) and over 38% reported exposure to two or more victimizations. While rates of trauma exposure are high, most children and adolescents who experience trauma do not go on to develop PTSD (e.g., Copeland, Keeler, Angold, & Costello, 2007). In a large, nationally representative sample of 10,123 adolescents between ages 13 and 18 years, the lifetime prevalence of a PTSD diagnosis was 5% (Merikangas et al., 2010). Generally, among both adults and children, males are more likely to experience traumatic events, but females are more likely to develop PTSD (e.g., Kilpatrick et al., 2003) with lifetime PTSD prevalence rates among adolescents reported as 8.0% in females and 2.3% in males (Merikangas et al., 2010). Generally, it has been suggested that the likelihood of traumatic exposure increases during adolescence, particularly for interpersonal traumas such as physical and sexual assault (Finkelhor et al., 2009). For example, 9.8% of children between ages 0 and 17 reported experiencing a sexual trauma at some point in their lifetime. However, among adolescents ages 14–17, the lifetime prevalence rate was 16.3% (Finkelhor et al., 2009).

PTSD symptoms among children are often chronic if left untreated (e.g., De Young, Kenardy, Cobham, & Kimble, 2012). For example, among 200 adolescent survivors of a shipping disaster, over 50% developed PTSD, and close to 20% still met criteria for PTSD between 5 and 8 years after the trauma (Yule et al., 2000). Taken together, these data suggest that trauma exposure is common among youth, a minority of traumatized children and adolescents go on to develop PTSD, and that once present, these symptoms are often chronic if untreated.

As with adults, trauma reactions in youth are not restricted to symptoms of PTSD. A nationally representative survey of 4,023 adolescents ages 12–17 (Kilpatrick et al., 2003) found that of those who developed PTSD as a result of trauma, comorbidity was common, with comorbid depression, substance abuse/dependence, or both occurring in 2.5% of boys and 4.7% of girls with PTSD. Overall, PTSD exhibits high comorbidity rates with depression and substance use among adolescents exposed to a wide variety of traumas (e.g., Macdonald, Danielson, Resnick, Saunders & Kilpatrick, 2010).

Of note, most research examining PTSD and comorbid conditions has included school-age and adolescent youth, as opposed to younger children. In light of the addition of the PTSD preschool subtype in DSM-5, which suggests that very young children express symptoms in a distinct way, it will be important to study comorbid symptom presentation in this age group. At least one study has demonstrated high rates of comorbidity in a sample of preschool-age children following Hurricane Katrina (Scheeringa & Zeanah, 2008). Among those children who met criteria for PTSD (50%), 88.6% met criteria for at least one comorbid disorder, including major depressive disorder (MDD; 42.9%), panic disorder (33.3%), attention-deficit/hyperactivity disorder (ADHD; 33.3%), oppositional defiant disorder (ODD; 60.6%), and separation anxiety disorder (21.2%; Scheeringa & Zeanah, 2008). Taken together, these findings highlight the importance of assessing a wide range of symptoms in children of all ages with PTSD.

ETIOLOGICAL/CONCEPTUAL MODELS OF PTSD IN CHILDHOOD AND ADOLESCENCE

There are a number of empirically supported theoretical models of PTSD development in adults (e.g., Brewin & Holmes, 2003; Dalgleish, 2004; Ehlers & Clark, 2000; Foa, Huppert, & Cahill, 2006). Comparatively few comprehensive conceptual models have been formulated to account for the development of PTSD in youth. However, a number of models may serve as a framework for identifying factors that impact PTSD development in children. Some have modified adult-based PTSD theories to map onto childhood PTSD development, while others have created child-specific models. The following section provides a brief overview of theoretical models to highlight factors that are thought to contribute to PTSD development and maintenance in youth.

Neurobiological and Physiological Models

Generally, trauma appears to impact the systems that regulate fear and stress responses. Among both children and adults, the most widely studied brain regions associated with trauma and PTSD are within the limbic system, including structures such as the amygdala and hippocampus. Research also examines the interaction among brain regions and other physiological systems, such as the endocrine system, autonomic nervous system, and immune system (Charmandari, Tsigo, & Chrousos, 2005; Heim & Nemeroff, 2009; for a review of physiology of PTSD in youth, see Kirsch, Wilhelm, & Goldbeck, 2011). While there is growing evidence to suggest that neurobiological and physiological changes occur following trauma exposure, there are no comprehensive models describing the biological underpinnings of PTSD in youth. Additionally, although PTSD symptoms are thought to arise from the disruption of these systems following trauma exposure, there is also evidence to suggest that certain physiological characteristics may be preexisting risk factors for the development of PTSD rather than consequences of the traumatic event (e.g., Heim & Nemeroff, 2009). The generalization of adult findings to youth is not appropriate given the need to consider both developmental and maturational processes. For example, there is literature to support significantly reduced hippocampal volumes, a brain region involved in processing memories, in adults with PTSD when compared with healthy controls (e.g., Bremner et al., 1995; Teicher, Anderson, & Polcari, 2012). However, neither cross-sectional nor longitudinal studies of maltreated youth have replicated these findings (e.g., Carrion et al., 2001; De Bellis, Hall, Boring, Frustaci, & Moritz, 2001; Tupler & DeBellis, 2006). Findings do, however, suggest that maltreated youth, in comparison to nonmaltreated youth, have higher basal levels of cortisol, a hormone that regulates changes that occur in the body in response to stress, which may lead to damage in brain structures such as the hippocampus in some individuals later in life (De Bellis & Zisk, 2014).

Research into early biological predictors of PTSD symptoms in youth has primarily been conducted in hospital settings and emergency rooms (e.g., Delahanty, Nugent, Christopher, & Walsh, 2005; Kassam-Adams et al., 2005). Among children seen in the hospital following accident or injury, it appears that heart rate while being transported to the emergency room and urinary cortisol levels taken soon after the accident/injury, predict the development of PTSD symptoms (Delahanty et al., 2005; Kassam-Adams, Garcia-Espana, Fein, & Winston, 2005). There is likely an interaction between a child's

physiological functioning and ecology following trauma exposure. For example, higher parental PTSD symptoms were particularly deleterious for children who excreted low levels of cortisol soon after their accident, whereas parental PTSD symptoms did not impact children with high levels of initial cortisol (Nugent, Ostrowski, Christopher, & Delahanty, 2007). Similarly, higher parental PTSD symptoms were associated with more symptoms in their children, particularly among children with low in-hospital heart rate. These findings suggest that children who are not at increased risk for the development of PTSD on the basis of their initial biological response may still develop PTSD symptoms, partly due to their parent's response to the trauma (Nugent et al., 2007). Overall, the literature on the neurobiological and physiological pathways of PTSD in youth is still developing, and comprehensive models need to take into account multiple developmental considerations, including child stage of development, maturational processes, as well as factors related to the child's environment.

Five-Factor Model

This model suggests that multiple risk factors (i.e., pretrauma characteristics, trauma features, and posttrauma factors) interact to predict a child's posttrauma reactions (La Greca, Silverman, Vernberg, & Prinstein, 1996). *Exposure to trauma* and trauma-related characteristics comprise the first factor in this model. Variables associated with the trauma itself, such as trauma type, severity, and duration, have been shown to predict PTSD symptoms (Copeland et al., 2007). For example, youth who perceive higher threat to their life during the trauma and experience higher levels of ongoing life disruption due to the trauma exposure are at higher risk for developing PTSD symptoms (Yelland et al., 2010). The second factor accounts for a child's *preexisting characteristics*, or variables that were present prior to trauma exposure (e.g., age, ethnicity). Meta-analytic findings do suggest that pretrauma characteristics play a small role in predicting PTSD development in youth (Trickey, Siddaway, Meiser-Stedman, Serpell, & Field, 2012). The third factor in this model involves the child's *posttrauma environment* and includes contextual factors such as parental functioning and social support. The posttrauma environment may either "magnify or attenuate" a child's reaction to trauma. Indeed, posttrauma variables such as social support have been found to have a moderate-to-large effect on PTSD development in youth (Trickey et al., 2012). Specifically, poor support following trauma exposure, particularly from family members, predicts higher levels of PTSD symptoms among children (e.g., Valentino, Berkowitz, & Stover, 2010). The fourth factor involves the child's *coping skills*. The model suggests that the relationship between PTSD symptoms and coping skills is bidirectional, such that poor coping skills may predict higher PTSD symptoms, but that PTSD symptoms may also subsequently reduce the child's ability to cope. Generally, negative coping strategies such as self-blame and anger are predictive of higher levels of PTSD symptoms (e.g., Vernberg, Silverman, La Greca, & Prinstein, 1996). Finally, the fifth factor, *additional stressful life events*, may differentially impact each of the previous four factors. For example, additional life stressors (e.g., parental divorce) may serve to "magnify" a child's reactions to the original trauma. Overall, there has been empirical support for multiple components of this conceptual model, though no studies to date have examined each component of the model within the same sample. Given that this model was originally conceptualized for survivors of natural disasters,

further research is needed to examine its utility among individuals who have experienced other types of traumas (e.g., physical or sexual abuse). The five-factor model is helpful in framing a variety of trauma-related and environmental predictors of PTSD development in youth, but it does not account for cognitive or physiological processes that are also likely to play a role in risk for PTSD.

