

## Chapter 19

# Empirically Based Treatments for Maltreated Children: A Developmental Perspective

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The 2010 review of child maltreatment in the United States showed that among children 18 years of age and younger, children under 7 years of age have a rate of maltreatment of 57.4 per 1,000 children (USDHHS 2011), with the greater share being that of children under 3 years of age (34.0 %; USDHHS 2011). In a large scale, longitudinal study of low-income children from a large Midwestern city, researchers found a strong relationship between the number of maltreatment reports and negative outcomes during childhood (Jonson-Reid et al. 2012). Jonson-Reid and colleagues (2012) found that the more maltreatment reports children had, the more likely they were to report adverse outcomes during childhood, such as a mental health diagnosis, emergency department treatment for suicide attempt, health care for head injury, or a delinquency petition for either violence or substance abuse as children. Most concerning was that more maltreatment reports in childhood significantly increased the chances their perpetrating child maltreatment as adults (Jonson-Reid et al. 2012), confirming the existence of an intergenerational cycle of maltreatment. When the number of adverse outcomes these children reported was taken into account, their likelihood of perpetrating maltreatment increased significantly (Jonson-Reid et al. 2012). These findings suggest that when maltreatment is unchecked and untreated (or ineffectively treated), the next generation of children is likely to suffer the same consequences. The burden is upon us, as mental health scholars and practitioners, to try to understand what maltreatment is doing to children and how we can effectively intervene.

### Effects of Maltreatment on Children

Research on the outcomes of abuse and neglect for children has repeatedly affirmed its long-lasting, multi-level negative effects. Research has documented neurological effects (Heim et al. 2008; Nemeroff 2004), hormonal effects related to physiological arousal (Cicchetti et al. 2010) and emotional regulation (Maughan and Cicchetti 2002), cognitive effects related to attention deficits and hyperarousal (Pollak et al. 2000). Maltreated children also have high rates of physical, aggression, noncompliance, and antisocial behaviors (Cicchetti and Toth 2000; Mersky and Reynolds 2007). What we are just beginning to investigate is whether there is a difference in the severity of effects of maltreatment

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depending upon when it occurs. Additionally, and to the point of this chapter, there is an accompanying awareness that the interventions we use might need to be differently focused with different aged children in order to most effectively treat them.

### ***Theoretical Context: The Ecological – Transactional Model of Development***

More than 20 years ago, Cicchetti and Lynch (1993) developed a theory to explain how child maltreatment could have such a potent effect on children's development: the ecological-transactional model of development. Ecological-transactional theory is founded on an understanding that different qualities of children's environments – their cultural environments, social resources, family environments, and individual differences all combine to shape the way children respond to the surrounding world. They proposed that characteristics of these environmental systems influence the way children negotiate different developmental tasks, providing foundations of structures at one point in time that influence later development. These environmental systems were seen as having "potentiating factors," or conditions that increase the likelihood that either maltreatment might occur or negatively affect the child, and "compensatory factors," that reduce the likelihood of maltreatment and violence, and their accompanying negative effects.

So far this model seems simple – the ratio of positives to negatives from different parts of the child's environment should indicate the likelihood of maladaptation. However, it is important to point out that the same negative event occurring at two different points in children's development can have different outcomes for children's mental health because of differences in their abilities to understand the event (i.e., differences in cognitive ability), the meaning the event has at the particular point in development that it occurred, and the meaning the event has for the child's ongoing ability to adapt positively, "collecting" protective and buffering factors.

While the development of mental health problems seems inevitable when considering the trauma of witnessing violence or experiencing abuse, there is always the mystery of the resilience inherent in child's physiological, neurological, and cognitive makeup and how they work together in the developing child. From an ecological-transactional perspective, the best that we can say is that the development of psychopathology is probabilistic – not certain. Furthermore, this theory views development as "a series of qualitative reorganizations among and within biological and psychological systems" as children mature (Cicchetti and Toth 2000, p. 94). In other words, as children mature cognitively they perceive the world around them qualitatively differently. This maturation is thought to drive reorganization of previous experiences, prompting children to adopt a more complex understanding of their environment and life history.

While cognitive maturation limits or shapes children's understanding of their worlds, it is also believed that each developmental stage contains different "tasks" considered central to children's ability to successfully negotiate that stage. How well these tasks are resolved determines the quality of the organization and integration of different systems (e.g., neurological, cognitive, social, emotional) in that stage. The network of integrated systems is believed to provide a groundwork upon which developmental structures are built. In this way, different developmental tasks always retain significance over time, even when current tasks are more salient. In other words, if a developmental task in one system is negotiated poorly or incompletely – this affects not only the quality of that system, but of the whole – as the weakness of one system can limit the strength of other integrated systems, both at that developmental stage and at hierarchically more advanced developmental stages.

However, in spite of the gloomy prognosis one might have for a child exposed to violence or maltreatment at an early age, not all of these children end up with problems (Cicchetti and Rogosch 1997; Masten 2001; Werner 1989). Hence, we say that negative outcomes are not inevitable, but probabilistic. There is always room to build resilience and improve functioning. The assumption that

the development of psychopathology is probabilistic, and that these probabilities are constantly being shaped and reshaped by experience is the most important assumption of this theory for people interested in prevention and intervention for traumatized children. What this means is that changing the trajectory of development is always possible when there is new experience, particularly when the new experience forces a reorganization of old experiences and thought patterns through the lens of new experience. In other words, effective mental health interventions should be able to help modify the negative effects of early trauma on future functioning – because irrespective of past difficulties with adaptation, there is always a path to a new, more positive way of functioning.

While we understand that theoretically there should be a path to more positive functioning for maltreated children, finding that path is not always simple. What determines the most effective intervention for different children? We believe that to make a proper judgment about which intervention to use, it is important to understand what is happening to children neurologically, physiologically, cognitively, emotionally, and behaviorally.

### *Maltreatment and Development*

Ecological-transactional theory (Cicchetti and Lynch 1993) would suggest that the younger a child is when he or she experiences an adverse event – such as maltreatment – the more far-reaching its effects would be, since these same systems affected by the stress of maltreatment rapidly develop in the early years of life. While this makes logical sense, we look at infants, knowing that they will not remember their preverbal experience, and think that they are probably safe from the most devastating effects of maltreatment. These adverse events do not generate memories and learning in the way it might in a 5-year old. And yet, accumulating evidence from research on animals and humans suggests that chronic exposure to fear and anxiety, and abusive caregiving leaves a neurological footprint (e.g., Cicchetti et al. 2010; Sanchez et al. 2010) that is part of the building blocks of attachment to their caregivers (Cicchetti et al. 2010), determine which events in their environment are perceived and how they are interpreted (Pollak et al. 2000), and which events are remembered (Goodman et al. 1997).

