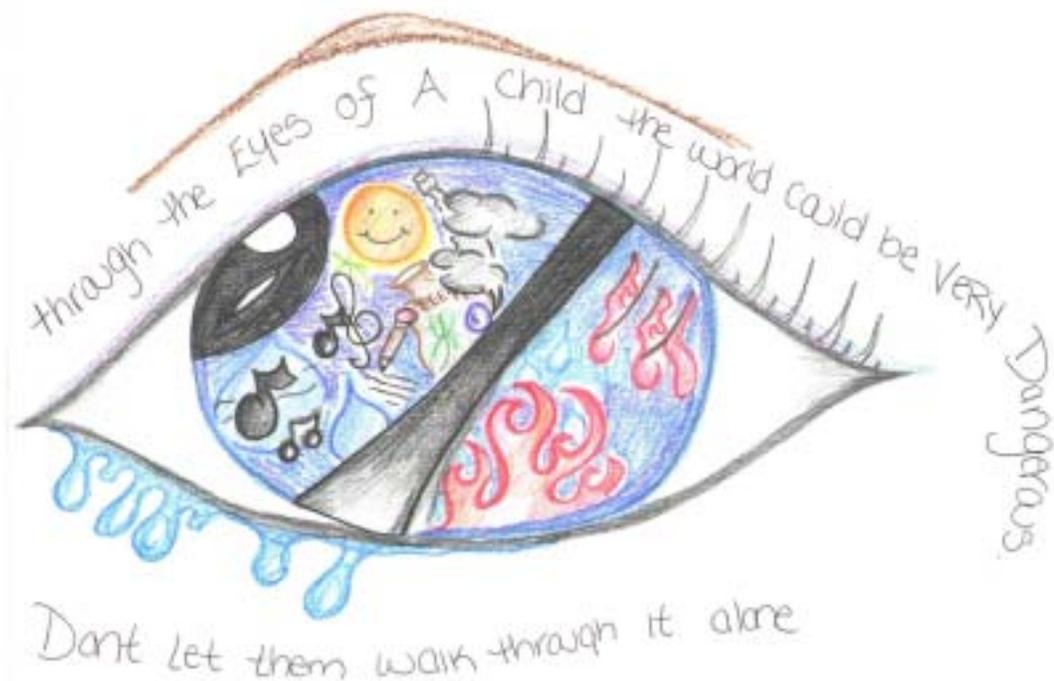


NCTSN

The National Child
Traumatic Stress Network



Complex Trauma in Children and Adolescents

White Paper from the
National Child Traumatic Stress Network
Complex Trauma Task Force

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Vignette

Michael is a 14-year-old Caucasian boy who was placed with his maternal grandparents after he and his two younger siblings were removed from the home of their biological parents. Although multiple reports had been made to Child Protective Services, there had been insufficient evidence to remove the children because neither Michael nor his siblings had been willing to speak with authorities. At the age of 11, however, Michael showed his school guidance counselor some bruises, stating that his father had hurt him and that he didn't want to go home anymore. He and his two siblings were removed that day. Following their removal from the home, the children described: frequent fights in which their parents screamed and threw things; unpredictable violence by their father, including his hitting them with a miniature baseball bat; being isolated and denied food and water for over a day at a time; and ongoing substance use by both parents. The youngest sibling reported that his father had touched his private parts. Although both older siblings denied any memory of sexual abuse, Michael was found to have a sexually transmitted disease on physical exam. All three children indicated that Michael had been particularly targeted in the home, with each parent aligning with one of the other siblings. Michael was frequently restricted to his room, and both of his parents made statements blaming him for the family's problems. Michael reported that he purposefully made himself a target to protect his younger siblings from being hurt. Based on the children's statements, their father was charged and criminally prosecuted for assault and battery against his two older children.

After their removal from the home, the three siblings were separated. After court proceedings terminated parental rights, the youngest sibling was placed in a pre-adoptive foster home, and the two oldest were placed in different relatives' homes. Michael initially presented as withdrawn and quiet after removal and placement with his maternal grandmother. He spent long periods alone in his room and created an inner world that he scrupulously hid from his grandmother. Although he was polite and cooperative with adults, he had difficulty with peer relationships and was unable to sustain involvement in activities. Despite testing which indicated that he had an above average IQ with no evidence of learning disability, Michael consistently received failing grades in his classes, due in large part to a refusal to complete homework assignments. Michael also suffered from repeated migraine headaches, and numerous tests had ruled out a physical etiology. At night, Michael surrounded himself with stuffed animals, stating that they made him feel safer.

Michael's behavior became increasingly dysregulated after his middle sibling was placed in the home with him; he was strongly reactive to indications that she was receiving more attention than him and became easily angered by her statements. He stated in therapy that being around his sister was like "all this old stuff coming back again." His presentation shifted from constricted to volatile, with frequent angry outbursts, verbal and physical aggression toward family members, and multiple indications of arousal (e.g., difficulty sleeping, impaired concentration, edginess and irritability). His grandmother, who had her own history of childhood trauma, became increasingly depressed and overwhelmed by his emotional outbursts and had difficulty providing consistent caretaking to either sibling. Child Protective Services became re-involved and considered more intensive level of care for each sibling.

What Is Complex Trauma?

The term complex trauma describes the dual problem of children's exposure to traumatic events and the impact of this exposure on immediate and long-term outcomes. Complex traumatic exposure refers to children's experiences of multiple traumatic events that occur within the caregiving system – the social environment that is supposed to be the source of safety and stability in a child's life. Typically, complex trauma exposure refers to the simultaneous or sequential occurrences of child maltreatment—including emotional abuse and neglect, sexual abuse, physical abuse, and witnessing domestic violence—that are chronic and begin in early childhood. Moreover, the initial traumatic experiences (e.g., parental neglect and emotional abuse) and the resulting emotional dysregulation, loss of a safe base, loss of direction, and inability to detect or respond to danger cues, often lead to subsequent trauma exposure (e.g., physical and sexual abuse, or community violence).

Complex trauma outcomes refer to the range of clinical symptomatology that appears after such exposures. Exposure to traumatic stress in early life is associated with enduring sequelae that not only incorporate, but also extend beyond, Posttraumatic Stress Disorder (PTSD). These sequelae span multiple domains of impairment and include: (a) self-regulatory, attachment, anxiety, and affective disorders in infancy and childhood; (b) addictions, aggression, social helplessness and eating disorders; (c) dissociative, somatoform, cardiovascular, metabolic, and immunological disorders; (d) sexual disorders in adolescence and adulthood; and (e) revictimization (Dube, Anda, Felitti, Chapman, et al., 2001; Dube, Anda, Felitti, Croft

et al., 2001; Felitti et al., 1998; Gordon, 2002; Herman, Perry, & van der Kolk, 1989; Lyons-Ruth & Jacobovitz, 1999; Simpson & Miller, 2002; van der Kolk, Roth, Pelcovitz, Mandel, & Spinazzola, in press; Yehuda, Spertus, & Golier, 2001).

The Cost of Child Complex Trauma

Exposure to complex trauma in children carries an enormous cost to society, both in lives impacted and dollars spent. Although in many ways the costs are inestimable, the repercussions of childhood trauma may be measured in medical costs, mental health utilization, societal cost, and the psychological toll on its victims.

Incidence of childhood abuse and neglect may be estimated from the records of public Child Protection Service agencies and from national epidemiological research. Although both methods are thought to underestimate actual trauma incidence, the rising incidence of childhood maltreatment is indisputable even when relying upon the most conservative estimates gleaned from official records. In 2001, according to the National Child Abuse and Neglect Data System developed by the Children's Bureau of the U.S. Department of Human Services, 903,000 cases of child maltreatment were substantiated, including neglect, medical neglect, physical abuse, sexual abuse, and psychological maltreatment.

Epidemiological research has yielded evidence of considerably higher incidence of children's exposure to complex trauma. The Third National Incidence Study of Child Abuse and Neglect (NIS-3; 1996), a congressionally mandated study, examined incidence of abuse and neglect using a nationally representative sample of

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5,600 professionals spanning 842 agencies in 42 counties (Sedlak & Broadhurst, 1996). Using the Harm Standard, which includes only children who have already experienced harm from abuse or neglect, an estimated 1,553,800 children were abused or neglected in 1993. This figure includes 217,700 sexually abused children, 338,900 physically neglected children, 212,800 emotionally neglected children, and 381,700 physically abused children. Using the Endangerment Standard, defined as children who experience abuse or neglect that puts them at risk of harm, the estimated incidence of child abuse or neglect in 1993 nearly doubled (2,815,600 children). These rates reflect sharp increases from the previous NIS-2 study in 1986; the total number of abused or neglected children based upon both the Harm and Endangerment Standards quadrupled between 1986 and 1993.

Using the Harm Standard incidence numbers from NIS-3, the total annual cost of child abuse and neglect has been estimated at 94 billion dollars (Fromm, 2001). Direct costs associated with child abuse and neglect (24.4 billion dollars) included hospitalization, chronic health problems, mental health, child welfare, law enforcement, and judicial system costs. Indirect costs (69.7 billion dollars) included special education, juvenile delinquency, adult mental health and health care, lost productivity to society, and adult criminality. The daily cost of childhood abuse and neglect is estimated to be \$258 million (Pelletier, 2001).

Diagnostic Issues for Complex Trauma

The current psychiatric diagnostic classification system does not have an adequate category to capture the full range of difficulties that traumatized children experience. Although the

narrowly defined PTSD diagnosis is often used, it rarely captures the extent of the developmental impact of multiple and chronic trauma exposure. Other diagnoses common in abused and neglected children include Depression, Attention Deficit Hyperactivity Disorder (ADHD), Oppositional Defiant Disorder (ODD), Conduct Disorder, Generalized Anxiety Disorder, Separation Anxiety Disorder, and Reactive Attachment Disorder. Each of these diagnoses captures an aspect of the traumatized child's experience, but frequently does not represent the whole picture. As a result, treatment often focuses on the particular behavior identified, rather than on the core deficits that underlie the presentation of complexly traumatized children.