Developmental Trajectory Model

This model highlights both intrinsic (e.g., within the child) and extrinsic (e.g., outside of the child) factors (Pynoos, Steinberg, & Piacentini, 1999). The developmental trajectory model also accounts for maturational processes, highlighting that PTSD may be expressed differently depending on the age/developmental stage of the child. Finally, the model suggests that separate factors contribute to immediate versus long-term reactions to traumatic stressors. This developmental model also highlights the challenges that trauma introduces into the neurodevelopment of children, particularly in learning to integrate and cope with intense emotional reactions. For example, different facets of emotional development may be interrupted depending on the age of trauma exposure. If the trauma occurs during preschool age, children may have difficulty differentiating between their emotions (e.g., anger vs. sadness). However, trauma exposure during adolescence may negatively impact an adolescent's ability to understand the origins (e.g., "Why am I sad?") and consequences of negative emotions (e.g., "How is my sadness negatively impacting me or others around me?") (Pynoos et al., 1999; Saarni & Harris, 1991). More specifically, factors theorized to contribute to PTSD development within this model include proximal trauma reminders (e.g., situations/places/people that are reminders, media coverage of the traumatic event, physiological reactions), proximal secondary stressors (e.g., disruption of school schedule, loss of property/resources), the child's ecology (e.g., family functioning, parental psychopathology), and intrinsic factors (e.g., temperament, genetics, acquired developmental milestones). Overall, this comprehensive model highlights the role of development and maturation processes in predicting PTSD symptoms in youth.

Cognitive Models

Multiple cognitive models have been proposed to explain the development of PTSD (for a review, see Dalgleish, 2004). Ehlers and Clark's (2000) model suggest that individuals with PTSD develop a sense of ongoing threat within their environment that is maintained by (1) negative appraisals of the trauma itself (e.g., "The world is dangerous") and/or posttrauma events (e.g., "Why can't I get over this?") and (2) poorly elaborated or poorly integrated trauma memories. Maladaptive coping strategies (e.g., avoidance, rumination, thought suppression) interfere with the integration and elaboration of the trauma memory, altering the negative appraisals and reducing the sense of current threat. There is a growing body of empirical support for the applicability of this cognitive model in youth (e.g., Ehlers, Mayou, & Bryant, 2003; Meiser-Stedman, Dalgleish, Glucksman, Yule, & Smith, 2009; Stallard, 2003; Stallard & Smith, 2007). For example, higher levels of maladaptive cognitive coping strategies such as thought suppression (i.e., trying to forget about the trauma), distraction (i.e., doing something to forget about the trauma),

and rumination (i.e., wishing that the trauma could have happened differently) were associated with PTSD development (Stallard, 2003) in a study of children ages 5–18 years who experienced a motor vehicle accident. Similarly, in a study of children ages 5–16 who experienced a motor vehicle accident, negative appraisals (e.g., perceived alienation from others after the trauma) were a significant predictor of PTSD 3 and 6 months post-accident (Ehlers et al., 2003). Taken together, there is preliminary support suggesting that cognitive models may be useful for conceptualizing PTSD in children. However, the majority of studies examining cognitive models of PTSD in youth have focused on older children (mean age = 12 years 3 months [Ehlers et al., 2003]; mean age = 14 years 6 months [Stallard, 2003]). Similarly, others have suggested (Salmon & Bryant, 2002) that cognitive theories of youth PTSD need to include more developmentally sensitive components, such as stage of language and memory development.

Parental Model

This model highlights the role of parental functioning, parent–child relationships, and familial functioning in PTSD development, particularly for young children (Scheeringa & Zeanah, 2001). Three types of parenting styles are suggested as negatively impacting a child's posttrauma adjustment: overprotective, reenacting, and withdrawn parenting. Parents who adopt the first negative parenting style, the withdrawn parent, are generally withdrawn, unresponsive, and unavailable to provide support to their child. This parenting style may be most often observed in parents with previous trauma histories (Scheeringa & Zeanah, 2001). Overprotective parents often have a fear that their child will be retraumatized in some way, or they feel guilty because they were unable to protect their child from experiencing a trauma. Therefore, they become overprotective and constrict their child's development. Finally, the reenacting type of parent becomes preoccupied with trauma reminders. A parent exhibiting this style may repeatedly discuss the trauma or question the child about the details of the experience. All three of these parenting styles are suggested to exacerbate the child's PTSD symptoms and hinder natural recovery following a trauma. Clinically, this model suggests that clinicians attend to the caregiver's symptomatology prior to attending to the child's symptoms (Scheeringa & Zeanah, 2001) in order to allow the parent to be better able to respond to the needs of the child.

Generally, this relational model offers a helpful framework for understanding the role of family dynamics in youth PTSD. The primary focus of this model is the way in which the child's PTSD symptoms are influenced by parental distress. However, this model does not account for situations, common among childhood cancer survivors, in which parents display significantly higher PTSD symptoms than their child (e.g., for a review of PTSD in childhood cancer survivors, see Bruce, 2006). Similarly, relational models do not propose potential moderating factors that may impact the strength of the relationship between parenting and PTSD in youth.

Overall then, compared to the literature on adults, conceptual models of PTSD development in children are still in the early stages. Emotional processing (e.g., Foa & Kozak, 1986) and learning (e.g., Lang, Craske, & Bjork, 1999) theories, prominent in the adult literature, have rarely been examined in youth samples. Others have proposed including components of early attachment theories and the role of chronic trauma exposure (van der Kolk, 2005) in theoretical accounts of youth PTSD. While some promising theories

have been proposed, further empirical examination within diverse samples and across developmental stages is warranted.

EVIDENCE-BASED TREATMENTS FOR PTSD

There is a growing body of research examining the efficacy of psychotherapy and pharmacotherapy treatment options for PTSD in youth. Compared to the adult treatment literature, there are relatively few randomized controlled trials (RCTs) in youth samples. To date, trauma-focused psychotherapy has received the strongest empirical support (Cohen et al., 2010). Pharmacotherapy trials have been fewer, and there are no current U.S. Food and Drug Administration (FDA)-approved medications for PTSD treatment in youth. In the next section we briefly outline the evidence for current empirically supported treatment options. Following the review of the evidence, we provide guidelines for assessment and descriptions of the treatment protocols.

Psychotherapy

There is a growing number of promising evidence-based psychotherapy options for children and adolescents with PTSD (Cohen et al., 2010; Feeny, Foa, Treadwell, & March, 2004). The American Academy of Child and Adolescent Psychiatry considers trauma-focused psychotherapy to be the first-line treatment for youth with PTSD (Cohen et al., 2010). We review in the next section the evidence for the three treatments with the strongest empirical support to date: trauma-focused cognitive-behavioral therapy (TF-CBT), prolonged exposure for adolescents (PE-A), and cognitive-behavioral intervention for trauma in schools (CBITS). These three treatments are considered “well established” based on the American Psychological Association (1995, 2006), Division 12 (Clinical Psychology) Task Force on Psychological Intervention Guidelines (Chambless & Hollon, 1998). “Well-established” treatments are those with the highest level of support, reflecting converging evidence from multiple well-designed studies.