Chronic or acute stress, such as that resulting from maltreatment or other adverse early life experiences, can cause different types of neurological responses in infants: (1) through the sympathetic adrenomedullary system, causing a release of norepinephrine and epinephrine (flight or fright response); (2) through the locus coeruleus, which increases neural activity in the amygdala (Ellis et al. 2006) causing corticotropin-releasing hormone (CRH) production, with the potential of increasing hypothalamic-pituitary axis (HPA) activity (Herman et al. 2003); and (3) through hypothalamic activation, which can directly excite the HPA axis, causing the release of cortisol, which activates or inhibits other physiological systems involved in promoting survival in response to acute stress. When infants are chronically exposed to stress hormones, the body's feedback systems for managing and regulating stress hormone production can become dysregulated, showing a hyperresponse to stressors, followed by a period of hyporesponsiveness (Heim et al. 2000). Animal studies have shown that high levels of cortisol in the system has been found to have harmful, even toxic effects on neural tissue (Zhang et al. 2002) and regulating gene transcription (McEwen 2000), thus influencing the way the infant perceives and interprets environmental threat and the quality of the response to that threat (Tarullo and Gunnar 2006). HPA-axis dysregulation resulting from early adverse care or maltreatment has the potential for disrupting healthy development, because it increases allostatic load – the physiological vulnerability from chronic exposure to stressful adverse experiences and their accompanying neuroendocrine responses (McEwen and Stellar 1993). Increased allostatic load may cause dysregulation in the physiological stress management system (e.g., Juster et al. 2009) and challenges with emotional, cognitive, and physical health (Felitti et al. 1998). The take-away message of this research is that early trauma affects the way children respond to future stressful events;

and the way they respond makes them vulnerable to difficulties and delays that create other problems later in development.

While any infant's first experience with an extreme threat is likely to result in the "high-cost" endocrine response described above (e.g., Lupien et al. 2006), subsequent encounters (or anticipated encounters) with the threat should result in the infant seeking out their primary caregivers for help in modulating their anxiety and fear (Heim et al. 2008). Infants are dependent on their caregivers for help in soothing, and their soothing helps regulate the infant's stress response system. These social and behavioral solutions have been termed "low-cost" solutions for the infant because of the relatively low expenditure of neurobiological resources needed to accomplish system regulation (Lupien et al. 2006). As an example, maternal separation can cause considerable anxiety for infants once they reach about 8 months of age. When an infant cries inconsolably upon separation from the mother, the baby's HPA axis kicks into gear and sends cortisol into the blood stream. However, one study found that cortisol levels did not increase in 1-year olds who interacted with their babysitters when faced with a separation from their mothers, although it did increase in infants who withdrew and in those who fell asleep (Gunnar et al. 1992). In other words, receiving caregiving helped regulate these children's stress response system. It is also important to note that even when the child reacted in a way that would seem benign to an observer – falling asleep or withdrawing – there were still signs of increased stress.

Related to the research establishing the connection between social-behavioral solutions for coping with stress and cortisol levels in infancy, other investigations show the power of sensitive and responsive caregiving in promoting children's emotion regulation, stress responsivity, and healthy development (e.g., Sroufe 2005; Bugental et al. 2003). In fact, the quality of the parent-child relationship, which includes both the child's attachment strategy and parenting quality have been shown to play important roles in determining the effect of children's early experience of maltreatment on later development of psychopathology.

## **Attachment**

John Bowlby, who first wrote on attachment, observed that infants appeared driven to form attachment relationships, but that the quality of these relationships might vary considerably (Bowlby 1982). He believed that the quality of infants' attachment provided a foundation for later personality development, in particular the growth of qualities such as self-reliance and emotional regulation (Bowlby 1973). For example, Bowlby believed that when caregivers successfully helped regulate infants' emotions, infants would discover through experience that they could regulate their own emotions, growing increasingly more confident in this ability.

Later research found that infants displayed one of three different consistent, organized strategies to get a particular parent's help when they were anxious or perceived a threat (Ainsworth et al. 1978). Some infants showed a secure attachment—an easy ability to use their caregivers for help in regulating distress. Some showed anxious-avoidant strategies, where they behave as though they do not need help, and some showed an anxious-ambivalent strategy where they were difficult to soothe and often seeking help. Later research showed that not all infants showed organized attachment (Main and Solomon 1986). When infants did not have an organized strategy for obtaining help, they are labeled disorganized.

Unlike the organized insecure and secure attachment strategies, children with disorganized attachment show a variety of behaviors. For example, an infant that approaches the caregiver when agitated and then turns away or freezes might be classified as disorganized. Main and Hesse (1990) proposed that when caregivers were a source of fear and anxiety in addition to being a protective source, this created a psychological contradiction for the infant and would increase the likelihood of developing insecure or disorganized attachment. In fact, Carlson and colleagues (1989) noted a higher incidence of disorganized attachment among maltreated than non-maltreated children.

Alan Sroufe and his colleagues at the University of Minnesota began exploring the role of attachment in child development in a longitudinal study in 1975, testing this hypothesis. In a 2005 article, Sroufe describing the results of many different studies, confirmed Bowlby's hypotheses that attachment is linked with critical development pathways like arousal modulation and emotional regulation, but also describes considerable complexity in the attachment system over the course of development. Outcomes were probabilistic, not definite, and subject to the influences of a changing environment. Secure infant attachment, occurring when the caregivers were a source of comfort and emotional regulation, "promoted" the likelihood of future adaptive responses (Sroufe 2005). Luijk and her colleagues (2010) tied attachment quality together with variations in stress response in a study of 369 infants and their mothers. They found that infants with insecure-anxious strategies showed increasing stress in an assessment exposing them to multiple separations from their caregivers (i.e., Strange Situation Procedure) and a flattened, shut down response to the same assessment among infants with a disorganized attachment (Luijk et al. 2010). Trying to discover what disorganized attachment meant for ongoing development, Lyons-Ruth, Alpern, and Repacholi (1993) found that 71 % of preschoolers who showed high levels of hostile behavior toward classroom peers had been classified as having disorganized attachment at 18 months. Even more convincingly, Sroufe (2005) reported that disorganized attachment was a strong predictor of later disturbance: the degree of disorganization in infancy correlated strongly ( $r = .40$ ) with the number and severity of psychiatric symptoms at age 17.5 years.

Taken together, the evidence suggests a strong connection between early attachment and stress response systems, particularly those of emotional regulation during infancy. In general, researchers have found considerable flexibility in the degree to which attachment predicted outcomes as infants matured, confirming the idea that many environmental and family factors play a part in ongoing personality development. However, researchers have found that disorganized attachment seems to be accompanied by greater ongoing vulnerability.

Maltreated children's vulnerability to disorganized attachment, and the subsequent negative outcomes (including accompanying risks), suggest that the ingredients of attachment – the infant-caregiver relationship and particularly caregiver responsiveness and warmth – would be excellent targets for early intervention.

## Parenting

In addition to the clear effects of violence and trauma on children, results of numerous studies have also illustrated different effects of harsh and coercive parenting both on children's stress response system (Blair et al. 2008; Bugental et al. 2003; Hill-Soderlund et al. 2008), as well as the subsequent likelihood of observing aggression (e.g., Denham et al. 2000; Gershoff 2002), anxiety (McLeod et al. 2007a), and depression (McLeod et al. 2007b), withdrawn behavior (e.g., Booth-LaForce and Oxford 2008) and other mental health problems (e.g., Cicchetti and Toth 2000; Patterson 1982; Schechter and Willheim 2009). Why does harsh parenting have such a toxic effect on young children? Evolutionary psychologists might argue that infants are attuned to threatening tones of voices and behaviors, and react as they would to any other high stress situation, usually with distress (e.g., screaming, crying, and other dysregulated behavior). Over time, they may learn other ways of managing their emotional dysregulation through social learning (e.g., externalizing, internalizing behaviors). In this way their aversive behavior can be thought of as a way that infants and young children have adapted to a frightening, threatening environment (Ellis et al. 2011). However, if these behaviors are adaptive responses within their family system, they are not functional outside the system and may be reasons for a mental health referral.