An Organizing Framework of Complex Trauma Outcomes in Children

The present paper highlights seven primary domains of impairment observed in children exposed to complex trauma. These phenomenologically based domains have been identified based on the extant child clinical and research literatures, the adult research on "Disorders of Extreme Stress Not Otherwise Specified" (Pelcovitz et al, 1997; van der Kolk, Pelcovitz, Roth, Mandel, McFarlane, & Herman, 1996; van der Kolk, Roth, et al., in press), and the combined expertise of the NCTSN Complex Trauma Taskforce. These domains of impairment include: (I) Attachment; (II) Biology; (III) Affect regulation; (IV) Dissociation; (V) Behavioral regulation; (VI) Cognition; and (VII) Self-concept. Impairment is considered to occur within a developmental context and in turn to impact further development. Table 1 provides a list of each domain along with examples of associated symptoms. Valid diagnostic classification of complex trauma sequelae in children awaits formal epidemiological research. However, we believe that this phenomenologically based framework for the impact of complex trauma exposure possesses sufficient clinical utility to

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serve as a vitally needed starting place for research, treatment development, and policy

initiatives bearing on children's adaptation to complex trauma exposure.

**Table 1:
Domains of Impairment in Children Exposed to Complex Trauma**

I. Attachment

Uncertainty about the reliability and predictability of the world
Problems with boundaries
Distrust and suspiciousness
Social isolation
Interpersonal difficulties
Difficulty attuning to other people's emotional states
Difficulty with perspective taking
Difficulty enlisting other people as allies

II. Biology

Sensorimotor developmental problems
Hypersensitivity to physical contact
Analgesia
Problems with coordination, balance, body tone
Difficulties localizing skin contact
Somatization
Increased medical problems across a wide span, e.g., pelvic pain, asthma, skin problems, autoimmune disorders, pseudoseizures

III. Affect Regulation

Difficulty with emotional self-regulation
Difficulty describing feelings and internal experience
Problems knowing and describing internal states
Difficulty communicating wishes and desires

IV. Dissociation

Distinct alterations in states of consciousness
Amnesia
Depersonalization and derealization
Two or more distinct states of consciousness, with impaired memory for state-based events

V. Behavioral Control

Poor modulation of impulses
Self-destructive behavior
Aggression against others
Pathological self-soothing behaviors
Sleep disturbances
Eating disorders
Substance abuse
Excessive compliance
Oppositional behavior
Difficulty understanding and complying with rules
Communication of traumatic past by reenactment in day-to-day behavior or play (sexual, aggressive, etc.)

VI. Cognition

Difficulties in attention regulation and executive functioning
Lack of sustained curiosity
Problems with processing novel information
Problems focusing on and completing tasks
Problems with object constancy
Difficulty planning and anticipating
Problems understanding own contribution to what happens to them
Learning difficulties
Problems with language development
Problems with orientation in time and space
Acoustic and visual perceptual problems
Impaired comprehension of complex visual-spatial patterns

VII. Self-Concept

Lack of a continuous, predictable sense of self
Poor sense of separateness
Disturbances of body image
Low self-esteem
Shame and guilt

Impact of Complex Trauma on Development

Complex trauma outcomes are most likely to develop and persist if an infant or child is exposed to danger that is unpredictable and uncontrollable because the child's body must allocate resources that are normally dedicated to growth and development instead to survival (Ford, in press; van der Kolk, in press). The greatest source of danger, unpredictability, and uncontrollability for an infant or young child is the absence of a caregiver who reliably and responsively protects and nurtures the child (Cicchetti and Lynch, 1995). The caregiver's ability to help regulate bodily and behavioral responses provides experiences in "co-regulation" that contribute to the acquisition of self-regulatory capacities (Schoore, 2002; Siegel, 1999). Lack of sustaining regulation with a primary caregiver puts the child at risk for inadequate development of the capacity to regulate physical and emotional states.

Hence, when examining traumatized children, the status of the attachment relationship is often a critical element. In the current conceptualizations of traumatic stress in children, little effort has been spent on distinguishing between the impact of specific traumatic events and that of disruptions in the attachment relationship. In order to understand the behavior of these children and to formulate an adequate treatment plan, the impact of disruptions in the early caregiving relationship must be integrated into developmental models of trauma exposure and outcome.

Attachment

The early caregiving relationship provides a relational context in which children develop their earliest models of self, other, and self in relation to others. This attachment relationship also

provides the scaffolding for the growth of many developmental competencies, including the capacity for self-regulation, the safety with which to explore the environment, early knowledge of agency (i.e., the capacity to exert an influence on the world), and early capacities for receptive and expressive communication. The child-caregiver relationship can be the *source* of the trauma, and/or it can be greatly impacted by another type of traumatic exposure; therefore, many of these critical developmental competencies are disrupted.

A *secure* attachment pattern, present in approximately 55-65% of the normative population, is thought to be the result of receptive, sensitive caregiving. The caregiver responds in a contingent way to infant cues, providing the infant with both stimulation and nurturing. Infants are able to internalize regulation strategies offered to them by their caregivers, and learn to communicate and interpret nonverbal signals. Responsive caregiving in the face of traumatic stress provides the young child with a supportive environment in which to recover from and metabolize overwhelming experience.

Insecure attachment patterns have been consistently documented in over 80% of maltreated children. These failures to create a secure dyadic relationship may leave an environment of vulnerability which may allow for the occurrence of complex trauma exposure. In the aftermath of exposure, insecure or anxious attachments may be further compounded if children perceive a caregiver as too distressed to deal with their experience (e.g., due to the caregiver's own level of stress, dissociation, avoidance, intoxication or own unresolved trauma history).

Children with insecure attachment patterns may be classified as *avoidant*, *ambivalent*, or *disorganized*. The *avoidant* attachment style has

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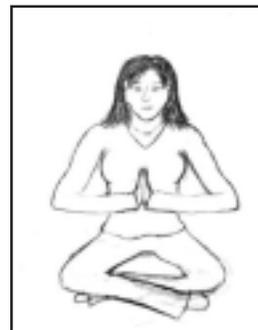
been associated with predictably rejecting caregiving. Children whose parents repeatedly dismiss or reject them may learn to disregard or distrust their emotions, relationships, and even their own bodies. Moreover, they may avoid, dismiss, or feel profoundly ambivalent about attachment relationships, not only with caregivers, but also with other adults and with peers (Ainsworth, 1978).

When children experience parents alternating between validation and invalidation in a predictable manner, they may develop *ambivalent* attachment patterns (Ainsworth, Blehar, & Waters, 1978) and learn to anticipate the adults' change from detachment and neglect to excessive intrusiveness in predictable patterns. These children often cope by disconnecting themselves from others at the first signs that parents, teachers, or other important adults are acting in either a rejecting or overly engaging manner.

When co-regulation is not provided or results in aversive consequences early in life, the child is at risk for a complex and severe type of disruption of all of the core biopsychosocial competencies that has been described as *disorganized attachment* (Cassidy & Mohr, 2001; Cicchetti & Toth, 1995; Lyons-Ruth & Jacobovitz, 1999; Maunder & Hunter, 2001). Disorganized attachment in young children involves erratic behavior in relation to caregivers (e.g., alternately clingy, dismissive, and aggressive). In older children, adolescents, and adults, disorganized attachment appears to reflect primitive survival-based relational working models that are rigid, extreme, and thematically focused (Lyons-Ruth & Jacobovitz, 1999). These working models focus on either helplessness (e.g., abandonment, betrayal, failure, dejection—"Any expression of anger is deadly," "I'm damaged and deserve to be rejected") or coercive control (e.g., blame, rejection, intrusiveness, hostility—"I have to force

people to do what I want," "No one can be trusted to help—they'll just use you"). Parents of children with these behaviors have been described as often failing to protect their children and feeling helpless in their roles as mothers (George & Solomon, 1996).

Children living with unpredictable violence and repeated abandonment often fail to develop appropriate language and verbal processing abilities. They then cope with threatening events and feelings of helplessness by restricting their processing of what is happening around them. Thus, these children are repeatedly unable to organize a coherent response to challenging events in their lives and instead act with disorganization (Siegel, 1999).



Disorganized attachment has been hypothesized to interfere with the development of neural connections in critical brain areas (e.g., the left and right hemispheres of the orbital prefrontal cortex and their connective pathways; Schore, 2001). This attachment style may result in impairment in affect regulation, stress management, empathy and prosocial concern for others, and the use of language to solve relational problems. Over time, disorganized attachments lead to symptoms of PTSD, as well as borderline and antisocial personality disorders (Herman, Perry, & van der Kolk, 1989; Main, 1995).

In a recent review, Maunder and Hunter (2001) concluded that disrupted attachment in animals and humans often is not transient but can lead to a lifelong risk of physical disease and psychosocial dysfunction. This risk occurs along three pathways that reflect impairments in the core biopsychosocial competencies which parallel the key features of disorganized attachment: (1) increased susceptibility to stress (e.g., difficulty focusing attention and modulating arousal; i.e., detection, activation, conservation, orientation); (2) an inability to regulate emotions without external assistance (e.g., feeling and acting overwhelmed by intense or numbed emotions; i.e., activation, conservation, exploration; consolidation), and (3) altered help-seeking (e.g., excessive help-seeking and dependency or social isolation and disengagement; i.e., deficiencies in affiliation and in exploration). Moreover, it is not only separation, but also the disruption of the development of a secure attachment bond, that appear to produce lasting biological dysregulation.

Biology

Neurobiological development follows genetically “hard-wired” programs that are modified by external stimuli. Extreme (low or high) levels of stimulation (i.e., stress) are thought to trigger adaptive adjustments that depend on the brain structures and pathways that were formed in the course of development (Perry & Pollard, 1998). Thus, the brain “sculpts” itself in response to external experiences at the same time as it is developing via genetically-based maturation.

During the first few months after birth, only the brainstem and midbrain (i.e., locus coeruleus and cerebellum) are sufficiently developed to sustain and alter basic bodily functions and alertness. These primitive structures regulate the “autonomic nervous system” (ANS), mobilizing arousal through the sympathetic

branch of the ANS and modulating arousal through the parasympathetic branch. Deprivation of responsive caregiving due to persistent maltreatment, neglect, or caregiver dysfunction (e.g., maternal depression) can lead to lifelong reactivity to stress. Following a history of early deprivation, even *mild* stress later in life can elicit severe reactivity and dysfunction (Gunnar & Donzella, 2002).

