Complex Trauma

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KEYWORDS
- Complex trauma
- Children and adolescents
- Interpersonal trauma
- Childhood victimization

KEY POINTS
- Complex trauma exposure involves chronic/multiple traumas during developmentally vulnerable time periods.
- Exposure to complex trauma is a common occurrence for children and adolescents.
- Complex trauma exposure disrupts early attachment relationships and brain development.
- Complex trauma outcomes involve significant difficulties with emotional, behavioral, somatic, and cognitive dysregulation.

Acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tr>
<td>ADHD</td>
<td>Attention deficit/hyperactivity disorder</td>
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<td>BTT</td>
<td>Betrayal trauma theory</td>
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<td>DTD</td>
<td>Developmental trauma disorder</td>
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<td>HPA</td>
<td>Hypothalamic-pituitary-adrenal</td>
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<td>PTSD</td>
<td>Post-traumatic stress disorder</td>
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INTRODUCTION

The construct of complex trauma has evolved significantly in the past 25 years. Part of the challenge with the development of this concept is that the term complex trauma has been used to refer to both the traumatic event and the unique sequelae of symptoms associated with this type of trauma. One of the earliest attempts to delineate the concept of complex trauma was attempted by Terr, who differentiated type I and type II traumas. According to this model, type I traumas tend to be single events resulting in symptoms more closely aligned with posttraumatic stress disorder (PTSD), whereas

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type II traumas tend to be repeated, long-standing events that may present with a range of symptoms including denial, dissociation, rage, self-destructive behavior, and unremitting sadness.

The definition of complex traumatic experiences has evolved into one that refers to severe events that tend to be chronic and undermine a child’s personality development and fundamental trust in relationships. Building from this characterization, a complex traumatic event has been further defined as a traumatic event that is repetitive and occurs over an extended period of time, undermines primary caregiving relationships, and occurs at sensitive times with regard to brain development. Complex trauma events vary widely and include physical abuse, sexual abuse, emotional abuse, neglect, witnessing domestic violence, exposure to community violence, and medical trauma. The lack of consensus on a definition of complex trauma has posed challenges for researchers because definitions can have varying emphasis placed on the number of traumatic events, the types of traumatic events, the developmental periods in which they occur, or the resulting symptom profile.

The term complex trauma is also used to refer to the unique pattern of symptoms associated with this type of experience. Research has struggled to identify the sequelae of complex trauma; however, it has consistently identified that the impact of complex trauma is distinctive compared with more acute traumas. Domains of impairment associated with complex trauma exposure may include deficits in relationships and attachment, emotional and behavioral dysregulation, cognitive/attentional deficits, and biological changes that may affect physical health. Further, symptoms such as dissociation, changes to self-perception, and overall shifts in beliefs about the world are frequently seen among youth who have experienced complex trauma.

Delineating the construct of complex trauma both from the perspective of defining the traumatic event as well as its resulting sequelae is important to further research efforts and to avoid unnecessary pathologizing of traumatized children. Even more importantly, fully understanding the impact of complex trauma on children will best facilitate clinicians’ ability to enhance protective factors and develop treatment interventions to help children recover.

**Complex Trauma Prevalence**

Given the dual definitions of complex trauma, the prevalence of complex trauma can be thought of in 2 ways. First, it can refer to the frequency of exposure to complex traumatic experiences. Second, it can refer to the frequency of complex trauma outcomes in response to such exposure.

**Prevalence of complex traumatic events**

Exposure to repetitive or multiple forms of victimization is common in childhood. Finkelhor and colleagues found that 22% of a nationally representative sample of 2030 children aged 2 to 17 years had experienced 4 or more different forms of victimization in the past year. Victimization was broadly defined to include exposure to violent and property crime (eg, assault, theft), child welfare violations (eg, child abuse), warfare/civil disturbances, and bullying. The same researchers conducted a screening of lifetime exposure to victimization in a nationally representative sample of 4053 youth aged 2 to 17 years. Almost 66% of the sample had been exposed to more than 1 form of victimization, 30% had been exposed to 5 or more types of victimization, and 10% had experienced 11 or more.

Polyvictimization can also start at a young age. For example, in the Turner and colleagues study, 40% of polyvictims were younger than 13 years of age. A study of
213 children aged 2 to 4 years found that 64.3% had a history of trauma exposure, and that 34.7% of those exposed to trauma had experienced 2 or more traumas. A portion of this sample included children referred to sites providing mental health or developmental delay services, whereas the remainder were nonreferred children recruited from the same communities. As discussed later, prevalence of complex trauma exposure is even higher among at-risk populations such as youth in foster care and those who are justice involved.

**Prevalence of complex trauma outcomes**

Given the ongoing debate regarding the validity of complex trauma as a separate diagnostic entity in adults and children, it is challenging to specify the prevalence of complex trauma outcomes. However, research does support a dose-response relationship with exposure to more trauma types resulting in increased symptom breadth and complexity for children and adults.