Parenting does not have to be harsh or coercive to cause problems in the parent-child relationship or to be associated with problem behaviors in children. Children of depressed mothers are reported to have more behavior problems (e.g., Gartstein et al. 2009) and a higher risk of later psychopathology

(e.g., Downey and Coyne 1990; Goodman and Gotlib 1999). Some of the most dramatic findings illustrating the importance of sensitive parenting for children's healthy development has been conducted with children who experienced neglect or inconsistent caregiving. In 1951, John Bowlby first reported to the World Health Organization that even when all their physical needs were met, children still showed serious negative effects from institutional care, which he attributed to their inability to form stable, continuous attachment relationships with a primary caregiver (Bowlby 1951). Recent studies have also documented effects of inadequate caregiving on attachment security, finding even higher rates of disorganized attachment strategies than among maltreated children (Cyr et al. 2010). Since this time, researchers have explored the effects of institutional care on children and have found that children who spent their first few years in institutions showed retarded physical (Van Ijzendoorn et al. 2007) and cognitive growth (e.g., Zeanah et al. 2005). Atypical diurnal cortisol patterns have also been noted in these children (Carlson and Earls 1997), similar to the pattern found in children in foster care (Fisher et al. 2000). In sum, studies of children who spend their early years in institutions show disruptions in most areas of development, suggesting that neglectful caregiving also undermines the foundations of healthy physical, neurological, and psychological development.

Taken all together, research suggests that in the early years, emotional dysregulation resulting from attempts to manage the anxiety of perceived threats is at the root of many mental health problems in young children. Furthermore, parenting seems to directly influence the stress response system and are key to children's developing capacity for emotional regulation. When parenting is sensitive, it appears to buffer the effects of stress on children (Dozier et al. 2009). When parenting is ineffective and non-optimal, it magnifies the stressfulness of early traumatic experiences, possibly by increasing their perceived threat (Martorell and Bugental 2006).

## Adolescence

While trauma continues to have the same biological effect on the stress response system in older children as it does for younger children, there is clear evidence that certain individual factors mediate the effects of trauma on older children's mental health (Heim et al. 2008). These include early maltreatment (Cicchetti et al. 2010), early attachment relationships, social support, attributional styles, self-esteem, developing cognitions about self and others, and social competence (Cicchetti and Valentino 2006).

For example, one of the most widely documented effects of child maltreatment is an increased risk of internalizing behaviors in childhood (Keiley et al. 2001; Kim and Cicchetti 2006) and depression/suicidal ideation in adolescence (Dube et al. 2001). Dube and colleagues (2001) found that among a cohort of more than 17,000 primary care clinic patients, having a history of adverse experiences in childhood such as abuse, neglect, domestic violence, and parents' substance abuse doubled to quintupled the likelihood of attempted suicide in adolescence. This raises the question, 'What is the mechanism that links maltreatment with depression in adolescence?'

Children's social environments expand throughout the childhood era – from child-primary caregiver relationships (e.g., child-mother), to family relationships (e.g., child-family), to early peer relationships (e.g., child-playmates, chums), to more intimate inter- and intrapersonal relationships (child-best friend, boyfriend/girlfriend). Concurrently, the contexts in which these relationships are managed also expands – from the family circle to peer groups, schools and classrooms, and communities. There are more opportunities to succeed and try out adaptive behaviors and more opportunities to solidify maladaptive ones. When children are young, their caregivers and the caregiving environment give meaning to experience (Sameroff and Chandler 1975). When children mature, their memories and cognitions link these experiences together through a continual re-evaluative process (Harter 2001). Apart from the physical growth and maturity that takes place from childhood to adolescence, one of the most notable changes occurs in the way they think and interpret events in the world around them. An increasing number of studies connect maltreatment experiences with differences in cognitions and



perceptions, including the perception of emotion in others (Pollak et al. 2009), in their perceptions of the cause of emotional states (Perlman et al. 2008), in attributions they make about their responsibility for traumatic events (Deblinger and Runyon 2005), social information processing (Chen et al. 2012), and perceptions of internal vs. external control over events (Bolger and Patterson 2001). These findings combine to suggest that cognition begins to play a significant role in adolescent mental health, in a way that does not seem to exist among younger children.

## Sensitive Periods

There is thought that some of these early negative effects may have long-lasting consequences for children, possibly because these experiences make them more sensitive to later stressors because the early experience occurred at a *sensitive period* of development (Knudsen 2004), where many changes occur at many levels of development, thus the early maltreatment might have a particularly strong effect, affecting many aspects of the child's development. Alternately, early maltreatment could be particularly devastating for children because there may be *critical periods*, where certain positive experiences are necessary for optimal, healthy development to occur (Knudsen 2004), so that when children experience maltreatment, their developmental trajectories are irrevocably altered. There is no doubt that when maltreatment occurs early, children's likelihood of later exposure to risk is also heightened (Appleyard et al. 2005), which naturally increases the likelihood of seeing long-term negative outcomes for these children. But does early maltreatment that results in dysregulation of the stress response system doom the child to a future of psychological problems?

Results of studies comparing children adopted out of Eastern European orphanages at different ages give some evidence for sensitive periods. These studies typically compare the cognitive functioning and attachment quality of children who have spent varying amounts of time in environments of neglect with non-institutionalized children, allowing the investigator to test the notion that if social deprivation occurs before a certain age, it is less likely to cause permanent psychological damage. Several studies' findings suggest that in fact, if children are adopted out of the institution within the first 6 months of their lives, they are indistinguishable from non-institutionalized infants and fare better than their later-adopted counterparts across a range of developmental outcomes (e.g., Fisher et al. 1997; Beckett et al. 2006;). A meta-analysis of adoption studies conducted by Bakermans-Kranenburg, van IJzendoorn, and Juffer (2008) reported no significant differences in the probability of secure attachment of children adopted before they reached 1 year of age compared to non-adopted children.

In addition to studies of institutionally raised children, recently, scholars investigating the effects of maltreatment on neural circuitry have described results that support the notion of critical periods or sensitive periods, in which early maltreatment (before 5 years of age) appeared to be associated with more negative outcomes than maltreatment that occurred later in childhood (Cicchetti et al. 2010).

In spite of these convincing findings supporting the existence of sensitive periods, it is important to remember the principle of *multifinality*, one of the guiding theories of developmental psychopathology. This principle asserts that given a similar history, many outcomes are possible, since many environmental events and internal psychophysiological strengths and challenges work together to forge a particular outcome. Furthermore, accepting that a complex array of behaviors such as the behaviors associated with attachment could be subject to a sensitive period is difficult. According to Knudsen (2004), sensitive periods are properties of neural circuits even though they tend to be defined in terms of behavior and in a way, dependent upon experience. When a circuit is repeatedly and intensely activated during a sensitive period, the synapses associated with the neural circuit consolidate, and the architecture of the circuit stabilizes a "preferred" pattern of connectivity (Knudsen 2004). Afterwards, the circuits retain some plasticity, but Knudsen (2004) asserts that the plasticity is limited by the architecture established during the sensitive period. At the same time, it is also important to remember that the brain is organized so that higher order circuits can compensate for maladaptive neural circuits at lower levels.