In toddlerhood and early childhood, the brain actively develops areas responsible for: (1) filtering sensory input to identify useful information (thalamus; somatosensory cortices), (2) learning to detect (amygdala) and respond defensively (insula) to potential threats, (3) recognizing information or environmental stimuli that comprise meaningful contexts (hippocampal area), and (4) coordinating rapid goal-directed responses (ventral tegmentum; striatum). During this time there is a gradual shift from right hemisphere dominance (feeling and sensing) to primary reliance on the left hemisphere (language, abstract reasoning and long range planning) (De Bellis, Keshavan, & Shifflett, 2002; Kagan, 2003). A young child gradually learns to orient to both the external and internal environment (rather than responding reflexively to whatever stimulus presents itself), and to detect and react.

Trauma interferes with the integration of left and right hemisphere brain functioning, which explains traumatized children’s “irrational” ways of behaving under stress. In non-abused children, their semantic (i.e., verbal and left brain based) schemas of themselves and the world are generally in harmony with their emotional response to their surroundings (right brain based). In contrast, abused and neglected children often display vast discrepancies between how they make sense of themselves and how they respond to their surroundings. Under stress, their analytical capacities (left brain based) disintegrate, and their emotional

(right brain based) schemas of the world take over, causing them to react with uncontrolled helplessness and rage (Crittenden, 1998; Kagan, 2003; Teicher, Andersen & Polcari, 2002).

In early childhood, biologically compromised children are at risk for disorders in reality orientation (e.g., autism), learning (e.g., dyslexia), or cognitive and behavioral self-management (e.g., ADHD). A toddler or preschool-age child who (a) is exposed to traumatic stressors, or (b) did not develop basic capacities for self-regulation earlier in life, and who does not have a sustaining relationship with caregiver(s), is at risk for failing to develop brain capacities necessary to form interdependent relationships (e.g., separation anxiety or ODD) and for failing to modulate emotions in response to stress (e.g., major depression, phobias) (Kaufman, 2000).

In middle childhood and adolescence, the most rapidly developing brain areas are those responsible for three core features of “executive functioning” necessary for autonomous functioning and engagement in relationships. These features are: (1) conscious self-awareness and genuine involvement with other persons (anterior cingulate), (2) ability to assess the valence and meaning of complex emotional experiences (orbital prefrontal cortex), and (3) ability to determine a course of action based on learning from past experiences and creation of an inner frame of reference informed by accurate understanding of other persons’ different perspectives (dorsolateral prefrontal cortex). In adolescence, there is a burst of brain development in these areas and the limbic system (e.g., hippocampus) due to “myelination,” the growth of protective sheaths surrounding nerve cells. This process can consolidate new learning in the form of decision strategies and fundamental beliefs that become a system of “working memory that is highly

stable and readily accessed” (Benes, Turtle, & Kahn, 1994). Traumatic stressors or prior deficits in self-regulatory abilities that manifest during adolescence, in the absence of sustaining relationships (which in adolescence often involve peers as well as adults), may lead to disruptions in self-regulation (e.g., eating disorders), interpersonal mutuality (e.g., conduct disorders), reality orientation (e.g., thought disorder), or a combination of these critical competencies (e.g., borderline personality disorder; chronic addiction).

Biology of Resilience

Many studies show that stressors early or later in life that are predictable, escapable or controllable, or in which responsive caregiver contact is available, and safe opportunities for exploration are reinstated, tend to *enhance biological integrity*. In biological terms, these experiences increase hippocampal and prefrontal cortex neuronal functioning; *behaviorally*, they enhance curiosity, social status, working memory, anxiety management, and the ability to nurture (Champagne & Meaney, 2001; Gunnar & Donzella, 2002; Schore, 2001). Moreover, the restoration of secure caregiving after early life stressors has a protective effect, reducing long-term biological and behavioral impairment, even if: (a) only visual, not tactile, or symbolic contact with the caregiver is possible, (b) the sociophysical environment is severely impoverished, or (c) the caregiver is not the biological parent (Gunnar & Donzella, 2002).

Affect Regulation

Previous sections have described the deleterious impact that early childhood trauma may have on core regulatory systems. Impairment of neurobiological systems involved in emotion regulation leaves many traumatized children at risk for multiple manifestations of

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dysregulated affect. Deficits in the capacity to regulate emotional experience may be broadly classified in three categories, including (a) deficits in the capacity to *identify* internal emotional experience, (b) difficulties with the safe *expression* of emotions, and (c) impaired capacity to *modulate* emotional experience.

Identification of internal emotional experience requires the ability to differentiate among states of arousal, interpret these states, and apply appropriate labels (e.g., “happy,” “frightened”). At birth, the infant has little capacity to discriminate among arousal states; predictable and differential response of caregivers to specific needs provides a framework through which the developing child begins to differentiate emotional experience and response. Similarly, children learn to interpret the nonverbal cues of others through consistent pairing of others’ affective expressions with behavior. When children are provided with inconsistent models of affect and behavior (e.g., smiling expression paired with rejecting behavior) or with inconsistent response to affective display (e.g., child distress met inconsistently with anger, rejection, nurturance, neutrality), no framework is provided through which to interpret experience. Deficits in the ability of maltreated children to discriminate among and label affective states in both self and other has been demonstrated as early as 30 months old (Beeghly & Cicchetti, 1996).

Following the identification of emotional state, a child must be able to *express* emotions safely, and then *modulate* or *regulate* internal experience. Complexly traumatized children show impairment in both of these skills. Distortions of emotional expression in traumatized children have been observed to range across a full spectrum, from overly constricted or rigid to excessively labile and explosive (e.g., Gaensbauer, Mrzaek & Harmon, 1981). Capacity to express emotions and

capacity to modulate internal experience are linked, and children with complex trauma histories show both behavioral and emotional expressions of impaired capacity to self-regulate and self-soothe. Children who are unable to consistently regulate internal experience may turn to alternative strategies, including dissociative coping (e.g., chronic numbing of emotional experience), avoidance of affectively laden situations, including positive experiences, and/or use of behavioral strategies (e.g., substance use). Those children who are unable to find consistent strategies to assist them in modulation of emotion may present as emotionally labile, demonstrating extreme responses to minor stressors, with rapid escalation and difficulty self-soothing.

Over time, traumatized children are vulnerable to the development and maintenance of disorders associated with chronic dysregulation of affective experience, including disorders of mood. The prevalence of Major Depression among individuals who have experienced early childhood trauma is an example of the lifelong impact complex trauma may exert over regulatory capacities.

The existence of a strong relationship between early childhood trauma and subsequent depression is now well established (Putnam, 2003). Recent twin studies, considered one of the highest forms of clinical scientific evidence because they can control for genetic and family factors, have conclusively documented that early childhood trauma, especially sexual abuse, dramatically increases risk for major depression, as well as many other negative outcomes. Twin studies indicate that, for women, a history of childhood sexual abuse increases the odds ratio for major depression 3- to 5-fold (Dinwiddie, Heath, et al., 2000; Nelson, Heath, et al., 2002). Numerous factors influence the strength of this relationship, including age of onset, duration, relationship to the perpetrator, number of

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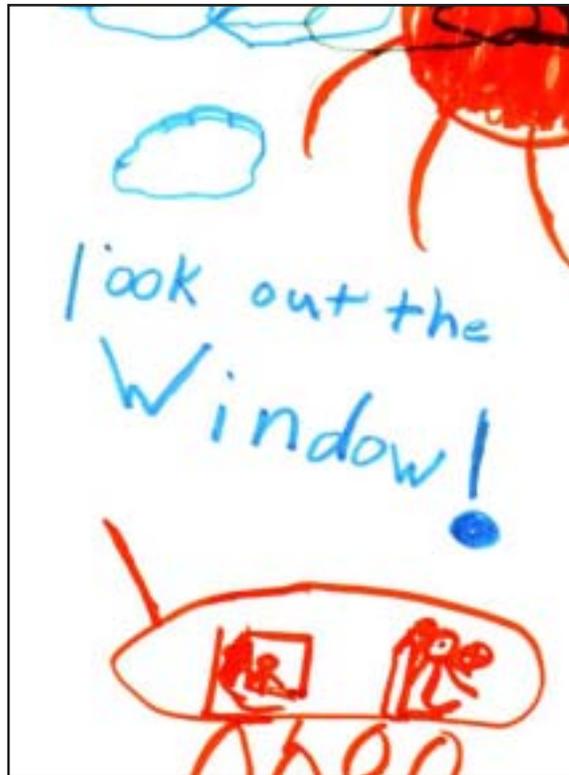
perpetrators, use of coercion or force, maternal support, and the type(s) of sexual abuse (Putnam, 2003). Children who experienced sexual intercourse abuses had an odds ratio of 8.1 for depression and 11.8 for a suicide attempt (Fergusson, Horwood, & Lynskey, 1996; Fergusson, Lynskey, & Horwood, 1996).

Childhood trauma appears not only to increase risk for Major Depression, but also to alter the course of illness in ways that contribute to a poorer prognosis. A history of childhood trauma seems to predispose toward earlier onset of affective problems, which in turn is associated with more depressive episodes and poorer outcome (Putnam, 2003). Depressed women with histories of child abuse have longer durations of illness and are less likely to respond positively to standard treatment (Zlotnick, Ryan, Miller, & Keitner, et al., 1995). Treatment of depression is complicated by lack of proper diagnosis, inability to adhere to a treatment regimen, or lack of insurance coverage or financial resources to pay for treatment. Many of these barriers are raised by the negative life trajectories commonly associated with histories of childhood trauma, such as lower education, mental illness, substance abuse, poor physical health, and unemployment. Thus, the population at highest risk for depression is also the population least likely to receive adequate treatment.

Dissociation

Dissociation is one of the key features of complex trauma in children. In essence, dissociation is the “failure to integrate or associate information and experience in a normally expectable fashion” (Putnam, 1997, p.7). Thus, cognition can be experienced without affect, affect can be experienced without cognition, somatic sensations occur in a void of awareness, or behavioral repetitions take place without conscious awareness (Chu, 1991). Dissociation runs along a continuum from normal kinds of experiences such as getting lost in thought while driving, to peritraumatic dissociation during traumatic exposures, to dissociative disorders. Although dissociation begins as a protective defense mechanism in the face of overwhelming trauma, under circumstances of chronic traumatic exposure it can develop into a problematic disorder that then becomes the focus of treatment. Moreover, there is growing research on the negative impact of peritraumatic dissociation on the development of PTSD (Weiss, Marmar, Metzler, & Ronfeldt, 1995).