TF-CBT (Cohen, Manarino, & Deblinger, 2006) has received the strongest empirical support and is the most widely disseminated trauma-focused treatment for youth ages 3–17 years (Saxe, MacDonald, & Ellis, 2007). RCTs suggest that TF-CBT leads to greater reduction in PTSD symptoms than do other forms of psychotherapy, including supportive therapy (Cohen & Manarino, 1996) and client-centered therapy (Cohen, Deblinger, Mannarino, & Steer, 2004). Intent-to-treat analyses suggest that TF-CBT remains effective in the long-term, with treatment gains often maintained 12 months after completing treatment (Cohen, Mannarino, & Knudsen, 2005). In addition to reductions in PTSD symptoms, TF-CBT has also been effective in reducing depressive symptoms and shame (Deblinger, Manarino, Cohen, & Steer, 2006). One RCT (Sheeringa, Weems, Cohen, Amaya-Jackson, & Guthrie, 2011) found that TF-CBT was effective in reducing PTSD symptoms even in very young children (ages 3–6). However, further research is needed to better understand how implementation of and reaction to TF-CBT may differ depending on developmental level.

Prolonged exposure (PE) therapy, an empirically supported treatment for adults with PTSD, has recently been adapted for use in adolescent samples (PE-A; Foa, Chrestman,

& Gilboa-Schechtman, 2008). Recent RCTs have indicated that PE-A is more effective in reducing PTSD symptoms than time-limited dynamic therapy (Gilboa-Schechtman et al., 2010) and supportive therapy (Foa, McLean, Capaldi, & Rosenfield, 2013), with large overall effects found in both studies (Cohen's $d = 1.71$ and 2.72 , respectively). PE-A has also been shown to produce long-term gains, with adolescents maintaining their treatment gains 17 months posttreatment (Gilboa-Schechtman et al., 2010). PE-A has shown promising results. However, additional RCTs with larger sample sizes are needed to further support the use of PE for adolescents.

CBITS (Jaycox, 2004) is a brief, 10-session, group-based intervention that is implemented in a school setting. CBITS has been shown to be effective in reducing PTSD symptoms in two RCTs: one showing a medium effect ($R^2 = .43$) for CBITS with recently immigrated Latino third to eighth graders (Kataoka et al., 2003), and the other showing a large effect (Cohen's $d = 1.08$) for a largely Latino sample of sixth graders exposed to violence (Stein et al., 2003). This treatment protocol is particularly helpful in settings in which there has been a schoolwide or community-based trauma with a large number of children exposed to a similar trauma (e.g., school shooting, natural disaster).

Although these therapies have shown the strongest empirical support, a few other CBT treatments have also shown promise, including Alternatives for Families: A Cognitive Behavioral Therapy (AF-CBT, formerly known as Abuse-Focused CBT; Kolko & Swenson, 2002), and Child-Parent Psychotherapy (CCP; Lieberman, 2004). These protocols have stronger empirical support than non-CBT approaches such as psychodynamic therapy and medication (Feeny et al., 2004), and they have been shown to be superior to non-trauma-focused psychotherapy approaches such as nondirective supportive therapy (Cohen, Mannarino, Murray, & Igelman, 2006).

Pharmacotherapy

A number of pharmacological agents have been examined for treatment of youth with PTSD, including antipsychotics, beta-blockers, selective serotonin reuptake inhibitors (SSRIs), and antiseizure medications (for a review of pharmacological treatment in youth PTSD, see Strawn, Keeshin, DelBello, Geraciotti, & Putnam, 2010). However, results have been mixed, and in many trials, medication has not been superior to placebo in reducing PTSD symptoms (e.g., Cohen, Mannarino, Perel, & Staron, 2007; Robb et al., 2010). SSRIs including paroxetine and sertraline are FDA approved for PTSD treatment in adults. Open trials of SSRIs for youth with PTSD have produced promising results (e.g., Seedat, Lockhat, Kaminer, Zungu-Dirwayi, & Stein, 2001), but in the only controlled trial, failed to demonstrate significant benefit compared to placebo (Robb, Cueva, Sporn, Yang, & Vanderburg, 2010). Recently, Cohen and colleagues (2007) examined the efficacy of using an SSRI as an adjunct to TF-CBT. A small sample of sexually abused youth ages 10–17 years were randomized to either a 12-week course of TF-CBT + sertraline or TF-CBT + placebo. Both groups experienced similar reductions in PTSD symptoms and depression symptoms (Cohen et al., 2007). Notably, the authors indicated that a large portion of parents refused to allow their children to take part in the trial due to medication-related concerns.

Taken together, results from pharmacotherapy trials do not support medication as a first-line intervention for youth with PTSD (Strawn et al., 2010). Recent guidelines

set forth by the American Academy of Child and Adolescent Psychiatry (Cohen et al., 2010) suggest that clinicians should consider recommending psychiatric treatment of youth PTSD only for those who do not respond to evidence-based trauma-focused psychotherapy. Similarly, others (e.g., Cohen et al., 2007; Strawn et al., 2010) have suggested that using an SSRI as an add-on to evidence-based psychotherapy may be considered for children who have severe trauma-related symptoms or PTSD in addition to a comorbid psychological disorder that requires treatment (e.g., depression).

Predictors of Treatment Response

There are few well-established predictors of PTSD treatment response among youth. Similarly, little is known regarding which type of treatment is most effective for a particular client. Research is also needed to understand and examine the processes that drive therapeutic improvement in evidence-based treatments for PTSD. In a review of psychological treatment for youth exposed to trauma, treatment type, specifically receiving CBT, and parental involvement in treatment were predictors of better treatment response (Silverman et al., 2008). Demographic factors, therapeutic alliance, and social support have also been examined as predictors of treatment outcome.

Similar to the pattern in adults, demographic variables such as age, gender, and ethnicity have not emerged as consistent predictors of treatment outcome among youth receiving TF-CBT (Cohen et al., 2004). With regard to ethnicity, it appeared that TF-CBT was equally effective in treating children of European American and African American backgrounds (Cohen et al., 2004). However, in a study examining TF-CBT and client-centered therapy, higher socioeconomic status predicted better treatment outcome (Cohen & Mannarino, 2000).

A strong *therapeutic alliance*, or relationship between client and therapist, is consistently predictive of better therapy outcomes in adult samples (Martin, Garske, & Davis, 2000). Few studies have examined the role of treatment alliance in youth PTSD treatment. In a recent trial comparing TF-CBT to treatment as usual among 156 traumatized adolescents ages 10–18 years, a stronger therapeutic alliance emerged as a significant predictor of better treatment outcome, but only in the TF-CBT group (Ormhaug, Jensen, Wentzel-Larsen, & Shirk, 2014). In a recent report analyzing the same sample of 156 youth, higher therapist and patient ratings of treatment alliance predicted patient treatment satisfaction but only the patient scale was significantly related to change in symptoms (Ormhaug, Shirk, & Wentzel-Larsen, 2015). Similarly, strong therapeutic alliance has been shown to predict better treatment outcome for adult survivors of childhood sexual assault, with this relationship being mediated by emotion regulation capacity during therapy (Cloitre, Stovall-McClough, Miranda, & Chemtob, 2004). The authors suggest that emotion regulation difficulties are common for traumatized youth, emphasizing the importance of this mechanism in understanding the impact of therapeutic alliance during treatment for this population. More studies are needed to understand the role of therapeutic alliance in psychotherapy for children.

Social support, a strong predictor of PTSD development (Brewin, Andrews, & Valentine, 2000), has recently received attention as a potential variable impacting treatment outcome in youth. Social support is a multifaceted construct, and a number of types of support have been found to predict treatment outcome in youth. For example, child

perceptions of support have been found to relate to treatment response. Children who perceived that others did not believe them (e.g., when they disclosed the abuse) and perceptions that others blamed them for the trauma had a poorer response to TF-CBT or client-centered therapy than children without such beliefs (Cohen & Mannarino, 2000). On the other hand, higher levels of parent-reported parental support have also been shown to relate to improved treatment outcome for children (Cohen & Mannarino, 1998, 2000).