## **Interventions**

The first part of this chapter described the early effects of maltreatment on the developing child and the role of parenting in exacerbating or buffering these effects. We spent time describing these effects to emphasize for the reader the unseen foundational ways that maltreatment harms children, believing that understanding the nature of the effects will help us understand why certain interventions are effective for maltreated children.

There is a strong body of research supporting the value of early positive and responsive caregiving for infants and toddlers, and the value of emotional regulation for development. We present two interventions that focus specifically on these target areas, but for two different populations and with slightly different focuses. For pre-school and early school-aged children, the parent-child relationship has been shown to be a lynchpin in efforts to improve mental health. We present four interventions that focus on improving caregiving and the caregiver-child relationship as a way to improve emotional regulation and reduce children's behavior problems. These interventions use different modes of delivery, showing the wide range of methods that can be used to achieve similar treatment goals. In middle childhood, cognitions emerge as important mediators of mental health. We present two different types cognitive-behavioral therapies, showing the flexibility of these treatment systems. Finally, we examine two very different multi-modal intervention approaches for difficult-to-treat adolescents that similarly combine cognitive-behavioral strategies, family support, case management to reduce their clients' risk of self-destructive behavior.

### ***Interventions for Infants***

We describe two interventions appropriate for infants with strong body of research supporting them: Attachment and Biobehavioral Catch-up (ABC; Bernard et al. 2012) and Child-Parent Psychotherapy (CPP; Lieberman and van Horn 2005). A randomized controlled trial (RCT) supports the efficacy of ABC in improving infants responsiveness to their foster caregivers (Dozier et al. 2009) and another RCT showing lower rates of disorganized and higher rates of secure attachment in a group of children at high risk for maltreatment. CPP's effectiveness in treating traumatized children is also supported by several RCTs (Cicchetti et al. 2006; Lieberman et al. 2005, 2006; Toth et al. 2006).

#### **Attachment and Biobehavioral Catch-up (ABC)**

##### **Guiding Principles**

This intervention is based on the theory that the foundation of children's mental health rests upon the responsiveness and predictability of their caregiving environment. The pillars of this foundation are infants' attachment quality and their emotional, behavioral, and biobehavioral regulation. The attachment strategies are viewed as a response to both their biological and foster parents' attachment-driven behaviors.

##### **Goals of Treatment**

Three primary goals or components are identified. Component A is to insure that biological or foster parents understand the meaning of their infants' rejecting cues. The caregivers learn nurturing skills even if the children fail to ask for comfort or reject their attempts to provide comfort. Component B



is to insure that caregivers who do not respond in nurturing ways need to learn new strategies for reacting to their children's distress. Adapted from Child Parent Psychotherapy (CPP; Lieberman et al. 1991), therapists intervene to help caregivers recognize their own attachment-related issues that interfere with their ability to nurture their children, helping them to become more responsive. Component C is to reduce behavioral and biobehavioral dysregulation. Foster and biological caregivers are taught to create a caregiving environment that is predictable, responsive, and child-centered to decrease dysregulation in their stress response system, similar to an intervention developed for regulating the stress response system in premature infants developed by Barnard (1999).

### Strategies for Achieving Goals/Procedures

The intervention is designed for the parents of children between 10 and 24 months of age, but can be modified for parents of younger children. Treatment is conducted over ten sessions, each lasting about an hour, in the home. Therapists use a daily diary to find out about the child's behavior, and the parent's and child's contingent behavior; they use video to record the parent and child interacting, for review and to illustrate for the caregiver the progress made in treatment.

The caregiver learns to interact with the child during the ten sessions. First, the therapist teaches the caregiver the basic concepts of the intervention; then follows with a collaborative process of analyzing the child's attachment cues and reframing them. In the subsequent two sessions, therapists explore attachment issues that may interfere with the parent's ability to respond positively to the infant. Once the attachment-related reactions have been discussed, the therapists discuss and practice the importance of positive physical touch for the infant. Then the parents are taught to be able to let the child take the lead in play and to attend to the child's signals. Therapists focus on teaching caregivers to read and respond effectively to children's emotional cues in the ninth session, and wrap-up in the tenth.

## Child-Parent Psychotherapy (CPP)

### Guiding Principles

CPP is based on the belief that a warm, safe, and supportive parent-infant relationship sets a foundation for mental health in infancy and early childhood, creating working models (i.e., psychological structures) of intimate relationships that set a model for later interactions with intimate others. CPP is grounded in Fraiberg's Infant-Parent Psychotherapy (Fraiberg et al. 1975) but extends beyond it by incorporating other theoretical perspectives in a treatment plan incorporating children up to 5 years of age. Believing that "development occurs through relationships," (Lieberman and Van Horn 2008), CPP uses attachment theory as a way of defining the standards for ideal relationships and the framework for identifying its deficits. However, the structure and goals of CPP are most strongly influenced by Fraiberg's notion of "ghosts in the nursery," or parents' experience of trauma that continues to influence the way the parent responds and interacts with the infant (Fraiberg et al. 1975). However, instead of focusing on this unresolved pain that Fraiberg believed interfered with adaptive development, Lieberman and Van Horn (2005) focus on "angels in the nursery" or creating positive shared experiences and interpretations of behavior that support its strengthening.

### Goals of Treatment

The primary goals of CPP treatment are to promote healthy development in the child and parent, with simultaneous attention to both the child's and parent's experiences in order to support their relationship. CPP draws from an understanding of the normative developmental anxieties first identified by

Freud (1959) of fear of separation and loss, fear of losing parents' love, fear of bodily damage, and fear of not living up to the relevant social group, believing that children manifest these anxieties in difficult behaviors like temper tantrums, aggression, withdrawal, defiance, etc. However, instead of analysis and reflection, CPP uses children's free play and spontaneous parent-child interaction as raw material for teaching parents about themselves and their children. Therapists' primary aim is to help parents and children put feeling into words, play together, and use positive physical contact as a way to build trust and empathy in the relationship.

### Strategies for Achieving Goals/Procedures

Treatment is targeted for 0–5 year olds and their primary caregivers, and averages approximately 50 sessions. The course of treatment is not scripted, but uses different intervention modalities depending on the specific needs of the client. Furthermore, the format of the individual treatment sessions are not scripted; the strategies used depend on the available "Ports of Entry," or elements in the parent-child relationship that need the most attention at the moment and which are avenues (or ports) for entering into deeper issues in the relationship. CPP typically consists of joint parent-child sessions during which the therapist "translates" the developmental and emotional meaning of children's affect and behavior for the parent. The therapists target children's and caregivers' intrapersonal conflicts that interfere with their developing a sensitive and reciprocal relationship using insight-oriented interpretation. They engage the parent-child dyad in activities that foster mutual pleasure, interpersonal trust, and understanding.

## *Interventions for Young Children*

We describe four different evidence-based treatments designed specifically for young children in approximately the 2–8 year age range and their parents: The Incredible Years (IY; Webster-Stratton 2012a), Triple-P (PPP; Sanders 1999), Parent-Child Interaction Therapy (PCIT; Eyberg and Robinson 1982), and Multidimensional Treatment Foster Care for Preschoolers (MTFC-P; Fisher and Kim 2007). The interventions use different methods of delivery and may target different populations (e.g., MTFC), but their purposes are similar. For the most part, these treatments are parenting-oriented, teaching parents skills and discussing strategies for managing their children's difficult behaviors.