Dissociation has been linked to several biological markers through the correlation of the Dissociative Experiences Scale (Bernstein & Putnam, 1986) to decreased left hippocampal



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volume in women (Stein, Koverola, Hanna, Torchia, & McClarty, 1997) and to cerebrospinal fluid levels of neurotransmitters and their metabolites (Demitrack, Putnam, & Rubinaw, 1993). Moreover, dissociation is postulated to be connected with the stress response system (i.e., the Hypothalamic-Pituitary Adrenal Axis) (Putnam, 1997).

According to Putnam (1997), the three primary functions of dissociation are the automatization of behavior in the face of psychologically overwhelming circumstances, the compartmentalization of painful memories and feelings, and the detachment from one's self when confronting extreme trauma. When trauma is chronic, a child will rely more and more heavily upon dissociation to manage the experience, such that dissociation then leads to difficulties with behavioral management, affect regulation, and self-concept.

Behavioral Regulation

Chronic childhood trauma is associated with both under- and over-controlled behavior patterns. Over-control is a strategy that may counteract the feelings of helplessness and lack of power that are often a daily struggle for chronically traumatized children. Abused children demonstrate rigidly controlled behavior patterns, such as compulsive compliance with adult requests, as early as the second year of life (e.g., Crittenden & DiLalla, 1988). Many traumatized children are very resistant to changes in routine and display rigid behavioral patterns, including inflexible bathroom rituals and eating problems with rigid control of food intake.

Under-controlled or impulsive behaviors may be due in part to deficits in executive functions: the cognitive capacities responsible for planning, organizing, delaying response, and exerting control over behavior. Executive function deficits

have been well documented in traumatized children (see Cognition, below). One consequence of impaired executive functioning is an increase in impulsive responses, such as aggression. Early trauma is significantly associated with the development of impulse control disorders such as ODD (e.g., Ford et al., 2000).

An alternative way of understanding the behavioral patterns of chronically traumatized children is that they represent children's defensive adaptations to overwhelming stress. Children may re-enact behavioral aspects of their trauma (e.g., aggression, self-injurious behaviors, sexualized behaviors, controlling relationship dynamics) as automatic behavioral reactions to reminders or as attempts to gain mastery or control over their experiences. Children may also use such strategies to cope with their deficits in regulating internal experience. For instance, in the absence of more advanced coping strategies, traumatized youth may use substances in order to avoid experiencing intolerable levels of emotional arousal. Similarly, in the absence of knowledge of how to negotiate interpersonal relationships, sexually abused children may engage in sexual behaviors in order to achieve acceptance and intimacy. Ultimately, a history of childhood traumatic experiences raises the risk for adverse outcomes, including substance use and abuse, teen pregnancy and paternity, suicidality and other self-injurious behaviors, criminal activity, and re-victimization (Anda, 2002).

Cognition

During infancy and early childhood, children form an early working model of the world and develop the basic cognitive building blocks of later life. During this time period, children develop an early sense of self, a model of self-in-relation-to-other, an understanding of basic cause-and-effect, and a sense of agency.

Prospective studies have shown that children of abusive and neglectful parents have impaired cognitive functioning by late infancy, compared with control children (Egeland, Sroufe, & Erickson, 1983). The sensory and emotional deprivation associated with neglect appears to be particularly detrimental to development, with neglected infants and toddlers demonstrating delays in expressive and receptive language development, as well as deficits in overall IQ (Allen & Oliver, 1982; Culp, Watkins, Lawrence, Letts et al., 1991; Vondra, Barnett, & Cicchetti, 1990). Over time, these decrements in cognitive ability continue to be observed, such that abused and neglected children show lower IQ's and are disproportionately represented within the developmentally delayed spectrum of intellectual functioning (Sandgrund, Gaines, & Green, 1974).

During school age, academic functioning represents a significant domain of developmental competence. Academic performance is significantly influenced by children's ability to regulate internal experience and to interact competently with peers. By preschool, maltreated children demonstrate deficits in both of these arenas, exhibiting lower frustration tolerance, more anger and non-compliance, and more dependency on others for support than non-maltreated matched comparisons (Egeland et al., 1983; Vondra et al., 1990). In elementary school, maltreated children are less persistent on and more likely to avoid challenging tasks, and are overly reliant on teachers' guidance and feedback (Shonk & Cicchetti, 2001). By middle school and high school, maltreated children are more likely to be rated as working and learning below average, and they exhibit higher incidence of disciplinary referrals and suspensions (Eckenrode, Laird, & Doris, 1993).

By early childhood, maltreated children demonstrate less flexibility and creativity in

problem-solving tasks than same-age peers (Egeland et al., 1983). In later childhood, children and adolescents with a diagnosis of PTSD secondary to abuse or witnessing violence demonstrate deficits in attention, abstract reasoning, and executive function skills (Beers & de Bellis, 2002). Maltreated children have been found to exhibit increasingly impaired executive function performance from early childhood to middle school age; in contrast, non-abused, psychiatrically-impaired children show a gradual increase in executive function skills that lags behind but, over time, approximates the growth curve of normative matched controls (Mezzacappa, Kindlon, & Earls, 2001).

By early elementary school, maltreated children are more frequently referred for special education services (Shonk & Cicchetti, 2001). A history of maltreatment is associated with lower grades and poorer scores on standardized tests and other indices of academic achievement. Maltreated children are found to have significantly higher rates of grade retention and dropout; they have three times the dropout rate of the general school population. These findings have been demonstrated across a variety of trauma exposures (e.g., physical abuse, sexual abuse, neglect, exposure to domestic violence) and cannot be accounted for by the effects of other psychosocial stressors such as poverty (Cahill, Kaminer, & Johnson, 1999; Kurtz, Gaudin, Wodarski, & Howing, 1993; Leiter & Johnsen, 1994; Shonk & Cicchetti, 2001; Trickett, McBride-Chang, & Putnam, 1994).

Self-Concept

The early caregiving relationship has a profound effect on the development of a coherent sense of self. Over time, a child consolidates and internalizes a secure, stable, and integrated sense of identity (Bowlby, 1988). Responsive, sensitive caretaking and positive early life experiences allow children to develop a model of

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self as generally worthy and competent. In contrast, repetitive experiences of harm and/or rejection by significant others, and the associated failure to develop age-appropriate competencies, are likely to lead to a sense of self as ineffective, helpless, deficient and unlovable. Alterations in children's self-representations may impact their capacity to cope with traumatic experience (Liem & Boudewyn, 1999). Children who perceive themselves as powerless or incompetent and who expect others to reject and despise them are more likely to blame themselves for negative experiences and have problems eliciting and responding to social support.

Traumatized children manifest alterations in their sense of self by early childhood. By 18 months, traumatized toddlers are more likely to respond to self-recognition with neutral or negative affect than non-traumatized youngsters (Schneider-Rosen & Cicchetti, 1991). In preschool, traumatized children are more resistant to talking about internal states, particularly those perceived as negative (Cicchetti & Beeghly, 1987). Traumatized children have problems estimating their own competence: early exaggerations of competence in preschool shift to significantly lowered estimates of self-competence by late elementary school (Vondra, Barnett, & Cicchetti, 1989). By adulthood, they suffer from a high degree of self-blame (Liem & Boudewyn, 1999).

Dissociative coping further complicates the development of a coherent sense of self. Habitual use of dissociation leads to "significant disturbances in the continuity of an individual's memory and integration of self" (Putnam, 1993, p.40). Over time, a reliance on dissociative coping may lead to serious disruptions in identity development and integration due to the loss of autobiographical memory, as well as to the lack of continuity in the traumatized individual's experience. Chronic dissociation is associated with the development of dissociative disorders

(e.g., Dissociative Disorder NOS and Dissociative Identity Disorder) in which the formation of dissociative identities becomes the source of maladaptive coping (van der Kolk, van der Hart, & Marmar, 1996).

Adaptation to Complex Trauma in Familial Context

The family plays a crucial role in determining how the child adapts to experiencing trauma. Factors that influence the child's response include the extent to which the family environment itself was responsible for the victimization, parental response to the traumatic event or disclosure, and the extent to which parents themselves are influenced by their own childhood histories of loss and/or trauma, as well as other parental psychopathology.

In the aftermath of trauma, parental support is a key mediating factor in determining how children adapt to victimization. Familial support and parental emotional functioning are strong factors that mitigate against the development of PTSD symptoms, as well as enhance a child's capacity to resolve the symptoms (Cohen, Mannarino, Berliner, and Deblinger, 2000). Research in the sexual abuse literature consistently supports Finkelhor and Kendall-Tackett's (1997) assertion that "the response of the child's social support system, and particularly the child's mother, is the most important factor in determining outcome, more important than objective elements of the victimization itself." There are three main issues in parents' responses to their children's trauma: 1) believing and validating their child's experience, 2) tolerating the child's affect, and 3) managing their own emotional response.

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The connection between a parent and child is broken when a parent denies the child's experiences. In such cases, the child is forced to act "as if" the trauma did not occur. In this context, a child learns he/she cannot trust the primary caretaker and cannot utilize language and communication to overcome adversity. Moreover, because the trauma is denied, the child remains unprotected from recurrence. Without safety, the child cannot begin to re-integrate the traumatic experiences and find new ways of coping. Instead, parental invalidation generates helplessness and hopelessness in a child.

Parents are often understandably distressed when their children have experienced traumatic events. In these instances, personal distress can limit parents' ability to provide adequate care to their children (Winston et al., 2002). However, Finkelhor & Kendall-Tackett (1997) note that it is not parental distress *per se* that is necessarily detrimental to the child, but more specifically, when the parent's distress overrides or diverts attention away from the needs of the child that children are negatively affected. Children may respond to their parent's distress by avoiding or suppressing the feelings or behaviors that elicited the parent's distress, by avoiding their parent altogether, or by becoming "parentified" and attempting to reduce the distress of their parent (Deblinger & Heflin, 1996). As a result, the child may have difficulty identifying communicating and communicating emotions (Wiehe, 1997), both of which are crucial in dealing with stressful or traumatic situations.