Finally, there is preliminary evidence that supports neurobiological markers of treatment response (Cisler et al., 2015). In a recent study of 23 adolescent girls with PTSD related to physical or sexual assault who completed TF-CBT, pretreatment amygdala reactivity predicted treatment response. Prior to treatment, participants completed an implicit threat processing task during functional magnetic resonance imaging (fMRI), in which their amygdala response was measured while they viewed faces with fearful or neutral expressions. Adolescents who showed greater amygdala activation to both threatening/fearful faces and neutral faces showed less symptom reduction across TF-CBT. However, adolescents with greater symptom reduction across TF-CBT showed amygdala activation only to threat images. These results are preliminary, but they suggest that pretreatment amygdala reactivity in response to fearful or threatening stimuli positively predicts symptom reduction during TF-CBT (Cisler et al., 2015). Overall, as the treatment efficacy literature grows, it will be important to pinpoint both psychosocial and neurobiological variables that reliably and consistently predict treatment response in order to improve and tailor PTSD treatment for youth. Promising potential predictors, based on the limited research available, include parental involvement in CBTs, a strong therapeutic alliance, and perceived parental/social support.

EVIDENCE-BASED ASSESSMENT AND TREATMENT IN PRACTICE

Assessment

Regardless of treatment modality, there are often barriers to seeking treatment (e.g., lack of resources, transportation difficulties, insurance coverage). In order to increase utilization of services and improve adherence, it is important for clinicians to provide a clear rationale for each component of the treatment and to educate both parents and children on common symptoms of PTSD (Sharma-Patel et al., 2011). Specifically, providing a developmentally appropriate rationale addressing potential differences in posttrauma reactions based on developmental stage can personalize the treatment and increase trust between the therapist and child. As a clinician, it is also important to assess child safety, particularly for children who have chronic trauma histories or may be at risk of current danger. Engaging a nonoffending caregiver in the treatment plan, whether it is just to make a few phone calls or to have the caregiver attend sessions, can help to ensure child safety. In fact, parental involvement in treatment has been found to improve treatment outcome for youth with trauma-related symptoms (Silverman et al., 2008). Similarly, some have suggested that a parent's ability to support his or her child and maintain his or her own support network is a crucial factor in promoting mental health in children exposed to traumatic events (e.g., McGloin & Widom, 2001). Thus, some have suggested that a clinician may want to discuss, early in treatment, with the parent whether he or she feels it would be important to engage in his or her own mental health treatment (Yule,

Smith, Perrin, & Clark, 2013). This may be especially important for cases in which both the parent and child were exposed to the target trauma. Generally, however, the child's treatment should not be contingent on the parent seeking treatment (Yule et al., 2013).

Developmental stage is an important consideration for assessment of PTSD in youth. As we discussed previously, a preschool subtype was added to the DSM-5 PTSD diagnosis (American Psychiatric Association, 2013). However, differences in trauma reactions are also found between school-age (i.e., > 6 years of age) and adolescent children. For example, among a generalized trauma sample of children ages 7–14 years, those in later stages of pubertal development were more likely to meet criteria for multiple PTSD symptom clusters compared to those in earlier stages (Carrion, Weems, Ray, & Reiss, 2002), suggesting that younger children are less likely to report enough symptoms to meet criteria for PTSD. However, the children exhibiting subthreshold PTSD had similar levels of functional impairment compared to children who met full criteria (Carrion et al., 2002). Therefore, it is essential to provide age-appropriate assessment, including reports from others (i.e., teachers and parents), in order to fully understand how trauma relates to symptoms of PTSD in youth.

Differential Diagnosis

Given that PTSD exhibits high comorbidity rates with other psychological disorders and symptoms, including, depression, substance use, internalizing symptoms, and externalizing disorders such as ODD and ADHD (e.g., Ford et al., 2000; Kilpatrick et al., 2003; Macdonald et al., 2010), thorough assessment is required to provide the appropriate diagnostic picture. Considering these high comorbidity rates, it is important for clinicians working with traumatized youth to assess for a wide variety of symptoms, in addition to those specific to PTSD.

Clinicians working with youth should employ the proper assessment measures and techniques to understand whether symptoms should be classified as part of a PTSD diagnosis or a separate psychological disorder. The American Academy of Child and Adolescent Psychiatry (Cohen, et al., 2010) recommends routine screening for trauma exposure in initial assessments with children. Subsequent assessment can identify whether reactions to the trauma have resulted in a pathological response, which may or may not include symptoms of PTSD. For example, a clinician seeing a child with attention difficulties and a history of abuse might be able to rule out ADHD if attention problems occur solely when the child is reexperiencing a trauma.

Clinical Interviews

The unique difficulties regarding the assessment of PTSD in children complicate the development of structured clinical interviews for this population. One approach has been to adapt empirically supported adult assessments for use with children. For example, the *Clinician-Administered PTSD Scale for Children and Adolescents* (CAPS-CA; Nader et al., 1996) is designed for use with children ages 8–15 years and is based on the widely used *Clinician-Administered PTSD Scale for adults* (CAPS; Blake, Weathers, Nagy & Kaloupek, 1995). Similar to the CAPS for adults, the CAPS-CA assesses frequency and intensity of PTSD symptoms. The CAPS and CAPS-CA assess for additional trauma-related

symptoms, such as dissociation, and for global functioning and impairment. The CAPS-CA has a number of features and additional questions to make it more applicable to the assessment of children. The instructions for the CAPS-CA are worded specifically for children and provide more detailed information explaining PTSD symptoms. For example, the instructions include a practice question to make sure the child understands the difference between the frequency and intensity ratings. Some questions are altered as well (e.g., assessing scholastic functioning as opposed to occupational functioning). The CAPS-CA also contains three additional items tailored specifically to children:

Item 23. Impact on developmental functioning: Loss of acquired skill

Item 29. Shame

Item 33. Changes in attachment

The CAPS-CA has demonstrated acceptable internal consistency (Erwin, Newman, McMackin, Morrissey, & Kaloupek, 2000) and construct validity (Carrión et al., 2002).

The Child PTSD Symptom Scale (CPSS; Foa, Johnson, Feeny, & Treadwell, 2001) was also adapted from an adult PTSD assessment tool (PTSD Symptom Scale—Interview version (PSS-I; Foa, Riggs, Dancu, & Rothbaum, 1993) for use with children. Like the adult version, it has both a clinician-administered and a self-report version, and like the CAPS-CA, it measures the DSM-IV PTSD symptoms. However, unlike the CAPS-CA, the CPSS asks about frequency of symptoms in the last 2 weeks specifically, and does not include separate questions for rating intensity. Frequency ratings are made on a Likert-type scale that ranges from 0 (“not at all or only at one time”) to 3 (“5 or more times a week/almost always”). In addition to the 17 DSM-IV symptom items, the CPSS also includes seven functional impairment items, designed to assess whether PTSD symptoms have impacted areas of the child’s life (e.g., family relationships, academic functioning). The CPSS has demonstrated high internal consistency and convergent validity with other measures of childhood PTSD (e.g., Foa et al., 2001).

While it is preferable to utilize an instrument that assesses symptom frequency and intensity (i.e., the CAPS-CA or the CPSS), simply assessing for the presence of PTSD symptoms in a comprehensive diagnostic interview may be more appropriate in many clinical settings. Comprehensive diagnostic interviews for children include the Kiddie Schedule for Affective Disorders and Schizophrenia for School-Age Children—Present and Lifetime Version (K-SADS-PL; Kaufman, et al., 1997); the Diagnostic Interview for Children and Adolescents (DICA; Reich, 2000); The National Institute of Mental Health (NIMH) Diagnostic Interview Schedule for Children, Version IV (NIMH DISC-IV; Shaffer, Fisher, Lucas, Dulcan, & Schwab-Stone, 2000); and The Anxiety Disorders Interview Schedule for DSM-IV for Children (ADIS-C; Silverman, Saavedra, & Pina, 2001). These measures are structured around diagnostic criteria from the DSM-IV and, when available, revised accordingly for the DSM-5. Each of these measures contains parent and child versions because both reports are beneficial to the diagnosis of childhood psychopathology.

While a description of the psychometrics for each of these measures is beyond the scope of this review, the K-SADS-PL is commonly used in samples of traumatized youth across the developmental spectrum (e.g., Cohen et al., 2004, 2007). The K-SADS-PL has been shown to reliably assess PTSD in young children between ages 2 and 5 years using

only parent report (Birmaher et al., 2010). The ability of this measure to assess multiple traumas and age groups makes it particularly clinically useful. The K-SADS-PL is a semi-structured diagnostic interview analogous to the Structured Clinical Interview for DSM-IV-Axis I Disorders (SCID-IV; First, Spitzer, Gibbon, & Williams, 2002) for adults, and like the SCID, the K-SADS contains a specific module to diagnose PTSD. In this module, symptoms of PTSD are assessed and marked present or absent either currently or in the past. A diagnosis of PTSD is determined based on DSM symptom cluster thresholds. Psychometric studies show concurrent validity for diagnoses using the K-SADS-PL, as well as good test–retest reliability for a diagnosis of PTSD (Kaufman et al., 1997).