### **Incredible Years (IY)**

#### Guiding Principles

A basic premise of the model, common to the other parenting-oriented interventions, is that the parent-child dyad must have the foundation of a positive relationship foundation before the parent can be successful at implementing discipline strategies; and that parents should attend to their children's positive behaviors far more than their negative behaviors. Without the foundation of a positive relationship, long lasting change is unlikely to occur.

#### Goals of Treatment

At its core, the primary focus of IY has been to nurture positive parenting tools to strengthen parent-child attachment and empathy through child-directed play, social and emotional coaching methods, sensitivity to children's cues, praise and warmth. Once the parent-child relationship is strengthened, IY

encourages implementing predictable rules and routines, clear limit settings and non-intrusive behavior management strategies such as ignoring, distracting, and redirecting. Time Out and loss of privileges are taught as behavior management tools, as well as teaching children self-regulation and problem-solving skills.

#### Strategies for Achieving Goals/Procedures

The current version of Incredible Years (IY) is a multiple-component system of care designed as an intervention for children with disruptive behavior problems. Originally conceptualized as a 12-week parenting group intervention for parents with difficult-to-manage children from toddler-age through middle childhood, it now consists of a basic parenting program, with options of an “advanced” parenting module for parents with their own mental health problems, a child group program that runs concurrently with the parent group, a school-based group program, and a home-visiting program to help parents generalize the principles learned in group sessions to the home environment. In addition, there is a strong case management component: group leaders contact parents between group sessions to discuss achievements and challenges.

The “Basic” IY model has been heavily researched, with multiple randomized trials, in high-risk populations and parents of children with a diagnosis of Oppositional Defiant Disorder (see Webster-Stratton 2012a, b, for a review of this research). Most of the newer components also have empirical support based on randomized control trials (Webster-Stratton 2012a). The effectiveness of IY in child welfare populations is just now in the process of being confirmed. Hurlburt and colleagues (under review) re-analyzed data from an earlier RCT looking at the efficacy of IY in a Head Start population to determine if subset of parents with child welfare system involvement responded differently to the IY program than those whose parents had no prior involvement. Results showed similar significant improvement in both groups.

### **Parent-Child Interaction Therapy (PCIT)**

#### Guiding Principles

Like IY, PCIT is founded on the belief that the parent’s attention must be a source of reward for the child before behavior management strategies can be effective. Also like IY, PCIT works toward increasing the degree to which parents attend to their children’s positive behaviors. However, unlike IY, PCIT emphasizes the power of changing the behavioral mechanics of the interaction as a way to change its emotional quality – changing the numbers of parents’ specific positive verbal behaviors when playing with the child.

#### Goals of Treatment

While the child is the client in treatment, and reducing the intensity of disruptive behavior problems is the putative goal of treatment, parents’ behaviors are the real target of PCIT so that by their positive parenting and consistent and predictable behavior management, they become the agent of change in reducing their child’s behavior problems.

#### Strategies for Achieving Goals/Procedures

PCIT incorporates both parent and child (aged 2–7 years old) in the treatment sessions and uses live, individualized therapist ‘coaching’ for an idiographic (i.e., individualized) approach to changing the dysfunctional parent-child relationship. Treatment is conducted in two phases over 14–20 weeks.

Both phases of treatment begin with an hour of didactic training, when parents are taught and practice specific skills of communication and behavior management with their children. Teaching sessions are followed by sessions in which the therapist coaches the parent during play with the child. From an observation room behind a two-way mirror, via an FM receiver, the therapist provides the parent with feedback on parents' use of the skills. In the first phase (Child Directed Interaction; CDI), the therapist focuses on enhancing the parent-child relationship and decreasing negative behavior by both the parent and child. By the end of CDI, parents generally have shifted from rarely noticing their children's positive behavior to more consistently attending to, praising, and reinforcing appropriate behavior. In the second phase of treatment, therapists (Parent-Directed Interaction; PDI) focus on improving the child's compliance with the behavioral limits and expectations established by the parent. Therapists train parents to give only essential directions and commands, to make them clear and direct, maximizing chances for compliance by the child. Parents participating in PCIT traditionally learn a specific method of using time-out for dealing with noncompliance. These strategies are designed to provide caregivers tools for managing their children's behavior while helping them to avoid using physical power and to focus instead on using positive incentives and promoting children's emotional regulation. In addition to practicing these skills during clinic sessions, parents are asked to practice with their children at home for 5 min every day.

There have been numerous studies demonstrating the efficacy of PCIT in reducing child behavior problems (e.g., Eyberg and Robinson 1982) and maintaining these effects up to 6 years post-treatment (Hood and Eyberg 2003). Recent research has supported similar benefits with high-risk families, including maltreating parents (Chaffin et al. 2004; Timmer et al. 2005), and families involved in domestic violence (Timmer et al. 2010).

## **The Triple P-Positive Parenting Program (Triple-P)**

### **Guiding Principles**

The Triple P-Positive Parenting Program (Sanders 1999), like the other behaviorally-oriented parenting programs, is based on the premise that for children to be well-adjusted and families to be harmonious, parents should build positive relationships with their children, encourage the behaviors they like, deal positively, consistently, and decisively with misbehavior, and take care of themselves as parents.

### **Goals of Treatment**

The emphasis of Triple-P is on teaching parents on how to apply positive parenting and child management skills to different behavioral, emotional and developmental issues in children to reduce child behavior problems and parental stress. Triple-P teaches 35 specific strategies and parenting skills that cluster into several major categories: (a) parent-child relationship enhancement, (b) encouraging desirable behavior, (c) teaching new skills and behaviors, (d) managing misbehaviors, (e) preventing problems in high-risk situations, (f) self-regulation skills, (g) parental mood management and coping skills, and (h) partner support and communication skills.

### **Strategies for Achieving Goals/Procedures**

One of the unique characteristics of Triple-P is that it provides a public health-approach to address problems in parenting difficult children (Sanders 1999). It has five types of programs, varying in the intensity of intervention needed to insure positive change. Programs are designed for families having

at least one child in the birth to 16-year-old range. We describe here the two levels of intervention in which maltreated children often participate: Standard and Group Triple-P (Level 4), and Enhanced Triple-P (Level 5).

The *Standard and Group Triple P (Level 4)* program benefits populations of children who have clearly identifiable problems but may not yet meet diagnostic criteria for a behavioral disorder, and/or parents who are struggling with parenting challenges. Parents learn a variety of child management skills and how to apply these skills at home and in community locations (e.g., grocery store, shopping). This program combines psychoeducation, teaching, and active skills training and support. Therapists help parents to apply and practice their new skills to a broad range of target behaviors in both home and community settings with the target child (client) and siblings.

The *Enhanced Triple-P, Pathways Triple-P (Level 5)* programs are two modules that can be added to the Standard Triple-P program when parents have problems that interfere with their ability to make progress in treatment. Both are intensive individually tailored programs that involve face-to-face clinician contact or group sessions to enhance parenting skills, mood management strategies and stress coping skills, and partner support skills. Enhanced Triple-P is designed for families with dysfunction resulting from parent mental health problems, stress, or marital conflict. Pathways Triple-P is helpful for parents with problems often found associated with child physical abuse, involving attribution retraining and anger management.