Furthermore, evidence is beginning to emerge regarding the prevalence of developmental trauma disorder (DTD), a proposed syndrome designed to describe outcomes associated with complex trauma exposure. Stolbach and colleagues found that, among youth who met criteria for complex trauma exposure, 31% met the proposed criteria for DTD. This finding suggests that a sizable percentage of youth presenting for trauma-focused services are showing clinically significant complex trauma outcomes. Further, a study of 330 former Ugandan child soldiers with severe histories of chronic trauma exposure found that slightly more than 78% met the proposed criteria for DTD. Overall, these findings suggest that outcomes conceptualized as complex trauma are common following exposure to chronic, interpersonal trauma.

**Causes of Complex Trauma Exposure**

The causes of complex trauma can also be considered in the context of exposure and outcomes. With regard to exposure, multiple individual and environmental characteristics have been identified as precipitants for repeated victimization. For example, Finkelhor and colleagues identified 4 primary precipitants for polyvictimization: (1) living in a dangerous community; (2) living in a dangerous family environment; (3) living in a nondangerous but chaotic family environment; and (4) having emotional problems that result in increased risky behavior, interpersonal antagonism, and risk of victimization. Further, being a polyvictim seems to be a risk factor for future polyvictimization.

**Causes of Complex Trauma Outcomes**

Complex trauma outcomes (discussed later) could be conceptualized as a developmental disorder triggered by exposure to complex trauma. It is theorized that complex trauma outcomes are influenced by the developmental period during which trauma exposure occurs, but that they also disrupt subsequent development. Therefore, complex trauma outcomes consist of common traumatic stress reactions (eg, PTSD, depression, insecure attachment, dissociation) and developmental disruptions caused by contextual factors related to complex trauma exposure (eg, impaired caregiving, multiple placements) and traumatic stress reactions (eg, chronic hyperarousal disrupting development of emotion regulation). Further, impairment seems to be more chronic and severe when trauma exposure has an earlier onset, increased duration, consists of multiple types of trauma, and is interpersonal in nature, which are all part of the definition of complex trauma exposure. So, how does complex
trauma exposure result in these outcomes? Possible causal factors include disrupted brain development and disorganized attachment.

**Complex trauma and disrupted brain development**

First, considerable research indicates that trauma exposure can result in structural and functional changes in brain development. The areas of the brain most affected by trauma exposure are the structures that make up the stress response system. For example, neurobiological findings following trauma exposure include neuroendocrine dysregulation; reduction in hippocampal, amygdala, and prefrontal cortex volume; and decrease in corpus callosum size. These structural changes are thought to be the causal underpinnings of common posttraumatic symptoms such as hyperarousal, reexperiencing, emotional and behavioral dysregulation, dissociation, numbing, attention difficulties, and executive function deficits.

These changes have been conceptualized as an alternate developmental pathway designed to be an adaptation to a high-stress environment. Biologic systems shift from a focus on learning to a focus on survival. Brain organization and activation become focused on structures that promote rapid, autonomous responses to avoid harm and regulate arousal (eg, brainstem, midbrain, amygdala) rather than structures involved in complex learning and long-term adaptation (eg, medial and dorsolateral prefrontal cortex). This survival-focused brain can defend against immediate harm, but does so at the expense of systems that prevent exhaustion, injury, and illness and promote self-regulation and learning. These alterations in brain structure and function result in a combination of affective, somatic, behavioral, and interpersonal impairments perhaps best conceptualized as a dysregulation syndrome. The alterations also likely explain the variety of developmental deficits identified in children exposed to trauma, including speech-language disorders, executive functioning deficits, working memory, and overall cognitive ability.

It remains difficult to distinguish how the brain changes related to complex trauma differ from those seen in research specific to PTSD. For example, changes in brain function and structure have been detected less than a month after trauma exposure, suggesting that extended activation of the human stress response may not be a causal necessity. In contrast, research has suggested that earlier onset and longer duration of trauma exposure are associated with more significant structural changes in the brain. It also seems possible that the structural changes are more closely related to the presence and severity of PTSD rather than characteristics of trauma exposure. However, this relationship is also unclear because other researchers have shown changes in the brain structure of trauma-exposed individuals regardless of diagnostic status. In addition, there seems to be some validity to the idea that trauma exposure affects brain development differentially depending on what region of the brain is developing most actively when the trauma occurs. Andersen and colleagues showed that adult hippocampal volume was most related to sexual abuse occurring between 3 and 5 years of age and between 11 and 13 years of age, corpus callosum area was most related to sexual abuse between ages 9 and 10 years, and frontal cortex volume was most related to sexual abuse during ages 14 to 16 years. Based on these findings, it seems reasonable to suspect that the changes in brain structure seen after trauma exposure occur on a continuum influenced by a variety of factors (eg, genetic predisposition; onset, severity, and duration of trauma exposure; severity and duration of traumatic stress reactions; disrupted attachment; and developmental status), many of which are defining aspects of complex trauma. However, further research is needed to clarify the relationship between complex trauma and changes in brain function and structure.
**Complex trauma and disrupted attachment**

A second critical causual factor related to complex trauma outcomes is caregiver-child attachment. By definition, complex trauma is thought to occur in caregiving or relational contexts, and attachment has been implicated in the expression of complex trauma outcomes. The first year of life largely revolves around development of a secure attachment relationship between infant and caregiver allowing for emotional communication and coregulation. Schore states that secure attachment promotes brain development, development of social bonds, and development of brain structures critical for the regulation of stress (ie, hypothalamic-pituitary-adrenal axis). This contention seems to be supported because researchers have shown increased cortisol reactivity in insecurely attached children and differences in gray matter volume in the right temporal pole and left lateral orbitofrontal cortex in adults who showed attachment-related anxiety.