Self-Report Measures

A number of self-report measures have been developed to assess symptoms of PTSD and other trauma reactions in children. One validated self-report measure of PTSD symptoms is the Self-Report version of the Child PTSD Symptom Scale (CPSS). Like the adult version (the PSSI), the CPSS can be administered as an interview or self-report measure. As with the interview version, the current self-report measure assesses the 17 DSM-IV PTSD symptoms and contains seven social function questions. A validated DSM-5 version is not yet available as of this writing.

The Children’s Revised Impact of Events Scale (CRIES; Smith, Perrin, Dyregrov, & Yule, 2003) is also derived from an adult assessment tool, the Impact of Events Scale (IES; Horowitz, Wilner, & Alvarez, 1979). The CRIES is a 13-item PTSD screening tool that assesses four intrusion, four avoidance, and five arousal symptoms. Factor analysis of the 13 items (Smith et al., 2003) showed a clear distinction between intrusion and avoidance symptoms; however, all of the arousal symptoms loaded onto the intrusion factor, suggesting that intrusion and arousal symptoms are closely related in children. Furthermore, a cutoff score of 30 on the CRIES has been shown to accurately predict a PTSD diagnosis for 75–83% of children in samples with high and low PTSD base rates (Perrin, Meiser-Stedman & Smith, 2005), suggesting high specificity and sensitivity for the measure. This study also showed that an eight-item version of the CRIES that excluded arousal symptoms was as accurate as the 13-item CRIES in predicting PTSD diagnosis, suggesting that hyperarousal symptoms may not be necessary for the diagnosis of PTSD in children. However, a factor analysis of the CRIES in a Chinese sample of traumatized youth (Zhang, Zhang, Wu, Zhu, & Dyregrov, 2011) supported a three-factor structure but suggested that these factors were highly correlated.

There are a number of self-report measures designed to assess reactions to trauma beyond the DSM core symptoms. For example, the Children’s Impact of Traumatic Event Scale—Revised (CITES-R; Wolfe & Gentile, 1991) comprises 78 items assessing 11 clinical subscales. These subscales include DSM PTSD reactions (Intrusive Thoughts, Avoidance, and Hyperarousal), sexual anxiety, attributions about the abuse (Self-Blame/Guilt, Personal Vulnerability, Believing in a Dangerous World, and A Sense of Empowerment), social reactions (Negative Reactions by Others and Social Support), and eroticism. Items are worded as statements, and the respondent indicates whether the statement is “very true,” “somewhat true,” or “not true.” Internal consistency for the CITES-R subscales has been shown to be highest for the main PTSD scales, with the other scales showing less consistency (Chaffin & Shultz, 2001).

The Trauma Symptom Checklist for Children (TSCC; Briere, 1996) also measures a broad range of trauma reactions. This 54-item measure includes six subscales (Anxiety, Depression, Posttraumatic Stress, Sexual Concerns, Dissociation, and Anger). In addition to the clinical scales, this measure includes two validity scales (Underresponse and Hyperresponse) to determine abnormal response styles that may invalidate the results. The items comprise a list of thoughts, feelings, or behaviors to which the respondent responds from 0 (“Never”) to 3 (“Almost all the time”). The clinical scales show moderate to high reliability (.77–.89; Briere, 1996).

In conclusion, while most assessments of PTSD in children are adapted from adult measures, they include some developmentally specific modifications. As the diagnosis of PTSD becomes more developmentally sensitive (i.e., the inclusion of the preschool subtype), childhood assessments will require greater modifications. Proper assessment development and implementation will ensure that as the diagnosis for childhood PTSD evolves, clinicians will be equipped to identify and treat the many reactions that manifest in children after a traumatic experience.

Treatment

As we discussed previously, there are a number of empirically supported treatments for childhood PTSD. The three CBT approaches with the strongest empirical support to date include TF-CBT (Cohen & Mannarino, 1993), CBITS (Stein et al., 2003), and PE-A (Foa et al., 2008), but other CBT treatments have also shown promise. Several primary components have been theorized to be important in CBT for children and adolescents with PTSD, including *exposure*, *cognitive processing/reframing*, and *parental training* (Cohen, Mannarino, Berliner, & Deblinger, 2000). Whereas Cohen and colleagues (2000) describe the empirical support for each of these components, we address in this review important clinical considerations for implementing each of these therapeutic strategies in order to help bridge the gap between the empirical base and clinical practice.

Exposure

Exposure techniques are often utilized in the treatment of anxiety disorders in adults and children. For the treatment of PTSD in adults, exposure-based therapies have the strongest empirical evidence for treatment efficacy (Institute of Medicine, 2008). While the research with PTSD in children is less developed, exposure techniques have been shown to be efficacious for adolescents ages 12–18 years (e.g., Gilboa-Schechtman et al., 2010). PE-A involves 12–15 sessions and includes the core exposure elements used in adults, as well as more extensive case management and a stronger emphasis on relapse prevention.

The primary types of exposure include imaginal and *in vivo* techniques. Imaginal exposure involves describing and repeatedly retelling the traumatic memory in session in the presence of the therapist. *In vivo* exposure involves engaging in objectively safe, real-life situations that the adolescent is avoiding because they serve as reminders of the trauma or make him or her feel unsafe (e.g., for a motor vehicle accident [MVA] survivor, being in a car; being around people who remind a child of an abuse perpetrator). PE-A (Foa et al., 2008) devotes eight or nine sessions to both imaginal and *in vivo* exposure work. Much as in prolonged exposure for adults, *in vivo* exposure involves the creation

of a fear hierarchy of avoided people, places, and situations that act as triggers for the traumatic memory. The adolescent is encouraged to engage with these trauma reminders between sessions. For example, an MVA survivor may be encouraged to sit in a vehicle in a driveway or be a passenger while a family member drives around the block or to the store. Imaginal exposure involves having the adolescent retell the narrative of the trauma memory, preferably in the present tense and with his or her eyes closed to allow for optimal engagement with the memory. Imaginal exposures are audio-recorded, and clients are instructed to listen to the recordings for homework. Other empirically supported trauma-focused treatments such as TF-CBT and CBITS also include modified imaginal and *in vivo* exposure components (e.g., fear hierarchy in CBITS).

One consideration that is especially important in assigning *in vivo* exposure tasks for adolescents is ensuring that the situation is objectively safe. As with any abuse victim, it is necessary to ensure that exposures will not increase risk of harm. However, for children and adolescents, this risk is increased due to their lack of autonomy and reduced ability to avoid potentially harmful situations. For example, an adult who has moved away from the neighborhood where an assault occurred may be able to drive back there as an *in vivo* exposure. However, an adolescent may lack the means to do this and may not be able to accurately assess the objective safety of such a situation. For adolescents completing *in vivo* exposure, it may be helpful to have an additional person, such as a trusted nonperpetrating relative, collaborate on the fear hierarchy and accompany the adolescent during exposures. Imaginal exposures may be difficult for children and adolescents, depending on developmental stage because of difficulty engaging with the memory either due to problems with attention or understanding the task. Additional strategies can be used if verbal narration is too difficult. For example, the CBITS exposure protocol (Jaycox, 2004) involves imagining the memory, drawing the memory, or writing about the traumatic event. Similarly, TF-CBT involves constructing a trauma narrative. The considerations regarding exposure listed earlier are even more important when working with preschool-age children. For this population, the collaborative development (i.e., between child and parent) of a trauma narrative has been shown to be an effective exposure technique (Cohen & Mannarino, 1997; Lieberman, Van Horn & Ippen, 2005).