Traumatized children often rekindle painful feelings in biological parents or in substitute parents trying to provide a child with a new home. Parents who have had impaired relationships with attachment figures in their own lives are especially vulnerable to problems in raising their own children. Parents' ability to access information about their own childhood

and to tell their own story coherently may be the strongest indicators of parental capacity and effective parenting (Main & Goldwyn, 1994).

Parents with their own unresolved traumatic experiences may avoid experiencing their own emotions, which may make it difficult for them to "read" and respond appropriately to the child's emotional state. In addition, parents with their own unresolved trauma histories may have difficulty providing safe environments for their children because of their difficulty identifying dangerous circumstances. Moreover, children's attachment-seeking behavior can trigger their parents' own painful memories. Parents and guardians may see a child's behavioral responses to trauma as a personal threat or provocation, rather than as a reenactment of what happened to the child and a behavioral representation of what the child cannot express verbally. The hurt child's simultaneous need for *and* fear of closeness can trigger a parent's *own* memories of loss, rejection, or abuse.

Ongoing psychopathology and substance use by parents also complicate their capacity to assist in their children's recovery from trauma. Chronic mental illness or ongoing substance abuse prevents parents from being consistently available or responsive to their children, thus leaving the child at risk for future victimization. Violence or abuse in the home gives rise to a special set of characteristic adaptations. When the trauma is the result of predictable caretaker violence, children may become compulsively compliant, constantly monitoring parental cues and trying to modify their behavior in an attempt to prevent parental violence. Unpredictable parental aggression may lead to wide fluctuations in children's behavior and affect, as they are unable to figure out when or under what circumstances the parent may strike out (Crittenden, 1998).

Intrafamilial victimization generally leaves children at higher risk for victimization outside of the home. Children who are unable to get their needs met at home may seek support outside the home, and are therefore at higher risk for exploitation. Furthermore, chronic exposure to threat can interfere with children's natural internal warning systems, and may numb them to danger cues. Ultimately, a child who has been exposed to multiple sources or types of trauma, whether within or outside of the family, is more likely to be negatively affected (Garbarino, Kostelny & Grady, 1993; Margolin, 2000).

Adaptation to Complex Trauma in Ethnocultural Context

While human beings share a common biological heritage, each person belongs to not one, but many ethnocultural groups and has a unique family and cultural heritage and genetic makeup—all of which interact to shape development and the experience of trauma. One must exercise caution applying categorical delineations of ethnocultural variables (e.g., refugee, urban residence, ethnic group, primary language, socioeconomic status, nationality) because doing so runs the risk of obscuring significant differences within these larger groups (Loo et al., 2001; Marsella, Friedman, Gerrity, & Scurfield, 1996). In studying adaptation to complex trauma in ethnocultural context, one must start with the broad categories and then delve deeper into the subcategories that reflect group, community, family, and individual differences.

Although the specific forms may vary, the role of culture is not limited to trauma-affected groups who experience the disruption of their

connections to their primary culture, community, and homes (e.g., refugees or immigrants). Youth and families who are not forced to leave their homes still may have critical ethnocultural ties strained or broken by disaster, war, political repression, poverty, racism, and community violence (Garbarino & Kostelny, 1996; Rabalais, Ruggiero, & Scotti, 2002).

Assessment of trauma history and PTSD outcomes should always occur in a cultural context that includes the background, community, and modes of communication that both the assessor as well as the family bring to their interaction (Manson, 1996). Exposure to different types of trauma is variable across diverse ethnocultural backgrounds (i.e., exposure to war/genocide, family violence, community violence, child maltreatment). In addition, people of different cultural, national, linguistic, spiritual, and ethnic backgrounds define key trauma-related constructs in many different ways and with different expressions (e.g., flashbacks may be "visions," hyperarousal may be "attaque de nerves," dissociation may be spirit possession; Loo et al., 2001; Manson, 1996). The threshold for defining a PTSD reaction as "distressing" or as a problem warranting intervention differs not only across national and cultural groups, but also within subgroups (e.g., geographic regions of a country with different sub-cultures; different religious communities within the same geographic area). As a result, psychometric assessment with standardized measures may confront children and families with questions that are considered unacceptable (e.g., including peyote under use of illicit drugs), irrelevant (e.g., distinguishing blood family from close friends, in a group that considers all community members as family), incomplete (e.g., limiting health care to Western medical or therapeutic services, to the exclusion of traditional forms of healing and healers), or simply incomprehensible (Manson, 1996).

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With children, cultural factors may influence the substance or expression of developmental differences in ability to comprehend and communicate concepts such as social intentionality and causality, the distinction between self and others, and the ability to symbolize and to access working or long term memory (T. Miller, 1998; Salmon & Bryant, 2002). For example, in some cultures children are socialized to view intentionality and causality as attributes of collective groups rather than of individuals in isolation. If such children are sexually molested, they may not disclose the abuse because it might threaten their acceptance as a valued member of their families and communities. This acceptance may be perceived as more crucial to recovery than having the ability to say "no" or knowing how to counteract self-blaming thoughts or self-soothe if feeling overwhelmed. Culturally sensitive approaches to trauma assessment have been developed for adults (e.g., Loo et al., 2001) and children (Ford et al., 2000). However, their appropriateness and psychometric reliability, validity, and utility in different ethnocultural groups, contexts, and communities have not been systematically evaluated.

Different cultures have different concepts of family, in terms of who is a member, the roles and responsibilities of each member, and how involved family members are with different children. This becomes important when considering how to treat the child, especially in

determining whether individual or family therapy is the best approach. The chosen trauma treatment may be individualized to the family's needs, but yet may not fit with the family's cultural understanding of a child's role in the family system. Furthermore, there are often different levels of acculturation within the same family. For example, children who are born in the United States but whose parents moved here as adults often have developed a mixed sense of ethnic identity that is bicultural, frequently leading to family conflict around cultural difference and varying levels of ethnic identity.



Interventions for prevention or treatment of children or adolescents' posttraumatic impairment typically have been developed within the context of the Western medical model (Parson, 1997). However, evidence-based models such as cognitive-behavior therapy (Cohen et al.,

2000), Eye Movement Desensitization and Reprocessing (EMDR) (Chemtob, Tolin, & van der Kolk, 2000; Greenwald, 1998), or parent-child dyadic psychotherapy (Lieberman, van Horn, Grandison, & Pekarsky, 1997) are eminently adaptable to address not only developmental, but also ethnocultural, differences. For instance, it is possible to incorporate features designed to strengthen culture-specific resilience factors derived from empirical studies of children in different cultures who have been exposed to different types of complex trauma (e.g., mental

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flexibility among Palestinian children, coping resources of South African children, social support among African American children).

Naturalistic healing resources are also potentially vital to children's recovery from complex trauma (Manson, 1996). There are many indigenous cultural mechanisms for addressing the disruptions of affect regulation, body allostasis, and sense of meaning or connection that result from complex trauma. The Navajo, for example, have developed Enemy Way or Beauty Way ceremonies as approaches to spiritual purification and social reintegration for warriors (Manson, 1996). The integration of these methods and rituals in prevention or treatment services for children who are survivors of complex trauma is warranted, but will require careful ethnographic study and collaboration between professionals in the traumatic stress field and varied cultural communities. Finally, prevention and treatment interventions also must consider the impact of racism and political/ethnic/class oppression as traumatic stressors (Loo et al., 2001).

Coping and Protective Factors

While exposure to complex trauma has a potentially devastating impact on the developing child, there is also the possibility that children in these situations can nevertheless function effectively and competently across a variety of domains (Kendall-Tackett, Williams, & Finkelhor, 1993; Masten & Coatsworth, 1998). Resilience is no longer regarded as a static attribute or a single, global construct but rather is viewed as multi-determined and evolving domains of competency, consisting of interacting forces

within an individual, the family, and their social environment (Masten & Coatsworth, 1998; Waller, 2001). A child may function well in certain domains (e.g., academic) while exhibiting distress in others (e.g., behavior) (Luthar, Cicchetti & Becker, 2000). Areas of competence can also shift as children are faced with new stressors and developmental challenges. Understanding the continuum of responses to trauma and the coping and protective factors underlying resilience is vital to secondary and tertiary prevention efforts with children exposed to complex trauma (Egeland, Carlson & Stroufe, 1993).

Competence and resilience have been linked with several protective factors consisting of individual, family, and environmental variables (Masten & Coatsworth, 1998). Resilience develops from very ordinary adaptational processes and is not limited to remarkable individuals (Masten, 2001). Several factors have been found to be the most critical for promoting resilience, including: (a) positive attachment and connections to emotionally supportive and competent adults within a child's family or community, (b) development of cognitive and self-regulation abilities, (c) positive beliefs about oneself, and (d) motivation to act effectively in one's environment (Luthar, et al., 2000; Masten, 2001; Werner & Smith, 1992; Wyman, Sandler, Wolchik, & Nelson, 2000). Additional individual factors associated with resilience include an easygoing disposition, positive temperament, and sociable demeanor; internal locus of control and external attributions for blame; effective coping strategies; degree of mastery and autonomy; special talents; creativity; and spirituality (Werner & Smith, 1992). Additional familial and environmental factors that have been found to foster resilience include parenting with warmth, structure, and high expectations of the child; socioeconomic resources; ties to extended family; involvement with prosocial

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community organizations; and effective schools (Masten & Coatsworth, 1998).

The greatest threats to resilience appear to follow the breakdown of protective systems: damage to brain development and associated cognitive and self-regulatory capacities; compromised caregiver-child relationships; and loss of motivation to interact with one's environment, learn and develop new skills. In situations of severe adversity, poor parenting and cognitive skills increase the risk of maladaptive child behavior patterns, while normative intellectual skills and parenting protect the child and foster growth of competence (Masten, 2001). Ultimately, supportive connections and cognitive resources help buffer children against the worst effects of trauma and serve as "inoculations against adversity" (Schimmer, 1999).