The evidence base supporting the effectiveness of Triple-P is extensive, consisting of more than 43 clinical trials (e.g., Morawska and Sanders 2006; Plant and Sanders 2007; Sanders 1999). Research also supported the use of Triple-P to reduce coercive parenting practices (Sanders et al. 2008). In the United States, Prinz and colleagues (2009) conducted a large-scale 18 county investigation in a southeastern state and found that counties using Triple-P had fewer substantiated child maltreatment referrals, out of home (foster) placements, and child maltreatment injuries.

## **Multidimensional Treatment Foster Care for Preschoolers (MTFC-P)**

### **Guiding Principles**

MTFC-P is guided by the belief that if children must be in foster care because of often traumatic, negative parental behavior or family circumstances, that a stable, supportive, positive environment can build children's resilience and improve their prognosis for ongoing mental health. Built on Masten and Coatsworth's (1998) resiliency framework, MTFC strives to change the ordinary processes in children's lives that have been found to build resilience: individual characteristics (e.g., cognitive functioning, sociability, self-efficacy), family characteristics (e.g., close relationships with caring adults, authoritative parenting), and extrafamilial characteristics (e.g., social support, effective schooling) (Leve et al. 2009).

### **Goals of Treatment**

MTFC is a multilevel intervention that targets children's foster parent and peer interaction processes with the aim of preventing negative interactions and enhancing positive interactions between caregivers and children. Using case management and foster parent support services, MTFC improves caregiver monitoring and supervision skills, to improve children's positive and prosocial behavior at home and at school. Using individual therapy when needed and social skills training, other mental health and adaptive functioning issues are addressed.

## Strategies for Achieving Goals/Procedures

In MTFC, children are placed with foster parents who have been intensively trained. Placements typically last 6–9 months and involve a coordinated array of services, including interventions in the home, with peers, at school, and with the child's birth parents or adoptive family, depending on their long-term plans. Specific services vary depending on the child's age and developmental level, but often include family and individual therapy, social skills training, academic support, and case management by a program supervisor to direct and coordinate the services. Additionally, children receive consistent behavior management in the foster home and at school that emphasizes reinforcement for positive and appropriate behavior and strengths via small tangible rewards or behavior charts. Similarly, children will lose points or privileges for engaging in negative behavior. Foster parents are encouraged to avoid arguing with children and to try to follow a "four-to-one" rule, where any criticism is accompanied by at least four positive statements. Foster parents also receive ongoing support while an MTFC client is in their home. Foster parents meet together for 90 min a week with an MTFC program supervisor. They receive support and instruction during this time and are encouraged to share their successful parenting strategies with each other. A program supervisor leads each child's treatment team, providing support and consultation to the foster parents. There is a family therapist, an individual therapist, a child skills trainer, and a daily telephone contact person to obtain information about the child's behavior. The team meets weekly to review progress on each case.

The Basic MTFC model is supported by several RCTs (e.g., Chamberlain and Reid 1998) and the downward extension of this model for preschoolers (MTFC-P) has also been proven effective in a randomized trial (Fisher and Kim 2007).

## *Interventions for Middle Childhood*

We present two interventions commonly used with maltreated and traumatized children in middle childhood and older, Trauma-Focused Cognitive Behavioral Therapy (TF-CBT; Cohen et al. 2006) and Alternatives for Families: A Cognitive Behavioral Therapy (AF-CBT; Kolko and Swenson 2002). TF-CBT, a rigorously researched intervention (e.g., Cohen and Mannarino 1996, 1998; Cohen et al. 2004), has received the highest ratings for its effectiveness. It was originally designed to treat victims of sexual abuse, but has been adapted to treat victims of multiple maltreatment and domestic violence. AF-CBT, supported by an RCT (Kolko 1996), was designed to help families coping with the consequences of physical abuse, violence, harsh or coercive parenting.

### **Trauma-Focused Cognitive Behavioral Therapy (TF-CBT)**

#### Guiding Principles

TF-CBT is based on the idea that a combination of processing and reframing thoughts about trauma and the implementation of active behavioral strategies to avoid or minimize physiological responses to stressors increases positive functioning and reduces trauma symptoms.

#### Goals of Treatment

TF-CBT specifically aims to reduce trauma-related symptoms including PTSD, depression, anxiety, trauma-related shame, and trauma-related cognitions such as self-blame in children and adolescents. TF-CBT also includes a component for non-offending (nonsexually abusive or nonperpetrator)



parents to enhance their support of the traumatized child, decrease their own emotional distress, and enhance positive parenting practices.

### Strategies for Achieving Goals/Procedures

As Cohen and colleagues (2006) describe, the strategies TF-CBT uses to achieve its treatment goals can be summarized by the acronym PRACTICE: Parenting Skills, Psychoeducation, Relaxation Skills, Affective Modulation Skills, Cognitive Processing, Trauma Narration, In Vivo Desensitization, Conjoint Child–Parent Sessions, and Enhancing Safety and Future Development. Parenting skills consist of enhancing parents' abilities to use praise, selective attention, time-out, and contingency reinforcement programs. Psychoeducation involves giving parents and children information about the type of trauma the child has experienced, validating their reactions to their trauma. The relaxation component includes teaching parents and children focused breathing, progressive muscle relaxation, and other personalized interventions, helping to control their physiological hyperarousal. With affective modulation, children identify feelings, practice expression and thought interruption skills, which enhance their ability to use positive self-talk, to problem-solving and social skills. Cognitive processing consists of guiding children and parents through a process of recognizing the connection among thoughts, feelings, and behaviors, and changing thoughts to be more accurate and helpful. By developing a narrative of the child's trauma experience, a detailed description of what occurred during the child's maltreatment or violence exposure experiences is documented, revealing cognitive distortions about these experiences. Using in vivo desensitization therapists help children overcome generalized avoidance of trauma reminders. Conjoint sessions occur between children and parents after the above components have been successfully completed. Last, by enhancing safety, therapists address present and future safety issues for the child and parent. Accomplishing the PRACTICE usually takes approximately 12–16 sessions lasting 60–90 min.

## **Alternatives for Families: A Cognitive Behavioral Therapy (AF-CBT)**

### Guiding Principles

AF-CBT promotes the idea that by adjusting thoughts, identifying feelings, and controlling physiological stress levels, it is possible to reduce the risk of physical abuse and violence. This intervention focuses on intrapersonal and interpersonal skills training for improving self-control, promoting positive family relations, and reducing violent behavior.

### Goals of Treatment

Goals of AF-CBT are two-pronged. First, the intervention aims to improve parents' parenting skills or practices, including increasing adherence to positive child management practices and decreasing harsh and coercive discipline. At the same time, AF-CBT aims to reduce physically abused children's externalizing behavioral problems, increase their positive social behaviors, and improve the quality of their peer interactions.