Disorganized attachment is associated with a variety of negative outcomes including externalizing disorders, aggression, and oppositional defiant disorder. It is thought that youth with a disorganized attachment style lack an organized strategy for coping with stress and instead show behavioral disorganization or disorientation when confronted by stress. Further, disorganized youth are typically unable to use the attachment relationship to modulate distress. This inability seems to continue throughout childhood because these youth are more likely to have social skill deficits, including inconsistent or overly rigid interpersonal behavior.

In the context of complex trauma the attachment relationship is commonly disrupted and disorganized. The caregiver overstimulates the child through traumatic behavior and/or understimulates the child through neglect. Further, the caregiver does not repair this misattunement, fails to protect the child from stressors, and fails to help the child regulate arousal. Brain structures associated with self-regulation subsequently remain underdeveloped resulting in a chronic state of dysregulation characterized by both hyperarousal and hypoarousal. This combination of attachment disruption and maltreatment is thought to lead to more chronic and severe symptoms, beyond the effects of maltreatment alone. In this context, complex trauma outcome causes could be construed as the interaction between traumatic stress responses and disorganized attachment. Pearlman and Courtois note that research from trauma/dissociation and attachment/development supports the idea that most chronically abused individuals show an insecure disorganized and dissociative attachment style. Thus the distress and dysregulation associated with trauma exposure occurs in the context of inability to regulate oneself through attachment. Further, given that trauma exposure likely occurred in the context of an attachment relationship, interpersonal interactions may further trigger trauma-related distress. This distress could contribute to the chronic dysregulation associated with complex trauma. Some research supports this possibility because unresolved attachment in adults has been associated with several symptoms reminiscent of complex trauma, including dissociation, inconsistent sense of self, and relationship problems.

**PHENOMENOLOGY**

Numerous studies have attempted to describe the sequelae of complex trauma and, although there is some convergence among this literature, there is not yet a clear symptom profile. As mentioned previously, youth with multiple traumatic exposures typically fare worse than those with a single traumatic exposure and the highest level of symptom distress is associated with exposure to multiple interpersonal
traumas. Further, an increase in the number of different types of traumas experienced is associated with an increase in symptom complexity.

Several attempts have been made to identify symptom clusters that can accurately capture the sequelae of complex trauma exposure. What these attempts have identified is that the Diagnostic and Statistical Manual of Mental Disorders (DSM), Fourth Edition, Text Revision (DSM-IV-TR) criteria for PTSD do not seem to accurately and comprehensively capture the sequelae of complex trauma. Additional symptom clusters associated with complex trauma exposure include affect regulation, consciousness, self-perception, perception of the perpetrator, relations with others, systems of meaning, alterations in attention and consciousness, somatization, and disturbances in self-regulatory capacities. Given the recent evolution of the PTSD diagnosis with the DSM-5 it will be interesting to see how research evolves in this area. It seems that the DSM-5 PTSD criteria may be able to more comprehensively include youth with complex trauma within the diagnosis. Nonetheless, given that extensive literature has shown that the experience of complex trauma results in a significantly different symptom profile than acute trauma, it will continue to be important to understand the sequelae of complex trauma in order to develop useful case conceptualizations.

**Dysregulation of Affect and Behavior**

Perhaps the most readily apparent symptom clusters of complex trauma are those associated with affective and behavioral dysregulation. In general, anxiety, depression, and anger/aggression are frequently comorbid with posttraumatic stress and the experience of complex trauma. Severe, ongoing trauma has the potential to affect children by overloading their ability to cope with emotions, altering their ability to access and identify emotions, impairing their ability to tolerate emotional expression; and impairing their ability to regulate their impulses. These youth subsequently tend to present with rapidly vacillating moods with extreme responses seemingly triggered by minor stressors or by nothing.

Dysregulation of behavior may present as either undercontrolled or overcontrolled behavioral patterns. The function of overcontrolled behavior is to manage overwhelming affect and feelings of helplessness by attempting to rigidly regulate what behavior patterns and routines children may have under their control. In contrast, undercontrolled behavior is often a reflection of deficits in impulse control, planning, and executive functioning. These adaptations to the overwhelming stress of complex trauma are children’s best attempts to cope with their experiences, but ultimately tend to put them more at risk for further traumatization. Their deficits in both emotional and behavioral regulation leave them without the skills necessary to navigate social situations and also result in behavioral reactions that may put them at further risk (eg, aggression, self-injurious behaviors).