Other research has illuminated the importance of coping strategies on long-term mental health outcomes in response to complex trauma exposure in childhood (Vaillant, 1986; Vaillant, Bond, & Vaillant, 1986). Coping strategies represent the expression of psychological defense mechanisms that develop in childhood as protective responses that accentuate, limit, or block perceptions of inner and outer reality as a means of managing trauma and deprivation. The more severe the exposure to complex trauma in childhood, the stronger the use of certain coping strategies—such as sublimation, humor, altruism and suppression—has been associated with successful management of life problems and promotion of positive mental health in adulthood. In contrast, reliance on primitive defense mechanisms including dissociation, projection, passive aggression and hypochondriasis is linked to greater functioning deficits and more severe psychopathology over time.

Approaches to Comprehensive Assessment of Complex Trauma in Children

Typically, regardless of the initial trauma event that prompts referral for treatment services, the accepted standard of care involves conducting a comprehensive assessment, which uses observations, clinical interviews with child/adolescent and primary caretakers, collateral information (as appropriate— schools, child protection, previous therapist, forensic interviewer, pediatrician, etc.). Clinical interviews should follow a consistent format using a specific comprehensive form completed by the clinician. The assessment should also include the use of standardized assessment instruments that include self-report measures as well as measures completed by caretakers and/or teachers based on types of trauma, developmental/chronological factors, and availability of informants. Such a comprehensive assessment conducted over several sessions will establish treatment goals based on the phase-oriented model of trauma treatment.

Since trauma evaluations often involve the criminal and/or probate court systems, it is imperative that the evaluations be conducted in a forensically sound, as well as clinically rigorous manner. Specifically, questions must be asked in a non-leading manner and be accompanied by thorough documentation of all relevant disclosures. Even when referrals begin as a clinical assessment, any disclosures that occur are often the backbone of legal efforts to keep a child safe.

Areas to Assess in Clinical Interviews

A comprehensive evaluation assesses both complex traumatic *exposures* and complex traumatic *outcomes* or adaptations, and is accompanied by thorough psychological evaluation of symptoms and history. The evaluation should begin with the reason for referral, the presenting concerns, and the history of those presenting problems. Important historical information includes: developmental history, family history, trauma history for child and family, attachment relationship(s) for child/adolescent and primary caregiver(s), child protective services involvement and placement history, illnesses, losses, separation/abandonment by parent, deaths, parental/family mental illness, substance abuse, legal history, coping skills, strengths of child/adolescent and family, and any other stressors (e.g. community violence, economic issues, racial discrimination). Clinicians need to evaluate for all types of traumatic experiences since there is considerable evidence supporting multiple traumatic exposures. In addition to specific information regarding the nature of the traumatic experience(s), it is also important to gather information regarding circumstances of disclosure, responses of family members and agency professionals, safety concerns/issues, and the child/adolescent's ability to express feelings about the traumatic experiences.

In addition to assessing traumatic exposures, the clinicians must evaluate adaptations to complex trauma in the seven domains described earlier: biology, attachment, affect regulation, dissociation, behavioral management, cognition, and self-perception. These domains should be assessed in terms of their current presentation, as well as their developmental trajectories.

Standardized Measures

Assessment measures are administered as part of the initial evaluation; at 6-month, or ideally, 3-month intervals to track treatment progress and inform clinical decision-making in an individualized and empirically based manner; as well as at termination so as to determine treatment outcome and guarantee the appropriateness of termination. Follow-up is also recommended, when possible, to determine endurance of positive treatment outcomes. Standard psychological and neuropsychological testing can be useful in further understanding a child's adaptation to complex trauma, as well as in defining the specifics of learning difficulties, thought disorder, and other possible organic contributors. It is important to assess multiple areas of functioning and to gather information from multiple informants (i.e. parent, teacher, and child) across different settings (i.e. school and home). In a typical trauma evaluation, some combination of the following measures would be included:

Child/Adolescent Measures

Trauma Symptom Checklist for Children (TSCC, Briere), UCLA Trauma Reminders Inventory, Children's PTSD-Reaction Index (Pynoos), Adolescent-Dissociative Experiences Scale (A-DES, Putnam), Youth Self-Report (YSR, Achenbach), Children's Depression Inventory (CDI, Kovacs)

Parent/Caretaker Measures

Child Behavior Checklist (CBCL, Achenbach), Child Dissociative Checklist (CDC, Putnam), Child Sexual Behavior Inventory (CSBI, Friedrich), Traumatic Events Screening Inventory (TESI, Ford)

Teacher Measures

Teacher Report Form (TRF, Achenbach): Specific information regarding these measures and their relative merits as well as more detailed related to assessment approaches can be obtained from a number of sources (Friedrich, 2002; Ohan, Meyers, & Collett, 2002; Pearce & Pezzot-Pearce, 1997; Briere & Spinazzola, in press).

Approaches to Treatment of Complex Trauma in Children

Phase-Based Approaches

Intervention Needs

Interventions for traumatized children and adolescents must be developed and tested which directly address the specific complex trauma domains. Treatments for traumatized youth thus far have been conceptualized as having four central goals: (1) *safety* in one's environment, including home, school, and community, (2) *skills development* in emotion regulation and interpersonal functioning, (3) *meaning-making* about past traumatic events they have experienced so that youth can consider more positive, adaptive views about themselves in the present, and experience hope about their future, and (4) *enhancing resiliency and integration into social network*.

Almost all traumatized youth face the task of living in a continually traumatizing environment or finding a place in a new environment. Thus, the initial tasks of treatment are focused on creating a system of care and safety in which a

child and the family can begin to heal. Often, this means clinicians working with child protective services and the court system to develop a safer living environment. It is also critical to engage the family and the school, as well as other primary support figures, in order to create a network that will develop safety within the living environment.

It is then possible for psychosocial treatments to provide recovery from the damages of abuse and rehabilitation of skills lost or never formed. Development of these basic skills, e.g. identifying feelings and forming a relationship with another person, occurs in the therapeutic context partnered with significant caretaker involvement, so that the newly learned skills are reinforced at home. The final challenge is the transmission and maintenance of these skills in the day-to-day world. This final effort can take root in treatment but will need partnering with the family and with community agencies.

Why Use Phase-Based Intervention?

There is consensus that treatment development should take a phase-based, or sequential approach. Research with traumatized adults indicates that treatments in which all aspects of work occur simultaneously tend to create "information overload" such that learning never fully occurs. This is likely to be especially true of children whose ability to attend to and process information is less well developed than adults. The sequential order of the treatment is such that the lessons learned in one phase serve as a building block for those to come next. The process is not linear, however, so that it is often necessary to revisit earlier phases of treatment in order to remain on the overall trajectory.

Before any treatment can truly begin, the safety of the child and family must be addressed. It would be impossible for any child, or adult, to

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take in new information when he or she is fighting for survival. The focus of treatment at this early juncture largely involves building a network for the child and family. Thus, clinicians work closely with child protective services, the school system, and other providers for the family to develop safety and a treatment plan that addresses the needs of the child, as well as the family. Within the treatment relationship, the focus is on building trust and a positive working relationship.

The emotion regulation skills of the second stage help clients review their traumatic experiences. Once children possess improved methods for coping and an increased capacity for emotion regulation, they are better able to communicate and process traumatic memories. This process leads to a decrease in psychological distress concerning their history and to reduced reactivity to the inevitable traumatic reminders (schools, streets, sounds) in their home environment. The development of emotion regulation along with social skills also allows youth to see themselves as different from the people they were at the time of the traumatic events. The contrast between who they were during these events and who they are becoming, with the help of the skills work, provides them with a more confident view of themselves and the notion that change is possible.

The goal of the last phase of treatment is to instill principles of resiliency in youth so that they can continue to develop in positive, healthy, and functional ways and avoid future victimization and/or aggressive behaviors. Phase 4 interventions involve the creation or reinforcement of assets that build resiliency (DeRosa et al., 2003). These activities can include involving the youth in creative projects or youth programs, identifying expectations and responsibilities, working with families and communities to maximize safety and encourage

youth to achieve and develop their unique talents. The traumatic experience can then move from being the central aspect of their lives to being a part of their history.

Complex Trauma Treatment Programs for Children and Adolescents

While most treatment of traumatized children and their families takes place within community mental health settings, hospitals, schools, and home-based family stabilization teams, there are a number of trauma-specific treatment programs in development for children and adolescents. Several of these are modeled upon earlier work conducted with adults (Cloitre et al., 2002; Ford, in press; Turner, DeRosa, Roth & Davidson, 1996), although these interventions are clearly modified in order to be developmentally appropriate. There are several treatment models designed for children of different ages and their families (Cloitre et al., 2002; Cohen & Mannarino, 1998; DeRosa, et al., 2003; Hembree-Kigin & McNeil, 1995; Kagan, in press; Lieberman, et al., 1997; Lyons Ruth & Jacobvitz, 1999; Rivard et al., 2003).

The treatment of choice for infants and toddlers uses a parent-child dyadic model (Hembree-Kigin & McNeil, 1995; Lieberman et al., 1997; Lyons Ruth & Jacobvitz, 1999). Because attachment is critical to overall healthy development, as well as to recovery from trauma, parental attunement is the primary goal of treatment. Without it, there can be no healthy attachment in preschool age children. Thus, the child has the best chances for healing and recovery when intervention is early and focuses on the parent-child relationship.

For latency age children who have been sexually abused, Cohen & Mannarino (1998) have designed a treatment program in which children participate in a short-term trauma-specific intervention, while parents simultaneously

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attend separate therapy sessions in order to learn about the children's treatment and to learn ways to help their children cope. This intervention has been associated with a reduction in depressive symptomatology and an increase in social competence. Similarly, Kagan (in press) has developed Real Life Heroes, a program for traumatized children that utilizes creative arts, life story work, and the metaphor of heroes to help children and their parents to increase skills for overcoming trauma and to build or rebuild attachments.