Cognitive Processing/Reframing

Cognitive therapy is designed to identify an individual's maladaptive cognitions and alter or reframe them to reduce psychopathology. For the treatment of adults with PTSD, cognitive processing therapy (CPT; Resick & Schnicke, 1992) is one such approach that focuses on addressing distorted cognitions about the trauma. TF-CBT, an adaptation of CPT (Cohen et al., 2000) for the treatment of children and adolescents, includes a cognitive processing component. TF-CBT is a brief (i.e., 12- to 18-session) intervention designed for both children and adolescents. Overall, TF-CBT involves skills described as PRACTICE (Psychoeducation and Parenting skills, Relaxation techniques, Affective expression and modulation, Cognitive coping, Trauma narrative and processing, *In vivo* mastery of trauma reminders, Conjoint parent-child sessions, and Enhancing future safety and development). TF-CBT seeks to correct distorted cognitions about a traumatic event (i.e., self-blame) through first identifying the distorted thoughts, then evaluating the reasons behind them, and finally, discussion, replacing the distorted thought with a

more accurate one. There are multiple opportunities for clinicians to receive training in TF-CBT, including initial online workshops (<http://tfcbt.musc.edu>).

Other treatments also incorporate cognitive components. For example, PE-A involves processing of the traumatic event (e.g., discussing the process of talking through the memory) immediately after imaginal exposure, and CBITS dedicates two sessions to discussing the role of negative cognitions in PTSD and how to combat negative thoughts. The CBITS protocol (Jaycox, 2004) includes psychoeducation, relaxation, cognitive skills, exposure-based components, and social problem solving. The treatment is done within the school setting; therefore, a discussion of confidentiality is necessary during the first session to ensure that group members do not share others' experiences outside the group setting. Although parents are not directly involved in the treatment, there are parent and teacher education sessions about the CBITS program, as well as common reactions to trauma exposure.

As with exposure techniques, it is essential to take into account developmental stage when employing cognitive techniques. For adolescents, who are more capable of abstract reasoning than young children, cognitive reframing techniques used with adults may be appropriate. However, for younger children, these strategies need to be modified. For example, a 16 year-old may be able to engage in a discussion about the evidence for and against a negative thought, such as "It is my fault that the trauma occurred." A 7 year-old, however, may not be able to engage directly with his or her thought in the same way. In such cases, therapists can utilize more direct cognitive techniques such as helping young children to replace negative thoughts with positive ones (e.g., generating Helpful Other Thoughts in CBITS; Jaycox, 2004). This allows for cognitive change while bypassing the abstract thinking required in Socratic questioning. In addition, it is important for clinicians to listen closely to any negative cognition mentioned spontaneously during exposure exercises, as children may not be as easily able to identify these cognitions when asked directly. Finally, clinicians treating youth with PTSD should attempt to include trusted others, such as a nonperpetrating parent, to assist with the child's cognitive processing, as they may be a source of comfort for an especially reserved child.

Parent or Caregiver Involvement

It is often beneficial to include parents and other caregivers, especially when treating young children. Caregivers can help the child understand and engage in therapy and help the therapist understand the child's symptoms and functioning. Parents may play an important role in how a child reacts to a traumatic situation and are often the child's primary source of information, comfort, and support following a traumatic event. Therefore, it is crucial that parents not engage in the disconfirming and avoidant behaviors sometimes displayed by loved ones of trauma victims (i.e., placing blame on or not believing the victim). Including parents in treatment can help the parent (1) process the trauma along with the child, (2) reduce the negative emotions (e.g., guilt that they could not protect their child from exposure to trauma) that may be hindering their ability to help their child, and (3) implement changes in parenting practices.

There are a number of treatments for childhood PTSD that include the parent. For example, TF-CBT includes two components involving the parents. The first is a parent skills module that teaches praise, selective attention, time-out, and contingency

reinforcement strategies. The second is a series of sessions with the child and parent together that come after the other components of treatment have been implemented. These sessions are designed to encourage open communication about the trauma between the child and parent. In contrast, AF-CBT (Kolko & Swenson, 2002) is a treatment designed for physical abuse victims and their families. AF-CBT is considered a “promising” treatment for child abuse victims by the National Child Traumatic Stress Network (see www.nctsn.org). Specifically, this treatment is often used in situations where there is frequent conflict in the home and use of physical discipline (clinicians seeking more information on training are encouraged to visit www.afcbt.org). In addition to addressing the child’s reaction to parental violence, this treatment also has a number of parent-focused components for both offending and nonoffending parents. These include recognizing and managing abuse triggers and learning appropriate developmental expectations. This approach differs from other child-focused, as well as adult-focused, treatments for abuse victims in that the cause of the abuse, as opposed to the reaction, is directly targeted.

Other treatments designed for older children and adolescents, such as PE-A and CBITS do not require a parent-specific component, likely reflecting the increased autonomy of older children. Parent involvement in the treatment of early childhood trauma however, may be necessary for symptom change, as evidenced by data showing that abuse-specific components of AF-CBT (i.e., parent skills focused on preventing maltreatment) were uniquely related to positive treatment outcomes for abused children (Kolko, Iselin, & Gully, 2011).

Treatment for Preschool-Age Children

Treatment for this age group is enhanced by the inclusion of parents and caregivers because of trusted adults’ ability to facilitate a child’s engagement, and because of the strong influence of attachment in early childhood. TF-CBT has shown promising efficacy in this age group (Scheeringa et al., 2011). CPP (Lieberman, 2004; Lieberman & Van Horn, 2013) is a treatment for preschool children exposed specifically to parent-related adversity (e.g., parent mental illness) or other traumatic events (e.g., exposure to violence). In this treatment, joint child–parent sessions focus not only on parent training and developing a trauma narrative, as in TF-CBT, but also on supporting developmentally appropriate interactions between the parent and child (Lieberman et al., 2005). In this way, CPP treats the attachment between child and parent as a specific mechanism of change in therapy. CPP was been shown to be effective in reducing traumatic stress symptoms for children ages 3–5 years, all of whom who had witnessed marital violence, and a portion of whom experienced additional traumatic stressors such as physical abuse and sexual abuse, and witnessing community violence (Lieberman et al., 2005). This is a sensible approach when there is reason to believe that the attachment between the parent and child may be a contributing factor. However, some important drawbacks to this approach must be considered. First, a comprehensive knowledge of attachment theory is likely required for implementation of this treatment, which restricts the number of clinicians capable of implementing this therapy. Second, some parents may have had a direct role or been complacent in their child’s abuse, which makes involvement of either parent difficult, if not impossible. In these situations, it is necessary to involve other, nonperpetrating caregivers, which is not always a possibility. Third, the focus on the parent–child

relationship may ignore other important social influences, such as peers and siblings. Finally, given the high levels of resilience to adverse events displayed by young children (Masten, 2001), caution should be exercised when deciding to implement treatment. This is not to say that treatment would not be necessary in some cases, but time for natural recovery should be allowed.

In conclusion, like assessment for childhood PTSD, treatment has evolved to be developmentally sensitive. The growing number of empirically supported treatments for childhood PTSD is largely modeled on evidence-based adult treatments. These approaches have demonstrated that children as young as preschoolers can benefit from the same techniques used with adults. However, it is essential that these treatments include developmentally sensitive modifications, such as including a caregiver, when necessary.

Case Example

This section provides a case example of implementing an empirically supported, manualized group-based intervention for youth between ages 11 and 15 years. As previously mentioned, CBITS (Jaycox, 2004) is a short-term intervention implemented in a school setting. The case example highlights the course of CBITS treatment for a student named Lily.* We present Lily's course of treatment, including clinical recommendations and session dialogue. The clinician followed the manualized CBITS intervention protocol outlined in the treatment manual (Jaycox, 2004). Clinicians seeking more information on training in CBITS should consult the CBITS website (<https://cbitsprogram.org>).

BACKGROUND AND PRETREATMENT ASSESSMENT

Lily, a 14-year-old African American female freshman in high school, was referred to the CBITS program by her school counselor. She was raised by her mother in a single-parent household and never met her biological father. Lily reported that she had one older brother (age 19) whom she "really never sees." When Lily was 12 years old, she was waiting at a bus stop with her best friend [Jenny] when she witnessed a stabbing of a stranger. When asked to briefly describe what happened, Lily reported that she witnessed a young male jump out of a car, stab a young female, grab her purse, and get back into the car. Lily saw the young woman "bleeding all over" and quickly ran away from the scene. When asked about her current upsetting thoughts about the event, Lily said, "That could have happened to me or Jenny." Lily reported that she had seen a therapist for one session about 2 months earlier, but she never went back because "the lady just sided with my mom the whole time." Lily obtained a score of 23 on the CPSS, indicating PTSD symptoms in the clinical range. She also completed the Child Depression Inventory (CDI; Kovacs, 1981) and scored 18, indicating moderate depressive symptoms. With regard to PTSD symptoms, Lily reported that she had thoughts on a daily basis such as, "This could have happened to me or Jenny." Lily was also upset by trauma reminders, such as seeing buses on the street, young men who looked like the assailant, and being around

*This case represents a composite of various clients we have seen in our clinical work. All identifying information has been altered to protect confidentiality. Any resemblance to a specific individual is purely coincidental.

strangers (e.g., going to restaurants or to the mall). She was also experiencing moderate levels of cognitive and behavioral trauma-related avoidance (see Session 2 below for a detailed description of trauma-related avoidance) and detachment from others. Specifically, Lily put it this way: “I don’t want to get close to anyone because what if something bad happens to them or something?” Finally, she reported significant difficulty sleeping and nightmares of “people bleeding.”