**Disturbances of Attention/Consciousness, Cognition, and Information Processing**

Disturbances of attention and consciousness may present in a variety of ways: dissociation, inattention, a lack of sustained curiosity, difficulty planning and anticipating, and so forth. One way to conceptualize these reactions is as overdevelopment of avoidance responses. Avoidance is a common trauma response and often generalized beyond the initial trauma stimulus (eg, anxiety related to bathrooms or nighttime). However, with complex trauma the avoidance becomes even more extreme and generalizes to symptoms such as dissociation, memory loss, and impaired executive functioning.
Difficulties with attention and arousal have created much debate over the comorbidity of attention deficit/hyperactivity disorder (ADHD) in children who have experienced complex trauma. Although ADHD and complex trauma seem to be distinct syndromes, their overlapping symptoms make them difficult to differentiate in children exposed to complex trauma. Although complex trauma has not been found to be a risk factor for ADHD, additional research is needed to determine how to distinguish between ADHD and cognitive regulatory deficits related to complex trauma/dissociation.

In addition to inattention, dissociative symptoms may present as memory loss, depersonalization, derealization, disengagement, and numbing. It is unclear to what extent dissociation helps differentiate complex trauma symptoms, but research suggests that dissociation plays a unique role in overall sequelae of complex trauma. For example, one study identified that dissociation uniquely contributes to relationship difficulties, likely because of the impaired interpersonal skills that evolve when dissociative symptoms become more prevalent.

**Interpersonal Difficulties**

Complex trauma has the potential to cause a variety of interpersonal difficulties, in large part through its influence on a child’s attachment and internal representation of themselves in relation to others. This condition may manifest as difficulties with trust, low interpersonal effectiveness, revictimization, victimizing others, and poor boundaries. Because most complex trauma experiences threaten the primary attachment relationship (eg, domestic violence, sexual abuse, neglect), it is logical that a resulting symptom cluster would be disruptions to a child’s ability to develop high-quality, adaptive interpersonal skills. Children with complex trauma histories often do not experience safety within their relationships and are not able to use their primary caregiving relationships as a secure base on which to develop internal working models of themselves and others. In addition, secondary traumatic stressors that these children often continue to confront (eg, disruptions in foster placements, transitions in family composition) may further impede their ability to develop interpersonal skills and quality attachment relationships and also present additional risk factors to overcome. A study of 347 children in long-term foster and kinship care consistently identified significant social and interpersonal difficulties.

**Distortions in Attributions**

Disruptions in attachment and the ability to regulate emotions and impulses is often linked to the evolution of distortions related to sense of self and expectations of others and the world. Complex trauma often occurs within the context of formative caregiving relationships that shape children’s beliefs about themselves and the world around them. The abuse can involve the creation of distorted attributions (eg, being told that they are damaged), but the children may also develop distorted attributions as a way of coping with the trauma, their environment, and resulting symptoms (eg, believing they deserve the abuse and do not deserve anything better). Overall, these distortions facilitate the development of self-blame, low self-esteem, and poor self-efficacy. These maladaptive beliefs may build a foundation for impaired social interactions and further mental health deficits.

**Biology**

Complex trauma can interfere with many neurologic and physiologic developmental processes causing biological compromise. The neurobiological impact of trauma can impede the maturation of specific brain structures; neuroendocrine
responses; and the coordination of cognition, emotion regulation, and behavior. The biological impact of trauma can decrease children’s overall awareness of their bodies. Further, trauma may manifest as somatic symptoms, increased electrical irritability in limbic structures, or may lead to serious long-term health risk behaviors and diseases.

**PREDICTING CLINICAL OUTCOMES FOR COMPLEX TRAUMA EXPOSURE**

Trying to appreciate how clinical outcomes associated with complex trauma exposure vary across development is like trying to pick the winning number on a roulette wheel. Because of the ever-changing developmental landscape, the frequency of victimization, and the ongoing presence of secondary adversities, there are many possible outcomes.

Exposure to interpersonal violence has been found to place children at greater overall risk for psychosocial impairment and PTSD than exposure to noninterpersonal violence and/or community violence. Therefore, the presence of interpersonal victimization could be a helpful predictor. However, victimization rates have been found to be generally high across the developmental span of childhood. Further, research has shown that some of the commonly held beliefs about exposure to trauma, such as young children being more frequently exposed to domestic violence, are not necessarily as robust as was once thought. In general, boys experience more peer assaults as they proceed through adolescence, sibling assaults peak in middle childhood and decline with age, and sexual victimization of girls increases in later adolescence. These findings suggest that trying to predict clinical outcomes by exposure to interpersonal victimization at a given developmental period may be impractical.

Family system factors may offer more insight into understanding clinical outcomes across the developmental spectrum. Risk factors that influence the development of PTSD in children include externalizing characteristics, family mental health difficulties, family adversity, low intelligence quotient, and chronic environmental stressors. These findings suggest that trying to anticipate clinical outcomes by evaluating the risk and protective factors (both intrinsic and extrinsic) to a child may be a more valid and reliable approach.

Overall, research has indicated that a multifaceted approach is required to understand the link between complex trauma experiences and outcomes. This approach includes considering traumatic stressors and their related events as well as the intrinsic/extrinsic factors of the child and their ongoing adjustment. The resulting picture may be intricate and difficult to predict, but also accurately reflects the complexity of both the traumas experienced and the children who live through them.