There are several group models in development for adolescent girls with histories of sexual or physical abuse (Cloitre, Koenen, Cohen & Han, 2002) and witnessing domestic violence (DeRosa et al., 2003). Cloitre and colleagues are developing a 16-session treatment for adolescent girls who have been physically or sexually abused. This treatment is organized into three of the phases described earlier: skills training in emotion management and interpersonal effectiveness, trauma narrative story telling, and resiliency-building. Similarly, the broad treatment goals of DeRosa and colleagues' model include: "Managing the Moment", strategies to help girls manage and regulate their affect and impulses more effectively "here and now" when experiencing acute distress; "Building Coping Strategies", strategies to enhance ability to cope with the impact of the trauma including identifications of triggers, anger management and problem solving strategies; and "Enhancing Resiliency", strategies designed to help participants identify current adaptations to the trauma that are proving successful. Preliminary data thus far suggest this phase-based approach is much more successful than either supportive treatment or skills only treatment in improving PTSD symptoms, emotion regulation, depression, dissociation, anger and social competence (Cloitre, 2002).

Each of the treatments just reviewed has been manualized in order to carefully document the details and mechanisms of the interventions, and to ensure fidelity across treatment providers. With the creation of manuals documenting effective treatments for children and adolescents experiencing complex trauma outcomes, we can begin to affect standards of care and influence best practices guidelines. The clear benefit of manualized treatments is that they can be disseminated and used to train clinicians across various settings. However, treatment manuals also have limitations. Treatments for traumatized youth are not "one-size-fits-all." As manuals are brought to community clinics, they must be adapted in order to be culturally relevant and to be flexible enough to meet the needs of individual children and their families. Manuals must also be tailored to address developmental differences in children and adolescents. Most importantly, clinical decision-making about complex trauma intervention with children should always begin with comprehensive assessment of the impacted child's needs, strengths and trauma outcomes in order to provide more individualized, empirically based treatment.

Going into the Community

The mental health field has been moving toward greater accessibility for families, which has led to more community-based programs (e.g. schools, child protective services, shelters, family courts). Focusing on one of these types of community intervention, school-based interventions can provide critical access for students in need of mental health services, and can address multiple financial, psychological and logistical barriers to treatment. Trauma-informed programs are currently being implemented and tested in schools and residential settings and are also confronting the "real world" challenge of working with the large and underserved population of children and

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adolescents who live and remain in chronically stressful and unstable environments, such as homes or communities where violence commonly occurs (DeRosa, et al., 2003; Cook, Henderson, and Jentoft, 2003).

The traumatized children and adolescents seen in schools and the community are often those easily identified as “at risk” due to chronic deficits in their ability to regulate attention, affect and behavior. These deficits often lead to specialized and/or alternative school and home placements in which the staff, teachers, and counselors frequently become primary caretaker(s) and attachment figures. Therefore, when working with traumatized children in the community; providers must consider both the child and the context as the targets of intervention. Cook, Henderson, and Jentoft, (2003) propose a “milieu” model of working with traumatized children in the community. This conceptual model (ARC) emphasizes the child and the adults in their environment and focuses on three key areas: (1) building secure “a”ttachments between child and caregiver(s); (2) enhancing self –”r”egulatory capacities; and (3) increasing “c”ompetencies across multiple domains.

In order to strengthen the attachment between child and caretaker(s), it is essential that four basic principles be implemented. The first is to create a structured and predictable environment through the establishment of rituals and routines. This includes behavior management and limit setting. The second is enhancement of the adult’s ability to “tune in” to the child’s affect in order to respond to the affect rather than react to the behavioral manifestation. The third principle is that the caretaker is helped to model effective management of intense affect by supporting the child in both labeling and coping with emotional distress. It should be noted that in order to respond to rather than react to a child requires that the adult model

adaptive coping in regard to his or her own emotional response to difficult circumstances. The fourth principle revolves around praise, reinforcement and the opportunities to focus on a child doing something positive so as to help the child to identify with competencies rather than deficits. These principles are likely to promote increased security in attachment relationships, which will then become the basis for the development of all other competencies including regulation of attention, affect, and behavior. It should be noted that these principles could be applied in a variety of contexts including clinic based, school based, home based and community based settings.

Enhancement of self-regulatory capacities and increases in competency across domains are common goals among trauma-specific school-based approaches (DeRosa et al., 2003; Cook et al., 2003). The goal is to increase cognitive, emotional, physical, and spiritual mastery (James, 1989). Examples of techniques used to promote cognitive mastery include direct teaching, story telling, and bibliotherapy. Emotional mastery is achieved through art, play, and body-oriented strategies. Children who are traumatized or neglected often exhibit inhibited play or the inability to play while others may reenact their experiences. Thus, play is essential to facilitate healing and to learn skills that are later necessary in different developmental phases (James, 1994).

Physical mastery comes through involvement in physical activities. Activities such as yoga, music, movement, sports (in school/program settings, and drama can be modified to be included in individual and group work. In addition, such activities can and should be included in treatment planning as *adjunctive auxiliary treatment methods*. These activities support children in a number of ways including: (1) Finding a new vehicle of expression that decreases arousal and increases soothing; (2)

Gaining trust in their environment; (3) Decreasing isolation; and, (4) Developing accessible tools (visual, tactile, auditory, kinesthetic) for dealing with distress (Macy, R., Macy, D., Gross, S., Brighton, P., & Rozelle, D., 1999-2003). Body oriented treatments and activities can teach children to change their physiological response to threatening stimuli, which will ultimately lead to improvement in their functioning. These techniques provide effective therapy for children who experience extreme physical vulnerability and who have distorted body concepts (James, 1989). Finally, adjunctive therapies provide a natural forum for mentoring, affiliation, integration, and socialization all of which are essential to enhancing resiliency.

Trauma-specific milieu treatment appears to have been successful in increasing ability to regulate affect. This has been demonstrated by fewer suspensions and aggressive outbursts, increasing ability to regulate attention as indicated by increased time spent on academic tasks, increasing affiliation and group cohesion as reflected by fewer peer conflicts, and increasing compliance with rules and expectations, which may also suggest improvement in adult-child attachment relationships (Cook et al., 2003).

The principles of the school-based model described are designed to be applicable in other types of community settings, including residential programs, shelter systems, and child protection agencies. In order to effect significant systemic change for traumatized children, it is imperative to work closely with these community systems, so that a phase-oriented model that focuses on safety first, skill building, meaning making, and enhancing resiliency can be implemented on a broad scale.

Psychopharmacological Interventions

Psychopharmacological interventions for traumatized children and adolescents are primarily considered to be adjunctive to psychosocial treatment modalities. They aid in the management of symptoms that might interfere with the attention and learning demands of psychosocial treatments, or that can threaten to disrupt a placement. However, medication should only be used in conjunction with trauma-specific treatment and not in place of it. Six open label studies are available in the medical literature and at least one double-blind study with a positive outcome has been published on the treatment of PTSD in children. Drawbacks to these studies include modest samples sizes. Recent studies on the use of the Selective-Serotonin-Reuptake-Inhibitor agents (SSRI'S) have shown promise. In general, early intervention with medication should be reserved for the more extreme cases, existing comorbidities, or as an adjunct to other forms of treatment. Further research in this area is needed to assess the efficacy and safety of medications for use and the conditions under which they may be helpful adjuncts or even preferred to psychosocial interventions (See Silva, Cloitre, Davis et al., 2003).

Child Complex Trauma Treatment Summary

Preliminary data from youth-oriented phase-based treatments for complex trauma suggest that they provide symptom relief, as well as improvement in social competence and emotion management, and that they are consistently superior to nonspecific supportive therapies. These programs, however, are in the earliest phase of development. Several more years of work are necessary to test the treatments' core aspects and adapt them for culturally and geographically diverse populations. In addition, it is critical that the field and the NCTSN continue to develop and explore new multi-

modal, empirically based interventions that address the range of complex trauma adaptations, while simultaneously providing clinicians with access to the requisite training and resources to implement, modify, and evaluate the effectiveness of available treatments across diverse child complex trauma populations. Finally, there is consensus that interventions should build strengths as well as reduce symptoms. In this way, treatment for children and adolescents also serves as a prevention program for poor outcomes in adulthood.

- a. increase external safety
- b. develop internal safety and competence
- c. alter developmental trajectory in positive, health-promoting direction
- d. foster healthy primary attachment relationship, as well as cultivating other social supports

5. Develop, implement, disseminate and support prevention programs and services that reduce children's exposure to violence in the home, school and community.

Recommendations and Future Directions

Recommendations for Clinicians Working with Child Complex Trauma Populations

1. Increase public and professional awareness of chronic complex trauma in children and adolescents.
2. Develop comprehensive continuum of care based on phase-oriented model of treatment for complex trauma.
3. Increase collaboration among community agencies and organizations serving traumatized children and their caregivers.
4. Recognize and address the following goals of multi-modal treatment intervention with complexly traumatized children:

Recommendations for Researchers Studying Child Complex Trauma Populations

1. Implement multi-site epidemiological characterization studies of complex child trauma exposure and outcomes.
2. Conduct evidence-based development and testing of phase-oriented treatments for complex trauma in children and adolescents.
3. Review and evaluate promising programs and innovative intervention models that span service sectors (e.g., Head Start; juvenile justice; mental health) and attempt to reach complexly traumatized children through multiple contexts (e.g., parent-child, peer-based, faith-based communities) and across multiple domains (e.g., clinical services; auxiliary services, academic and vocational development).
4. Establish and cultivate ongoing partnerships between academic settings and community clinics to develop and test community-based, culturally relevant, age-appropriate interventions for traumatized children and adolescents.

5. Increase focus on understanding characteristics of resilient youth, and the impact of treatments and strengths-based initiatives that focus on building competence, positive self-regard and resiliency in traumatized children and adolescents.

Recommendations for Policy Makers Acting on Behalf of Child Complex Trauma Populations

1. Advocate for recognition of complex child trauma as a public health problem effecting millions of children in the United States each year.
2. Engage in policy efforts aimed at closing the gap between needs of children and families impacted by complex trauma and available resources.
3. Increase awareness that effective interventions for children exposed to complex trauma can be implemented; however, these interventions need to be integrated across the systems in which impacted children are located.

4. Work to influence the creation and design of state, federal and foundation service, training and research grants dedicated to increasing understanding, intervention and access to resources for children and families impacted by complex child trauma.

5. Lobby for the inclusion of exemplary intervention and prevention programs for complex child trauma in local, state and federal budgets, with a prioritization for integrated programs across federal, state and local agencies including the Departments of Defense, Justice, Education, and Health and Human Services; the Center for Disease Control; and the Substance Abuse and Mental Health Services Administration.