### Strategies for Achieving Goals/Procedures

To accomplish treatment goals, AF-CBT is organized into three phases: (1) Psychoeducation and Engagement; (2) Individual and Family Skills Training, and (3) Family Applications Treatment. The primary techniques used in the last two phases include affect regulation, behavior

management, social skills training, cognitive restructuring/problem-solving, and communication. Children and parents have separate goals and procedures. In specific components for children, therapists conduct an exercise in which the child describes the exposure to family hostility and violence; cognitive processing of the circumstances and outcomes of the violent incident(s) that produced the mental health referral as a way to modify distortions, and aggression supporting beliefs; teaching about child abuse laws, child safety, and common child abuse reactions. They also learn to regulate their negative affect by identifying abuse-specific triggers, stress management, and anger control. Therapists describe and practice healthy coping skills, discussing how using them can help the children address everyday problems. They also work with the children to develop social support plans and skills to enhance social competence. Components specific to parents' needs include the following: socialization to models of stress and CBT, and a discussion about factors that contribute to violent or coercive behaviors. Therapists discuss with the parent their view on hostility and violence, including child-related developmental expectation and general attributions that may promote coercive interactions to get a better understanding of the parents perspective. They work on affect management with parents, identification and management of abuse-specific triggers, heightened anger or anxiety and depression, so that the parents may have more control over their emotions and behavior. Parents also receive training in alternative disciplinary strategies that minimize the use of physical force through instruction in behavioral management principles and techniques. Families generally need 12–24 h of service over a period of 12–24 weeks to complete treatment.

### *Interventions for Adolescents*

We describe two interventions often used with maltreated and high-risk adolescents, Dialectical Behavior Therapy (Linehan 1993) and Multisystemic Therapy – for Child Abuse and Neglect (Swenson et al. 2010). Although both interventions have a strong empirical research foundation, both are also interventions that have been adapted for treating adolescent clients with severe, unremitting, and complex mental health symptoms associated with child maltreatment. Dialectical Behavior Therapy (DBT), originally shown effective in the treatment of clients with borderline personality disorder (Linehan et al. 1993), has been shown to be effective in the treatment of mood disorders that often included suicidal behavior and self-harm (Kliem et al. 2010; Rathus and Miller 2002) and with victims of sexual abuse (Decker and Naugle 2008). Multisystemic Therapy for Child Abuse and Neglect (MST-CAN; Swenson et al. 2010) is an evidence-based treatment for families with serious clinical needs who come to the attention of Child Protective Services because of abuse or neglect referrals. Importantly, MST-CAN addresses the referral behaviors plus key risk factors that keep families coming through the revolving door of child protection.

### **Dialectical Behavior Therapy (DBT)**

#### Guiding Principles

Fundamentally, DBT (Linehan 1993) is based on the premise that once a successful therapeutic alliance has been established as unconditionally though neutrally accepting, that acceptance and change occurs through a dialectical process, in which the thesis (i.e., clients' original beliefs) plus antithesis (adaptive alternatives) equal change. This dialectical change is enabled by clients increased ability to tolerate distress, regulate emotions, improve interpersonal functioning, and increase their mindfulness of themselves in their environment.

## Goals of Treatment

The overall goal of DBT is helping clients create “lives worth living,” which involves achieving four distinct primary treatment objectives: (1) Increased control over behavior (e.g., eliminating life-threatening behaviors and behaviors that interfere with treatment; decreasing behaviors that destroy the quality of life; increase attention; increased distress tolerance); (2) Improve emotional expression (e.g., reduce dissociation, reduce symptoms of PTSD); (3) Improve problem-solving skills (e.g., solve ordinary problems like marital or partner conflict, job dissatisfaction); (4) Increase interpersonal connectedness (e.g., support with ‘existential’ problems, connect with churches, synagogues, or temples).

## Strategies for Achieving Goals/Procedures

DBT combines behavioral techniques (e.g., affective skills training, exposure) together with cognitive restructuring, and it introduces the importance of mindfulness practice, validation, and principles of dialectical philosophy. The primary clinical tools used in DBT are diary cards, on which the client records self-injurious and therapy interfering behaviors throughout the week, and chain analysis, a functional analysis of sequences behaviors, aimed at increasing mindfulness. Clients have weekly individual and group treatment sessions. In individual sessions, the therapist and client discuss issues written on the diary cards that arose that week, following a treatment target hierarchy. Self-injurious and suicidal behaviors take first priority. Second in priority are behaviors that interfere with the course of treatment, followed by issues related to the client’s quality of life. During the individual therapy, the therapist and patient work towards improving skill use. Groups typically meet once weekly, during which clients learn to use mindfulness skills, assertiveness skills for increasing interpersonal effectiveness, emotion regulation, and distress tolerance skills. Individual sessions are considered necessary to keep suicidal urges or uncontrolled emotional issues from disrupting group sessions, while the group sessions teach the skills unique to DBT, and also provide practice with regulating emotions and behavior in a social context. Clients have telephone access to therapists 24 h a day to acquire additional assistance in managing new skills and urgent problems. Finally, it is a requirement that therapists participate in ongoing consultation team meetings to maintain or improve their own motivation. It takes approximately 1 year to master the skills required by a typical course of treatment in DBT.

## **Multisystemic Therapy for Child Abuse and Neglect (MST-CAN)**

### Guiding Principles

MST-CAN is a networked system of interventions based on a social-ecological model (Bronfenbrenner 1979), which asserts that children are parts of various systems or “ecologies” (e.g., school, family, parents) that they influence and that influence them. MST-CAN is guided by the belief that treatment must attend to the children’s functioning in all of their social systems in order to be successful.

### Goals of Treatment

The overarching goals for MST-CAN are to keep families together safely by preventing placement out of the home, eliminating further incidents of maltreatment, and altering key factors that heighten maltreatment risk. As a strengths-based model MST-CAN, first targets protective factors in children’s social systems, particularly social support, and designs strategies to build upon them and use them as

leverage for change. Likewise, in cases where maltreatment has occurred, the MST team assesses risk factors and functioning across these systems and develops strategies to reduce risk (e.g., parent mental health problems, housing and employment problems) and improve child functioning (e.g., aggressive behavior, depressive symptoms).

### Strategies for Achieving Goals/Procedures

The families referred to MST-CAN are those with multiple, serious clinical problems who have a child in the family who is between 6 and 17 years of age with a documented history of physically abuse or neglect within the last 180 days.

A full-time supervisor oversees the work of three to four masters-level therapists and a bachelor-level case manager. Approximately 20 % psychiatrist protected time is reserved for youth and parents in the project. Because families are referred to MST-CAN because of parents' maltreating behavior, the focus of treatment is with the adults in the family. On average, five people per family are treated. For example, the parent may be treated for substance abuse, the grandmother for depression, and the child for behavioral problems at school. The team works a flexible schedule seeing families at times that are convenient for them. Sessions may be during traditional work hours, at night or on the weekend. The team operates a 24-h per day, 7 days per week, on call rotation service to help families manage crises.

The majority of the research-supported treatments used in MST-CAN are behavioral or cognitive behavioral. When family members exhibit difficulty in managing anger, therapists use cognitive behavioral treatments for anger management (e.g., Feindler et al. 1986). When families have difficulty with communication and problem solving, therapists use a behavioral family treatment (Robin et al. 1994). When family members are experiencing PTSD symptoms, therapists use Stress Inoculation Training (SIT; Kilpatrick et al. 1982) and Prolonged Exposure therapies (Foa and Rothbaum 1998). Finally, for treatment of substance misuse, Reinforcement-Based Treatment (RBT; Tuten et al. 2012) is provided.