**Family Issues**

**Offending caregiver dynamics**

For many children and adolescents exposed to complex trauma, parents or other primary caregivers are the source of their trauma. Children who experience trauma caused by those responsible for protecting and nurturing them are likely to develop insecure attachment patterns, including disorganized attachment. As many as 90% of maltreated children show an insecure attachment style, with disorganized attachment style being present in half to three-quarters. Similar to complex trauma outcomes, disorganized attachment is associated with emotion regulation difficulties, externalizing problems, and impaired social functioning.
Betrayal trauma theory offers another framework for understanding the impact of caregiver-perpetrated or family-perpetrated trauma on children and adolescents. According to this theory, the violation of trust that occurs when children are victimized by caregivers or others in positions of trust constitutes a threat to their survival.\(^8^2\) Because a child’s awareness of caregiver-inflicted trauma might cause withdrawal from that caregiver, thereby disrupting the attachment relationship that affords safety and protection to the child, it may be psychologically necessary for the child to remain unaware of the betrayal. This so-called betrayal blindness, although enabling the child to preserve a sense of security, may be associated with significant difficulties related to dissociation (the mechanism by which betrayal blindness occurs), cognition, mental health symptoms, and interpersonal functioning.\(^8^2\) For example, research indicates that experiencing childhood betrayal trauma is associated with later difficulty in recognizing interpersonal betrayals and detecting trustworthiness in people.

Trauma that originates in the family is likely to generate significant secondary adversities for children and adolescents.\(^8^1\) Caregiver-perpetrated trauma may necessitate placement in foster care or residential facilities, requiring adjustment to new caregivers, homes, neighborhoods, communities, and schools. Separation from family and peers, uncertainty about the future, loss of familiar routines, and the stress of system involvement can exacerbate trauma-related symptoms or create additional psychological distress in children placed outside the home. Other secondary adversities often resulting from intrafamilial trauma include economic problems caused by parental incarceration or estrangement, significant rifts in immediate or extended family relationships, residential instability, and legal system involvement.

**Resilience/Coping**

The family is a child’s first and generally most significant social environment, and as such plays an important role in determining how children and adolescents adapt to complex trauma exposure. The role of the family environment in influencing the outcomes of traumatized children is especially significant given that family variables (eg, caregiver support, parenting practices) are potential targets of intervention, whereas variables specific to the trauma exposure (eg, type and duration of exposure) are often immutable.\(^8^4,8^5\) Certain family characteristics and relationship qualities are associated with resilience and adaptive functioning among children who are maltreated or exposed to chronic stress. Other types of family conditions and behaviors seem to contribute to, or exacerbate, trauma symptoms.\(^8^6\)

Parenting practices can mediate the impact of trauma on children and adolescents. Research suggests that there is great variability in parenting practices among families experiencing child maltreatment and family violence, and aspects of parenting predict differential outcomes for traumatized children.\(^8^7,8^8\) Valentino and colleagues\(^8^9\) found that hostile/coercive parenting was associated with greater PTSD and internalizing symptoms in children exposed to trauma; in the same study, engaged and supportive parenting strongly predicted child-reported adjustment. Graham-Bermann and colleagues\(^9^0\) found that parenting warmth and effectiveness differentiated children who seemed to be coping adequately following exposure to domestic violence from those with problems in adjustment.

Caregiver support is a primary protective factor in children exposed to trauma, predicting the degree to which children experience and resolve trauma reactions. Research findings consistently show that children who have a supportive caregiver show fewer behavioral and emotional symptoms following trauma.\(^8^4,8^7,9^1\) As noted by Cook and colleagues,\(^7\) supportive caregiving responses following trauma can be
conceptualized as involving 3 factors: (1) believing and validating the child’s experience, (2) tolerating the child’s affect, and (3) the caregivers’ regulation of their own emotional response. In contrast, when caregivers deny children’s experiences, the children’s recovery is impeded because they cannot integrate the traumatic experiences or develop positive coping strategies.\(^7\)

Research on trauma and attachment provides additional support to the salience of the parent-child relationship in the aftermath of trauma. Attachment theory posits that children are biologically driven to seek proximity to a caregiver, especially in situations perceived as frightening or dangerous.\(^9\) Through a secure attachment with the caregiver, children learn to regulate their emotions and make sense of what is happening in the environment. Secure attachment can mitigate the impact of overwhelming stressors and support recovery and healing following exposure to trauma.\(^9\)

**Systemic Issues**

**Implications for children in care**

Children and adolescents in the child welfare system have high rates of trauma exposure, including complex trauma exposure. A recent study of foster children referred for treatment found that 70.4% of the sample reported at least 2 forms of recurrent interpersonal trauma perpetuated by caregivers (ie, sexual abuse, physical abuse, emotional abuse, neglect, or domestic violence); 11.7% reported having experienced all 5 trauma types.\(^10\) Among children involved with the child welfare system, children with complex trauma histories experience more mental health symptoms, including symptoms of traumatic stress, compared with children with other types of trauma.\(^10,94\)

Findings related to the prevalence of complex trauma exposure among children in the child welfare system and the adverse mental health outcomes associated with such exposure have important practice implications. First, child welfare professionals need increased awareness of the nature of complex trauma exposure and its relationship to adverse mental health outcomes. When workers better understand how children are affected by complex trauma experiences, they will be better able to determine treatment priorities and address service gaps.\(^10\) In addition, frontline workers should be trained to complete trauma screening on all children who enter the child welfare system, ideally using a standardized assessment tool that has been empirically validated.\(^10\) Identifying children with trauma histories, including complex trauma histories, helps ensure that they are linked with appropriate treatment providers. In addition, foster parents, residential care workers, and other frontline providers should receive specialized training related to meeting the needs of children with complex trauma histories. For example, foster parents should learn how to identify trauma triggers and support children’s development of self-regulation capacities. The National Child Traumatic Stress Network has developed the Resource Parent Curriculum for this purpose; see the Network’s Web site (www.nctsn.org) for more information.