6. Advocate for the incorporation of an empirically based parity diagnosis of the impact of complex child trauma in the DSM-V in order to improve clinician understanding of complex trauma outcomes in children and adolescents, anchor treatment guidelines, and increase third party compensation mental health services required by this population.



Complex Trauma Survey: National Child Traumatic Stress Network

The NCTSN conducted a survey on complex trauma exposure, outcomes and treatment approaches for impacted children and their families receiving intervention and/or comprehensive assessment services in 2002. Aggregate data was provided on a sample of 1,699 children across 25 network sites (Spinazzola et. al., 2003). This sample constitutes approximately 15% of the total population of children directly served by the network during a typical quarter.

Findings revealed that the vast majority of children served by the network (78%) have been exposed to multiple and/or prolonged trauma, with a modal number of 3 trauma exposure types. Findings further revealed that initial exposure typically occurs early, with an average age of onset of 5 years old. Moreover, 98% of clinicians surveyed reported average trauma onset prior to age 11, and 93% reported average onset by age 8.

Interpersonal victimization uniformly emerged as the most prevalent form of trauma exposure experienced by children in the network, with the locus of impact typically in the home (see Figure 1). Specifically, each of the following types of trauma exposure was reported for approximately one-half of the children surveyed: *psychological maltreatment* (CEA; i.e., verbal abuse, emotional abuse or emotional neglect); *traumatic loss*; dependence on an *impaired caregiver* (i.e., parental mental illness or substance abuse); and *domestic violence*. These experiences were closely followed by *sexual maltreatment/assault* (CSA), and *neglect* (i.e., physical, medical, or educational neglect), both observed in at least one-in-three children. Smaller but notable percentages of children had histories of exposure to *physical maltreatment/assault* (CPA) or *terrorism* within the United States. Forms of trauma exposure not involving interpersonal victimization were significantly less common: fewer than one-in-ten children included in the survey had been exposed to serious accidents, medical illness or disaster.

The survey further revealed that a large percentage of trauma exposed children exhibit several forms of posttraumatic sequelae not captured by standard PTSD, depressive or anxiety disorder diagnoses (see Figure 2). Notably, 50% or more of the children surveyed were reported to exhibit significant disturbances in the following domains: *affect regulation*; *attention and concentration*; *negative self-image*; *impulse control*; and *aggression or risk taking*. In addition, approximately one-third of the sample exhibited significant problems with *somatization*, *attachment*, *conduct disorder or ODD*, *sexual interest*, *activity or avoidance*; and *dissociation*.

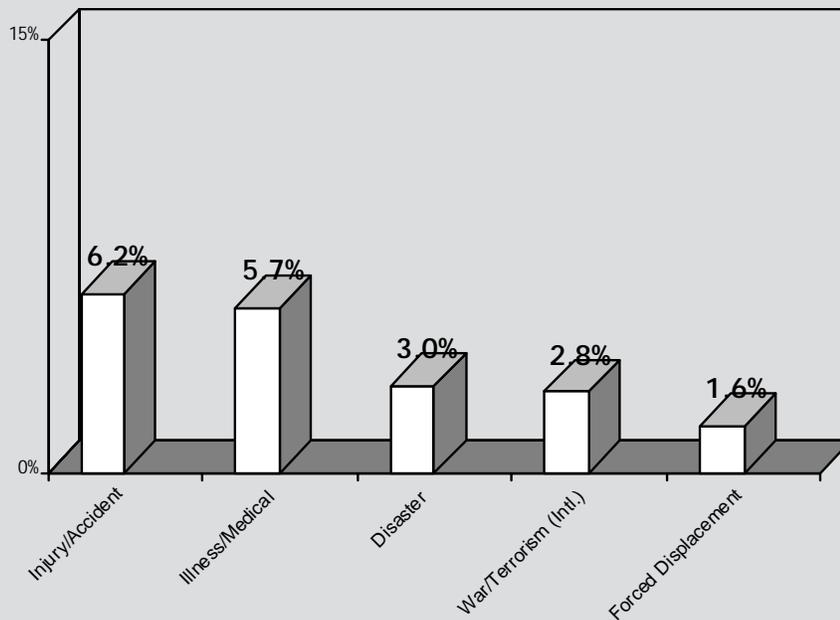
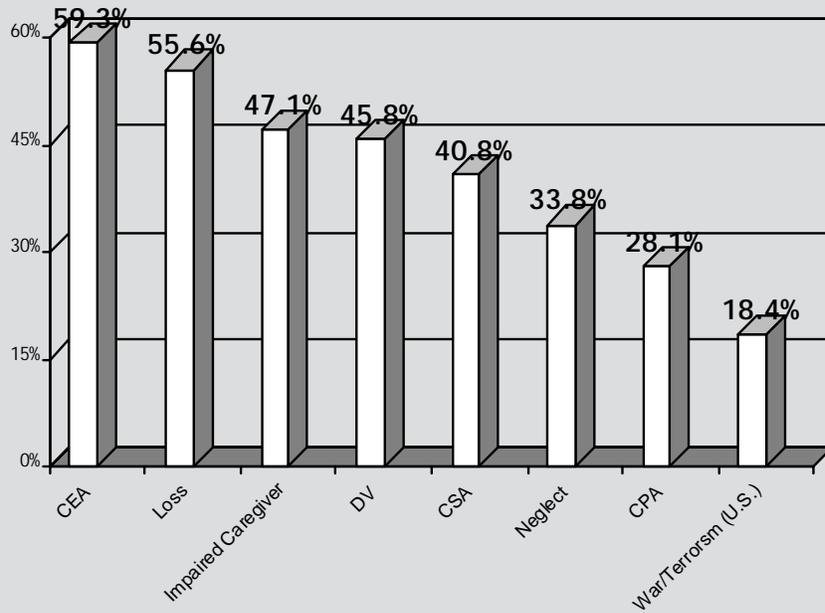
Complex Trauma Survey: National Child Traumatic Stress Network Continued

Despite the wide array of interventions reported to be available for child exposed to complex trauma, no clear clinical consensus emerged regarding the relative effectiveness of available modalities. Notably, 5 the top 7 intervention modalities identified by clinicians to be most effective with complex trauma in children—*play therapy*, *expressive therapies*, *multisystemic therapy*, *group therapy*, and *self-management/coaching*—were also ranked among the 7 least effective interventions with this population. Only *weekly individual therapy* and *family therapy* were unequivocally perceived to be effective modalities with this population, with *pharmacotherapy* and *home-based therapies* consistently rated as ineffective. Nevertheless, the majority of clinicians surveyed spontaneously identified the active involvement of caregivers in children’s treatment as a crucial element of the treatment’s effectiveness. A number of clinicians also noted the utility of combined approaches to intervention, as well as the need to tailor intervention services to children’s specific needs based on contextual factors, which include developmental stage, sociocultural context, and the availability of environmental resources. Finally, several clinicians pointed to the importance of coordinating services across service sectors (e.g., schools, mental health, social services) to ensure effective intervention for children exposed to complex trauma.

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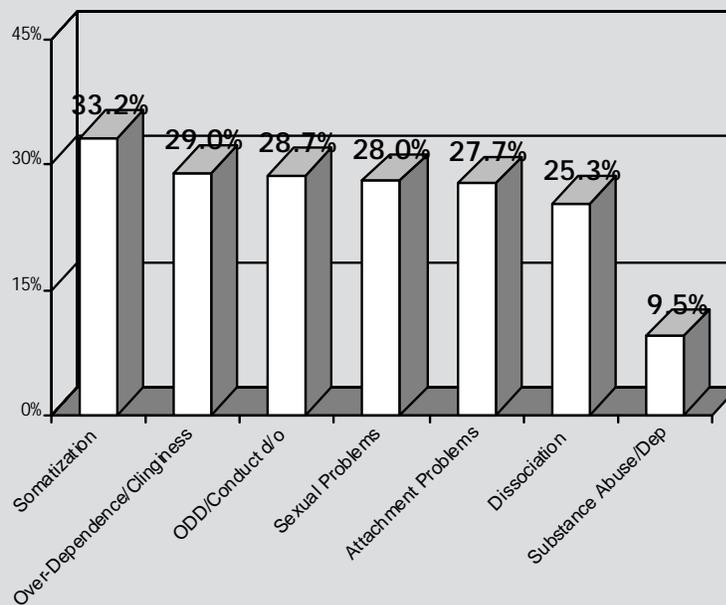
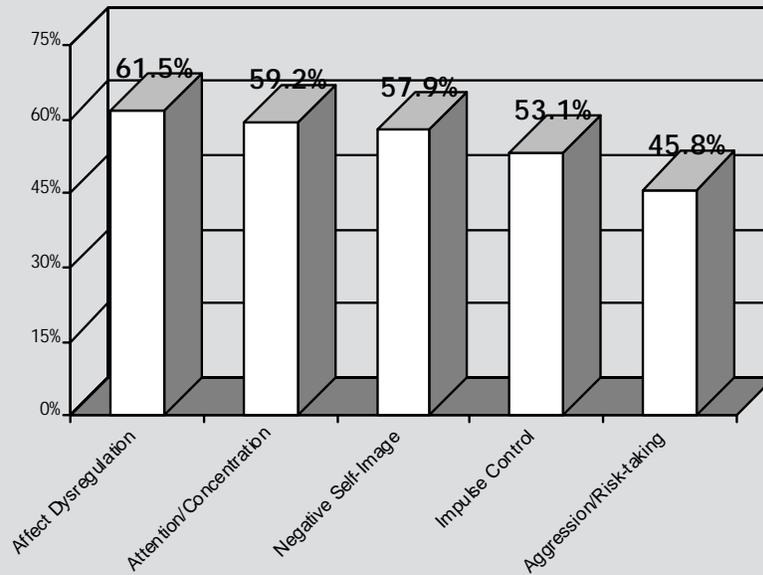
Figure 1: Trauma Exposure Prevalence in the National Child Traumatic Stress Network (N = 1,699)

Child Trauma History: Most Frequent Exposure Types



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Figure 2: Complex Trauma Adaptation in the National Child Traumatic Stress Network (N = 1,699)



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