Prior to starting CBITS, the clinician held a group parental informational meeting in order to discuss the primary components of CBITS, highlight the program as one that builds skills to better cope with stressors, educate parents on common reactions to trauma, and answer questions they had about the treatment. Parents were not involved in the group sessions. At the parental meeting, Lily’s mother stated that she was worried that Lily “ignores me a lot and just sits in her room. She hardly sees her friends at all anymore.”

SESSION 1

Lily and five other group members attended the first group session. First, confidentiality was discussed. Next, an overall rationale for CBITS was provided to the students (see the CBITS manual for the full rationale; Jaycox, 2004). The rationale included defining a trauma, giving examples of potential traumatic events, and asking group members to discuss how a trauma might change the way we *think, feel,* and *act*. At the end of the session, each student was asked to provide a brief statement of why he or she was attending the group and what he or she would like to work on in the group. Lily stated, “I am here because I saw someone get hurt by someone else. I want to get closer to people.”

The students, including Lily, were fairly quiet and reserved in the first session. Particularly in high school settings, students may be reluctant to open up about their experiences for fear that other group members will discuss the group material with students outside the group. For this reason, reviewing confidentiality at the beginning of the session is critical.

SESSION 2

At the beginning of Session 2, common reactions to trauma were discussed (for a handout of common reactions to trauma, see the CBITS manual; Jaycox, 2004). Group members disclosed trauma-related difficulties that they were experiencing. Lily reported that she felt “alone” and “didn’t want to talk or think about the trauma at all.” Finally, she said, “I don’t like to be around Jenny [her best friend]” because “the trauma happened to both of us but she’s over it and so I feel stupid being upset still.” At the end of the session, a breathing exercise was introduced and group members were asked to practice the exercise every day. Lily reported that she often uses “loud music to drown out whatever is going on in my head to get to sleep at night.” The clinician suggested that Lily listen instead to relaxing music before bed while doing the deep breathing to help her sleep.

SESSIONS 3 AND 4

The aim of these sessions was to introduce cognitive therapy and provide group members with cognitive strategies they could use to combat negative thoughts. At the beginning of

the session, the clinician introduced the idea of a fear thermometer (0- to 10-point scale of distress) as a way to measure how scared or upset the students feel. Lily reported that she felt a 0 (“completely calm”) when she went on family vacation when she was 8 years old. She reported that she felt a 10 (“completely upset/afraid”) during the trauma. Following the introduction of the fear thermometer, the session shifted to focus on cognitive therapy. Transcript from Session 3 introducing the link between thoughts and feelings follows (see the CBITS manual for Fear Thermometer Handouts and Rationale for Cognitive Therapy; Jaycox, 2004).

CLINICIAN: Now that we have a way to measure how we are feeling, we are going to talk about how different types of thoughts you have going through your mind can lead you to have different types of feelings. Let’s say, for example, that it’s Friday night and you are going to a birthday party. Your friend was supposed to pick you up at about 7:00 P.M. and drive you to the party. It’s 7:45 P.M. and your friend hasn’t arrived yet, and she hasn’t called or texted you either. What type of emotions are you feeling?

GROUP MEMBER 1: Really annoyed and irritated.

GROUP MEMBER 2: Worried about her. What if she got hurt?

GROUP MEMBER 3: Like, bad about myself because she probably forgot about me or doesn’t care about me.

CLINICIAN: OK, so you all feel differently, even though it’s the same situation. Let’s see what types of thoughts would lead you to feel this way. Group Member 1, why would you feel irritated?

GROUP MEMBER 1: Because she’s late and didn’t call. She’s being rude.

CLINICIAN: And Group Member 2, the thought you had was, “She could have gotten hurt,” so you became worried. And Group Member 3, you were thinking that she didn’t really care about you, so you were feeling a little ashamed and left out. When we say things to ourselves in our heads, it can make us feel a certain way. And each of you had different thoughts in that situation which caused you each to feel differently.

Following this dialogue, the clinician introduced various strategies for combatting negative thoughts (see CBITS manual for handouts that can be distributed to students; Jaycox, 2004). A portion of this dialogue follows:

CLINICIAN: So, let’s keep going with this example. There are different ways that we can check out our thoughts to make sure they are right or make sure they are helpful to us. So, let’s say you are feeling worried because you think your friend got hurt and that’s why she’s late. Do you think there could be any other reason she’s late?

GROUP MEMBER 1: Well, maybe she forgot her phone at home, or it died or something.

CLINICIAN: Exactly, so there are other ways of thinking about this situation. And, how might you feel if you think that the reason she didn’t call you is because she accidentally forgot her phone at home?

GROUP MEMBER 1: Well, better, I guess. Not as worried.

CLINICIAN: Great, so by checking out your thoughts and figuring out if there were other ways to think about the situation, you were able to see that you can feel better about that situation.

In Sessions 3 and 4, the clinician went through multiple situations/examples in a similar fashion and introduced additional strategies to challenge negative thoughts. Group members were asked to practice using these strategies between group sessions. The clinician started off Session 4 by asking the students whether they noticed having any negative thoughts during the past week or whether they had any stressful experiences and worked through those examples in the group.

SESSION 5

Session 5 focused primarily on introducing *in vivo* exposure and creating a fear hierarchy. The clinician first provides a rationale for real-life exposure. Following the rationale, the remainder of the session is spent building a fear hierarchy with group members and assigning the group members items from the fear hierarchy to practice between group sessions. Items on the fear hierarchy include objectively safe situations, places, and people that the students are avoiding because they serve as trauma reminders. See Figure 9.1 for Lily's fear hierarchy. Following the hierarchy, homework was assigned (i.e., practice real-life exposures). Depending on the developmental stage and age of the child, parental involvement (e.g., a phone call) may be needed. For Lily's first assignment, she is asked to eat at the kitchen table with her mom at least three times instead of eating dinner in her room. Lily said this made her anxious (fear rating = 5) because "My mom think's differently about me now that I have gone through this and talking to her for a long time makes me uncomfortable." With Lily's permission, the clinician called Lily's mother to make sure that she is aware that this is part of Lily's treatment program and that she understands the importance of making sure they add dinner at the table to their weekly schedule.

INDIVIDUAL SESSION

After Session 5, Lily met with the clinician individually to complete a type of imaginal exposure. The clinician provided a rationale for imaginal exposure, then asked Lily to explain the trauma as if it were a movie projected onto a screen and to provide details such as how she was feeling and what she was thinking during the trauma (see the CBITS manual for the imaginal exposure rationale; Jaycox, 2004). The exercise was conducted for about 30 minutes.

LILY: The guy jumped out of the car and he ran right over to this girl who was listening to music on her headphones and just punched her. Then he took out a knife and stabbed her somewhere, like in the stomach.

[Clinician observation: Lily was frowning her brow a bit and speaking softly. She seemed engaged with the memory, so I did not probe much.]

Real-Life Situation	Stress
Standing in front of school building at the end of the school day when buses are there	7
Riding in the bus with the other cheerleaders to the football game	9
Standing at a bus stop with a friend	8
Going to a crowded restaurant with my mom	6
Going to a non-crowded restaurant with my mom	5
Going to the mall on a weekend (crowded) with friends	8
Going to the mall on a weekday (not crowded) with friends	4
Hanging out with Jenny	7
Eat dinner at the table with my mom instead of eating in my room	5

FIGURE 9.1. Lily’s fear hierarchy

LILY: She screamed so loud. It was so scary. Like I remember seeing red all over her dress and wondering what it was and then being, like, oh my God, it’s blood. I felt, like, sick. But I just stood there, too, staring. Jenny grabbed my hand and yanked me, and we just started running away. I couldn’t really think.