**Juvenile justice**

The correlation between trauma exposure and involvement in the juvenile justice system has been well documented. Approximately 90% of youth in juvenile justice facilities report having experienced at least one potentially traumatic event.\(^6,95\) Because of definitional issues, estimates of complex trauma among justice-involved youth are more difficult to determine. However, Ford and colleagues\(^96\) report that a hierarchical cluster analysis of a large representative sample of youth in detention settings yielded an estimated prevalence of 35% with complex trauma histories. Another study\(^11\) found that more than half (62.14%) of their justice-involved sample had experienced trauma in
the first 5 years of life and 90% experienced multiple trauma types over their lifetimes. In addition, arrest and juvenile justice confinement experiences can be traumatic for some youth, compounding their already complex trauma histories, increasing their risk for additional trauma, and/or triggering memories of prior traumatic experiences.97

The disruption of self-regulation capacities that stems from complex trauma poses challenges in milieu management and treatment in juvenile justice settings.96 Many youth with complex trauma histories are unlikely to have the self-regulation skills necessary to participate in the educational and recreational milieu activities or respond positively to motivational or crisis prevention interventions offered in these settings.96 A complex trauma perspective favors milieu interventions that build skills in self-regulation rather than assuming that youth already possess them.96

The Sanctuary Model is an example of an intervention that can be used to address the needs of youth with complex trauma histories in the juvenile justice system. Developed by Dr Sandra Bloom98 and her colleagues in the 1980s, the Sanctuary Model recognizes the treatment environment as a core modality for healing the wounds of psychological trauma, and intervenes at the level of organizational culture to create new, developmentally grounded, trauma-informed routines for the children being served, their families, staff members, and the organization as a whole.98 This model is currently being implemented as a systematic organizational change process for more than 250 human service delivery systems including juvenile programs98 and has been associated with significant decreases in negative interactions between youth and staff in juvenile detention centers.99

Clinical Assessment of Complex Trauma

Effective assessment of complex trauma exposure and outcomes in children and adolescents requires the integration of knowledge from a variety of areas, including trauma, child development, neurodevelopment, attachment, family systems, and child welfare. Furthermore, this knowledge must be exercised while developing a therapeutic alliance with a youth (and often caregivers) who presents with self-regulation and interpersonal deficits, and frequent safety concerns. This process is clinically and personally challenging.

Complex trauma assessment should be embedded in the typical assessment process at the initiation of services. It is critical to establish a genuine working alliance with the youth and caregiver(s). This alliance relies on a careful balance between identifying vulnerabilities (the standard goal of most assessments) while accommodating those vulnerabilities (eg, titrating the assessment process to avoid the youth decompensating) and validating youths’ strengths and accomplishments.63 However, as long as sensitive issues (eg, trauma history) are discussed in a noncoercive, collaborative fashion, screening does not seem to cause increased deterioration or crises.64 The building of a working alliance is likely to be tested by the presence of safety risks or unreported abuse. It is important to respond immediately and calmly to such disclosures to enhance the youth’s actual or perceived safety and control.63 This enhancement can often be accomplished through transparency, providing a clear rationale for the clinician’s actions and trying to make events as predictable and controllable as possible for the youth (eg, clearly explaining the investigatory process to a youth when having to make a hotline report).

Developing a detailed trauma history is a crucial aspect of assessing youth exposed to complex trauma.63,100 Formal screening instruments may be helpful in this process. Such instruments include the Traumatic Experiences Screening Instrument101 and the UCLA Posttraumatic Stress Disorder Reaction Index.102 However, even when directly evaluated, it is common for traumatic experiences to go undisclosed during initial
assessment. Additional disclosures may occur more organically over time as the youth develops increased trust with the service provider. Thus assessment of complex trauma is often an ongoing process that occurs throughout the course of treatment.

Although developing a detailed trauma history is important, focusing only on past events is not sufficient. It is equally important to identify current or potential events that may be retraumatizing (eg, facing a perpetrator while testifying at court) or result in the youth reenacting prior traumatic experiences (eg, a sexually abused youth engaging in sexualized behavior). These triggers and reenactments can profoundly affect the youth’s daily functioning and often present as observable behavior patterns (eg, youths becoming belligerent every time their employers give feedback regarding their work performance).