MST-CAN is an evidence-based treatment model with 15 years of clinical and research piloting, efficacy and effectiveness studies, and transportability piloting to its history. Two randomized clinical trials (RCT) form the current evidence base supporting MST-CAN (Brunk et al. 1987; Swenson et al. 2010).

## Policy Considerations

There are many children and families adversely affected by child maltreatment: thousands of children experiencing child sexual abuse, child physical abuse, and neglect every day. Much of this chapter has detailed the impact of maltreatment on the developing child, followed by multiple interventions that have strong empirical support in alleviating child mental health symptoms, improving parent-child relationships, and improving the overall health of the child. We have also described the developmental context of maltreatment, the core components of change, and how different empirically based interventions for maltreated children affect that change. We have not discussed how we can insure that mental health providers perform these interventions with fidelity to all maltreated children in need. This discussion leads us in a direction away from developmental psychopathology and towards "implementation science" and public policy. It is the burden of those advocating the use of empirically based treatments to also find a way reliably implement them and continue to support these interventions so that they are proven effective not just in university laboratories, but in the community mental health programs throughout our country (Steinfeld et al. 2009; Weisz et al. 2012).

There has been remarkable movement during the last two decades in the development and refinement of empirically based treatments (Aarons et al. 2009). Additionally, several organizations have detailed

descriptions of promising and well-researched interventions specifically for maltreated children and their families (e.g., California Evidence-based Clearinghouse for Child Welfare, [n.d.](#); Center for the Study and Prevention of Violence, [n.d.](#); Substance Abuse and Mental Health Services Administration [SAMHSA]). Policymakers and legislators understandably have been persuaded by the research supporting evidence-based practices, wanting to take action that could show results either in preventing or disrupting the negative effects of maltreatment. However, there has been a lag between the development of empirically tested interventions and the implementation of these interventions in various community mental health programs (Aarons and Palinkas 2007; Proctor et al. 2009; Aarons et al. 2011). While it may be reasonably argued that development of effective interventions is difficult, it appears that development of effective methods to disseminate these interventions is much more complex.

The large body of research documenting efforts to implement effective home-visiting programs illustrates some of the reasons for the lag between treatment development and dissemination. Early efforts at large-scale implementation focused on replicating the program content, not considering the fact that whether people actually providing services knew how to reliably and effectively produce the same content in varied situations might make a difference in the quality of outcomes. Using “agents of change” with little training or insufficient supervision instead of registered nurses explained the reduced effectiveness of a evidence-based home visiting program taken to scale on a state level (e.g., Duggan et al. 2004). Michalopoulos and colleagues (2011) noted that evaluations rarely collect detailed information on the services actually delivered when evidence based practices are taken to scale, which makes it possible that weak effects in evaluation studies could result from problems with dissemination and reflect very little about the effectiveness of the program model. They observed that nurses and paraprofessionals using the same home-visiting protocol, provided very different services to their clients: nurses targeted issues relating to physical health and infant behavior, while paraprofessionals worked on connecting their clients to community services, addressing more practical, logistical problems (Korfmacher et al. 1999). These findings underscore the importance of training providers to effectively deliver particular content to insure the fidelity of evidence-based interventions. Research has long shown that fidelity is related to effectiveness and that decreases in fidelity is likely to decrease program effectiveness (e.g., Battistich et al. 1996; Blakely et al. 1987; Kam et al. 2003). We argue that inadequate training and implementation also can compromise the effectiveness of these interventions.

Simpson (2002) points out that the process of disseminating evidence based treatments, or translating “science to service,” traditionally has been a passive process that involves scientists communicating information to leaders who then put the proven treatments into practice. This process serves as the foundation for most U.S. federal and state policies related to making use of evidenced-based programs and other human service innovations (Fixsen et al. 2009). Those who train front-line practitioners quickly realized the limitations of this strategy, since trainees are not equipped to practice a new treatment using only a manual or a didactic-style, workshop training (Herschell et al. 2009). Fixsen and colleagues (2009) describe a more active style of implementing empirically based interventions with fidelity, defining seven core implementation components which combine to help change individuals’ practice and organizational culture. These components are (1) selecting appropriate staff; (2) pre-service and in-service training, (3) ongoing coaching and consultation, (4) staff evaluation, (5) decision support data systems, (6) administrative support, and (7) systems interventions. The selection of this combination of individual level and organizational level factors, the combination of action and evaluation, creating multiple supports for individuals and programs, demonstrates the multidimensional character of disseminating evidence-based practices. Evidence-based practices involve more than understanding the principles behind an intervention and an understanding of the processes. Evidence-based practices require a commitment to a system of practice, a willingness to be held accountable for what you do and how you conduct therapy – if you claim to be providing an evidence-based treatment. It is impossible for therapists to make this commitment to provide evidence-based therapies with quality and fidelity if they are not supported by their home agencies, and their county and state systems of care (who control reimbursement for these services). There is a natural tension between the budget requirements of

evidence-based practices – the time required for assessment, special requirements of documentation for these services, and their intensity and comprehensiveness – and states' and counties' desires to get the greatest amount of mental health services for their dollars. Many counties see reductions in child maltreatment allegations and prolonged needs for services, and are willing to make this commitment. Others, facing difficult budgetary decisions, may need persuasive data showing them the many advantages of demanding that providers maintain quality and fidelity, even if supporting evidence-treatments means more complex and costly support mechanism. It is the responsibility of developers and trainers to conduct the research, and provide information to child advocates and treatment providers to make it easier to make the argument for quality in mental health treatment.

## Conclusions

In this chapter, we described the broad and long-lasting effects of maltreatment on children via the neurobiological stress-response system. We also described the connection between attachment and the stress-response system, and the ways in which parenting and the context of the family continues to play a part in the way children respond to stress in their environment. The observable effects of maltreatment have been described: externalizing, disruptive behaviors in early years, social problems, school difficulties, and depression and other problems as children grew older, to name a few. The ten different evidence-based treatments that we described are based on a variety of premises, designed to treat children of different ages using different treatment modalities, with different treatment goals, and different strategies for achieving those treatment goals. Interestingly, they all incorporated some strategy for increasing emotional regulation, and often targeted parenting strategies or family systems as mechanisms of change or methods for sustaining change in maltreated children.

We argue that the increasingly sophisticated literature describing the neurobiological underpinnings of maltreatment effects suggest that HPA-axis dysfunction may continue to play a part in undermining mental health throughout childhood and adolescence, and that the most effective treatments will include a component to help clients use active and cognitive strategies for controlling their responses to stress. Furthermore, early caregiving quality, inexorably linked to the stress-response system, also appears to set the stage for later interpersonal functioning, and continues to be supported by risk and resilience inherent in the family system. We argue that the most effective treatments for young children will consider the parent-child relationship as integral to treatment success. Consideration of the health and support of the family system in middle childhood and adolescence may also prove key to treatment success.

In spite of our trying to take a more “meta” view of empirically based treatments for maltreated children and trying to choose different types and modalities of treatment delivery as representative interventions, we acknowledge that we have missed some important contributors to the evidence base. We hope that others will continue the work of examining mechanisms of effectiveness of evidence-based treatments for maltreated children and continue to document the core components of effective mental health treatments.

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