[Clinician observation: Lily started to tear up during this section so I provided gentle encouragement to Lily, praising her courage for sticking with this memory.]

LILY: Then, we just ran as fast as we could until we saw a restaurant. We ran in, called my mom, and just waited there until she picked us up.

[Clinician observation: Lily appeared very calm during this section and less engaged so I asked Lily, “What were you feeling when you were waiting for your mom to pick you up?”].

Lily repeated the trauma memory for about 25 minutes. Following this, the therapist asked Lily which parts of the memory were harder and which parts were easier. Lily identified the part where Jenny grabbed her hand and yanked her away, and they started running away together as a harder part. Lily stated that she would rate her fear at an 8 (on the thermometer) when thinking about that part of the memory. She stated that she wanted to work on that part in the group exposure sessions.

Clinically, it is important to gauge child engagement during the discussion of the memory. Although the therapist does not want the child to be overly upset in a school setting, he or she does want the child to experience some anxiety in order to process the memory (see the CBITS manual for suggestions on encouraging appropriate engagement; Jaycox, 2004). Following the exposure, the therapist asked Lily if she is still friends with Jenny, and Lily says, “Yes,” but states that she does not think that Jenny was “bothered” by the trauma, and so she felt “stupid” talking to Jenny about it. The therapist reviewed cognitive strategies with Lily regarding her thoughts about Jenny’s reactions (e.g., “How do you know that Jenny isn’t bothered by the trauma? Are there other reactions that Jenny might have if she knew you were still upset about the trauma?”). The clinician also asked Lily what she would like to share with the group about her experience, and how she

would like to show support to other group members. Lily said that she would like to tell group members, “Even though we all had different traumas, we are going through things together now and we can help each other.”

SESSIONS 6 AND 7

At the beginning of Sessions 6 and 7 the clinician reviewed the real-life exposure assignments and took a few minutes to assign new homework, moving up the fear hierarchy for each group member. Lily reported that it was becoming easier to have dinner with her mom, and they had even decided to go to the mall together the upcoming weekend. She realized that her mom was not judging her or “thinking I’m being all weird now,” and this reduced Lily’s distress surrounding interactions with her mom. This example was used in the group to highlight that the more one engages in an activity, the less uncomfortable it becomes.

Following homework review, Sessions 6 and 7 focused on having group members either write, draw, or imagine their trauma for about 30 minutes. Following the exposure, each member was asked to share his or her reactions to the exposure. For example, the clinician asked the students to report how it felt to think/write/draw their memory during the session. Clinically, it is important to encourage the group members to be supportive of one another. Overall, these sessions are important not only to allow them to process the trauma but also to build trust and cohesion among the group members. The transcript from this session based on Lily’s reactions to the exposure follows:

CLINICIAN: How did it feel to write/draw your trauma memory here in the group today?

LILY: It feels good. Like, I could never share any of this with other people at school. One time at lunch I heard these girls talking when they didn’t know I was behind them. They were like “Lily is practically crazy now. I heard she has mental issues.” It made me never want to talk to anyone about this.

CLINICIAN: Thank you for sharing, Lily. It’s true that when we feel hurt by people, it makes it hard to trust. Other group members, if you had this experience that Lily just talked about, what could you tell yourself to make yourself feel better?

GROUP MEMBER: I would think, “They have no idea what I have been through, and they don’t know the real story.”

CLINICIAN: And how would that make you feel?

GROUP MEMBER: Well, maybe annoyed a little. But also easier to let it go because it’s like I have been through something hard and maybe they haven’t, so they don’t know what it’s like. So I wouldn’t blame them maybe.

SESSIONS 8 AND 9

Similar to prior sessions, homework was reviewed at the beginning of the session, including real-life exposures, breathing exercises, and practice with cognitive strategies to reduce problematic thinking. Lily reported that she was sleeping better. In particular she reported that she liked listening to beach wave sounds while imagining she was lying

on a beach prior to going to bed at night, and this helped her to sleep. In Session 7, her homework involved going on the bus with the other cheerleaders to and from the Friday night football game. This was higher on Lily's hierarchy (see Figure 9.1). She reported that she would discuss this assignment with her mother (who usually drove her to the football games). Also, if she was getting anxious while on the bus, she would text her mom or listen to relaxing music on her headphones. In Session 8, Lily came back and reported that she felt the most anxious right when she stepped on the bus (fear rating = 7). However, by the time she arrived at the football field, she became less nervous (fear rating = 4) because she began talking to her friends, listening to music, and "having a little fun, I guess." Lily said she felt like she needed to keep doing this exposure because it still made her "kinda nervous."

Following homework review, Sessions 8 and 9 focused on social problem solving. These sessions are particularly helpful for children with troubled social relationships. The clinician first provided a rationale for social problem solving by defining a problem and identifying the link between negative thoughts and potential actions (see the CBITS manual for Social Problem Solving Rationale and Model; Jaycox, 2004). During this session, it can be helpful to ask the group for recent conflicts or issues that they have had to demonstrate how problem solving works. The transcript from Session 9 based on a problem Lily brought up during the group follows:

CLINICIAN: Last week we talked a lot about how to problem-solve by generating lots of solutions and deciding on how to pick the most helpful one. Since all of you are getting the hang of this now, let's go through some real examples. Has anyone had any conflicts that they would like to have the group help them problem-solve this week?

LILY: Yeah, actually. Remember a couple of weeks ago I told you I overheard those girls saying that I "have mental problems." Well, ever since then, I feel like my friends have been ignoring me more.

CLINICIAN: OK, this is a really good example. So the problem is that it seems like your friends are ignoring you. And your thought is that maybe they believe those girls. What are some other thoughts people might have if their friends are ignoring them?

GROUP MEMBER 1: Maybe they are busy. It is around finals time, so maybe they are studying or something.

GROUP MEMBER 2: I would start to think, "Maybe I am crazy" or wonder a lot that maybe those girls were right about me.

GROUP MEMBER 3: I might think, like, "Are they actually ignoring me or am I just being overly paranoid?"

CLINICIAN: What would you *do* if you thought, "Maybe they are just busy?"

LILY: Nothing, really, but I guess I wouldn't feel as bad.

CLINICIAN: What would you *do* if you started to think, "Maybe those girls were right?"

GROUP MEMBER 2: Probably just be alone and not want to be around anyone because I would feel bad about myself.

CLINICIAN: What would you *do* if you thought you might be overly paranoid?

GROUP MEMBER 3: I might just ask them if they were busy and wanted to hang out or something to test it out.

Following generation of these possible actions, the group brainstormed other possible solutions. At the end of the session, Lily realized that she did not have “real proof” that her friends were ignoring her, and she planned on asking one of her friends to go see a movie that weekend.

SESSION 10

Session 10 was geared toward discussing overall treatment progress and student reactions to the group. Lily reported that she felt closer to people, particularly the students in the group and also to Jenny [her best friend]. She also reported that getting on buses is “like, no big deal anymore.” Lily obtained a score of 9 on the CPSS and a CDI score of 7, indicating mild PTSD and depressive symptoms. Lily also reported that she wanted to continue to think about the pros and cons of “believing everything that goes through my head” and “shutting everyone out.” She planned on continuing to have dinner with mom at least once a week and calling Jenny or another friend when got upset instead of “blocking out the world.”

CONCLUSION

Unfortunately, the experience of trauma among children and adolescents is relatively common. For clinicians treating childhood disorders, special attention should be paid to symptoms of PTSD, as well as other symptoms that may be related to trauma. Understanding developmental models of PTSD onset is essential for implementing effective treatment for traumatized youth. Unique considerations, such as the child’s ability to understand the traumatic event, accurately report symptoms, and rely on assistance from caretakers, require that evidence-based treatment be developmentally sensitive. Treatment efficacy trials have begun to identify important components of treatment that reduce symptoms of PTSD and comorbid pathology in children, including trauma narration, exposure, cognitive strategies, and parental involvement. Finally, it should be noted that children, like adults, often “bounce back” after a trauma. Natural resilience processes may be facilitated or hindered by factors such as parental or caregiver support. For those with persistent PTSD symptoms, treatment is often efficacious. Clinicians should therefore pay close attention to the presence or absence of these factors when they are considering treatment options for children and families exposed to trauma or violence.

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