The assessment of complex trauma involves more than identifying past traumas and future triggers. It is also necessary to assess relevant areas of current functioning. As mentioned previously, youth exposed to complex trauma typically present with dysregulation associated with affect, behavior, attention/consciousness, cognition, interpersonal functioning, attributions toward self and others, and biological functioning. Related to these deficits, Ford and colleagues recommend that assessment should identify problems and strengths affecting a youth’s ability to:

1. Identify/prepare for triggers/reenactments and develop coping skills to prevent harm to self or others
2. Develop or restore emotion regulation (ie, ability to access emotions [especially trauma-related emotions such as shame and betrayal], capacity to tolerate emotional expression)
3. Acquire or regain the capacity to accurately monitor bodily sensations and arousal
4. Develop or restore cognitive and behavioral self-regulation to reduce the occurrence/severity of maladaptive behaviors (eg, substance abuse, self-harm, sexualized behaviors)
5. Experience safety and attunement in family, peer, and therapeutic relationships and subsequently develop secure inner models of relationships
6. Develop a personal identity of resiliency and self-determination

These areas can be assessed many ways, but because of complex biographic histories and symptom presentations, it is unlikely that the assessment process can be accomplished through any single measure or technique. Instead it is recommended to use a variety of approaches with multiple informants. For example, the assessment process for youth exposed to complex trauma could include the following:

1. Biopsychosocial interviews conducted with the youth, caregiver(s), and other relevant familial (eg, grandparent) or professional (eg, caseworker, teacher) entities
2. Semistructured interview for child and adolescent psychiatric disorders (eg, Kiddie Schedule for Affective Disorders and Schizophrenia)
3. Behavioral observations of youth in multiple settings (eg, home, school, community)
4. Wide range of youth-report measures (eg, Youth Self Report, Multiphasic Personality Inventory-A)
5. Wide range of adult-report measures (eg, Behavior Assessment System for Children, Child Behavior Checklist, Teacher Report Form)
6. Trauma-specific youth-report assessment measures (eg, Trauma Symptom Checklist for Children)
7. Trauma-specific adult-report assessment measures (eg, Trauma Symptom Checklist for Young Children, Child Sexual Behavior Inventory)
The Challenge of Diagnosing Youth Exposed to Complex Trauma

As discussed earlier, evaluating youth exposed to complex trauma is challenging. However, this is intensified by the lack of a psychiatric diagnosis that fully accounts for the symptom presentation of youth exposed to complex trauma.\textsuperscript{13} Using DSM-IV-TR criteria, PTSD has not been the most common diagnosis for traumatized youth, and comorbid diagnoses are common.\textsuperscript{111}

Therefore it has been argued that PTSD criteria, particularly before DSM-5, do not fully describe the symptom presentation of many traumatized youth. A wide variety of diagnoses (eg, ADHD, oppositional defiant disorder, and bipolar disorder) tends to be used to capture the range of presented difficulties. This variety of diagnoses results in a confusing diagnostic picture that obscures causal factors and may result in effective trauma-focused treatments being underused and under-reimbursed for this population.\textsuperscript{13}

One attempt to address this situation has been the revision of PTSD criteria for DSM-5.\textsuperscript{112} The DSM-5 PTSD criteria included a new symptom domain based on negative alterations in cognitions or mood (eg, persistent negative beliefs about oneself, others, or the world; persistent negative emotional states), expanded the hyperarousal domain to include reckless or destructive behavior (eg, reckless driving, excessive substance use), and added a PTSD subtype characterized by dissociation. DSM-5 PTSD criteria seem to capture outcomes of complex trauma more fully than previous iterations. The new criteria seem to better describe the impaired self-regulation across multiple domains (ie, affect, physiology, cognition, behavior, motivation, relationships, and self-identity).\textsuperscript{113}

Another effort to better capture the sequelae of complex trauma has been the formulation of DTD. DTD is an attempt to organize the self-regulation deficits derived from clinical observation and research focused on complex trauma and distinguish it as a separate diagnosis that includes symptoms of PTSD but also extends beyond PTSD criteria.\textsuperscript{63} DTD symptom clusters include PTSD symptoms as well as affective/physiologic dysregulation, attentional/behavioral dysregulation, and self/relational dysregulation.\textsuperscript{63} Although DTD was not included in DSM-5, it is undergoing validation in an international field trial,\textsuperscript{63} which may result in its inclusion in future iterations of the DSM.

Debate regarding the validity and usefulness of DTD will likely be a hallmark of the field for the near future. For example, Schmid and colleagues\textsuperscript{114} summarize arguments for and against formalized DTD criteria. Arguments in support of DTD suggest that DTD will (1) allow more specific diagnosis, (2) sensitize professionals and the public to the impact of chronic trauma, (3) highlight the developmental course of mental disorders, (4) stimulate research on complex trauma, (5) help explain the high rate of comorbidity among traumatized youth, (6) promote development and refinement of effective treatments, and (7) decrease social and legal stigmatization of traumatized youth. Arguments against the formalization of DTD criteria include (1) the presence of overlap with other diagnoses (eg, borderline personality disorder); (2) lack of clarity regarding the cause of DTD; (3) not all severely traumatized children develop any disorder, much less DTD; (4) the possibility that emotional dysregulation may precede complex trauma rather than be caused by it; (5) lack of age/developmentally sensitive criteria; (6) DTD may result in true comorbid diagnoses going untreated; and (7) increased pressure to identify past trauma experiences resulting in disrupted therapeutic relationships or false trauma memories.

In conclusion, the diagnosis of complex trauma outcomes is a contentious topic and will likely remain so for the foreseeable future. The heart of this debate is whether or
not complex trauma outcomes represent a distinct disorder from PTSD or are better conceptualized as simply a more severe form of PTSD. However, the current knowledge base regarding this question is insufficient to make that distinction, highlighting the need for further investigation.

**Treatment of Youth Exposed to Complex Trauma**

Treating youth exposed to complex trauma can be a complicated, overwhelming process. The needs of these youth are typically intense, varied, and rapidly changing, particularly early in treatment. It can be argued that no gold standard treatment exists for this population; however, substantial progress has been made in identifying effective treatment approaches.

The general consensus among experts is that a phase-based approach is most effective. In this approach, treatment occurs sequentially, with later phases building on previous phases. For example, early in treatment, youth may be taught skills to alleviate current emotional dysregulation but also to provide the tools needed for subsequent trauma processing. Although treatment is generally sequential, phases may not always proceed in a linear fashion, and previous phases may be revisited as needed, allowing the therapist to sensitively respond to the chaos and changing needs of the population.

Several models of phase-based treatment of complex trauma have been developed. Ford and colleagues describe one approach, consisting of 3 phases: (1) engagement, safety, and stabilization; (2) recalling traumatic memories; and (3) enhancing daily living. In phase 1, the therapist works to form a therapeutic alliance and increase the youth’s sense of safety. This phase is often a significant and lengthy portion of treatment in light of characteristic difficulties with dysregulation, attachment, and environmental instability. When these difficulties have become manageable, the second phase of treatment begins. This phase focuses on trauma-related content and processing traumatic memories. This phase occurs at a safe, manageable pace through graduated exposure and ongoing use of the self-regulation skills learned in phase 1. When symptoms of posttraumatic stress (eg, intrusive memories, arousal to trauma cues, maladaptive trauma-related beliefs) have been addressed, the therapist and client move to phase 3, focusing on developing a healthy lifestyle that is not ruled by trauma triggers or reenactments.

Multiple evidence-based treatment models have been adapted or created to adhere to a phase-based approach and have shown effectiveness. Effective treatment models tend to have similar characteristics that include (1) prioritization of safety and stability, (2) heavy emphasis on relationships, (3) interventions that balance immediate needs and long-term goals, (4) focus on strengths and resiliency, (5) consistent development of self-regulation skill in multiple domains (eg, emotion, information processing, awareness, somatic, relational), (6) mastery of traumatic memories, and (7) prevention of and preparation for losses and crises.

The following list (in alphabetical order) provides some examples of evidence-based treatment models that have been developed or adapted for youth exposed to complex trauma. This list should not be considered exhaustive and, because of length constraints, does not provide a detailed description of each model.

**Attachment, self-regulation, and competency**

Components-based intervention framework for youth exposed to complex trauma and their surrounding systems of care.

**Child-parent psychotherapy**

Psychodynamic, caregiver-child dyadic model for preschoolers.
Dialectical behavior therapy
Flexible, principle-driven, manualized treatment model that integrates cognitive-behavioral principles with mindfulness practice to enhance self-regulation.122,123

Eye movement desensitization and reprocessing
Trauma-focused treatment model that emphasizes information processing systems and the resolution of physiologically stored memories.124,125

Integrative treatment of complex trauma
Multicomponent therapy for children and adolescents that integrates complex trauma, attachment theory, the self-trauma model, and aspects of trauma-focused cognitive behavior therapy.126

Parent-child interaction therapy
Manualized parent-training program based on social learning and attachment theories for children aged 2 to 7 years with externalizing behavior problems.127

Real-life heroes
Integrated trauma and resiliency-centered treatment model for latency-aged youth with history of exposure to complex trauma.128

Seeking safety
Structured psychoeducational model for co-occurring PTSD and substance abuse.129

Structured psychotherapy for adolescents responding to chronic stress
Group intervention for adolescents integrating aspects of trauma-focused treatment and dialectical behavior therapy.130

Trauma affect regulation: guide for education and therapy
Brief group or individual program for youth with complex trauma histories and their families.131

Trauma-focused cognitive behavior therapy
Phase-oriented individual treatment model for traumatized youth and nonoffending caregivers.103,132

Trauma systems therapy
Systemic-based intervention focused equally on dysregulation in youth exposed to complex trauma and factors in the social environment that trigger and maintain dysregulation.133

SUMMARY
It is difficult to overstate the current and future importance of complex trauma to child and adolescent mental health and to society. As described in this article, large numbers of children and adolescents are exposed to chronic trauma and polyvictimization during highly vulnerable developmental periods. This exposure disrupts early attachment relationships and takes a severe toll on the developing brain, resulting in complex and severe symptom presentations resulting from impaired self-regulation. The subsequent needs of these youth place high demands on the resources of systems with which they interact, including biologic and adoptive families, education, child welfare, medical, and juvenile justice. Because of the diversity and severity of complex trauma outcomes, the provision of mental health services to this population is replete with challenges. However, gifted researchers and clinicians are increasingly devoting resources to address the needs of this population. The fruits of this labor can
be seen in the development of a comprehensive conceptual framework and multiple, promising evidence-based treatment models. Challenges remain for youth exposed to complex trauma and the professionals who work with them, but the knowledge and tools that have developed over the last 25 years give cause for optimism.

REFERENCES


