Brief therapy for traumatized children

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BRIEF THERAPY FOR TRAUMATIZED CHILDREN

by

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ABSTRACT

Brief Therapy for Traumatized Children

by

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Traumatic child maltreatment can negatively impact every developmental domain of a child, when left untreated. Thus, child psychologists have recognized a critical need for treatment and prevention strategies to circumvent the negative trajectories that can develop after traumatic events. Brief Therapy for Traumatized Children (BTTC) was developed to treat traumatized youth in shelter care. Treatment components included psychoeducation, building effective coping strategies, boundary setting, anxiety management skills, challenging cognitive distortions, development of trauma narrative and journaling. One hundred-forty-seven participants from a children's shelter in Las Vegas, NV, aged 12 – 17 years, were voluntarily recruited and assessed for trauma symptoms. Data from fifty-eight participants were retained for evaluation of treatment efficacy. Analyses using structural equation modeling, regression equations, and chi-squared tests showed that after a very brief intervention, participants had significantly fewer post-traumatic stress symptoms and a decrease in negative coping skills post-treatment. These data suggest that BTTC could be an effective therapeutic
tool to treat traumatized youths in shelter care. In addition, BTTC could easily be adapted for a variety of settings including schools, church groups, and outreach programs. The clinical implications of using BTTC to teach youths to develop insight, control emotional dysregulation, and develop effective coping strategies are discussed, as well as future research directions.
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effort expended. Thus, there were times I felt that Dr. Kearney had not sufficiently protected me from my own ambition. However, I now see what he could see from the beginning: that conquering the challenges necessary to complete this project would provide me with a strong foundation of skills to develop my career. In addition, overcoming these challenges has furthered my commitment to advocacy for and treatment of youth who are often overlooked and under loved. Further, I greatly appreciate Dr. Kearny and Dr. Parson for encouraging me to work with all the strengths of an individual child, including their spirituality. I know first hand that spirituality can be a powerful source of strength and can promote healing and personal empowerment.
CHAPTER 1

BRIEF THERAPY FOR TRAUMATIZED CHILDREN

Within the field of clinical child psychology, the safety and optimal development of children are key concerns. Both constructs require progressive maturation of psychological and physiological functioning, academic performance, and social competence. When parent rearing and discipline, a nurturing environment, and provision of physical and emotional needs are not adequate, a child can be left vulnerable and unable to effectively navigate his or her world. Cognitive distortions can then develop that interrupt or interfere with development in every domain of the child's functioning. When the safety, development, and general needs of a child are not met, the child is considered maltreated.

The study of child maltreatment (CM) has burgeoned over the past 40 years, with a more recent focus on the implications of CM. Included in this field of study are the reactions children have to traumatic violations of their safety. These reactions can lead to traumatic disorders such as acute stress disorder (ASD) or posttraumatic stress disorder (PTSD). Trauma and trauma responses can be very complicated and researchers have postulated that ASD is often a precursor to PTSD. Some reference will be given to ASD in this paper but a particular focus will be made on etiology and treatment of PTSD, specifically childhood PTSD (C-PTSD) within the context of CM.
This paper provides a brief overview of posttraumatic stress disorder within the framework of traumatic child maltreatment, including history, symptoms, and prevalent theories. While emotional abuse and neglect are also important in the consideration of posttraumatic stress disorder symptomatology, references to child abuse and maltreatment throughout this paper are specifically related to physical and sexual abuse of children or witnessing of domestic violence. In this paper the terms maltreatment and abuse are used interchangeably. A review of commonly used treatment methods is provided, including a treatment plan called Brief Therapy for Traumatized Children (BTTC).

Definition and Causes of Trauma

Definition of Trauma

An experience that is perceived and interpreted as traumatic can be defined as an event that created a feeling of threat rather than challenge (Shalev, 1996). Trauma is the affective response that overwhelms a person and often impedes her or his ability to respond or to assimilate information concerning the traumatic event. Traumatic events are frequently described as stressful, though not every stress-inducing experience causes an individual to feel traumatized. The influential monograph Stress, Appraisal and Coping (Lazarus & Folkman, 1984) identified impaired social functioning, decreased morale, and poor somatic health as some of the negative outcomes that result from a failure to cope with stress. Further research on extreme and chronic forms of stress or stressors has identified a variety of pathogenic processes (Shalev, 1996), including 1) permanent alteration of neurobiological processes (e.g., hyperarousal); 2) acquisition of conditioned fear responses to trauma-related stimuli; and 3) altered cognitive schemata.
and social anxiety due to the extreme dissonance between one's previous knowledge of the world and the traumatic event. Because stressful experiences that result in traumatization at an early age can impact all future emotional, cognitive, behavioral and physiological functioning, the cost of trauma can be very high, both to individuals and to society (Perry & Pollard, 1998).

The Diagnostic and Statistical Manual of Mental Disorders, 4th Edition (DSM-IV; American Psychiatric Association (APA), 1994) diagnostic criteria for PTSD and ASD describes traumatic events as: involving "actual or threatened death or serious injury, or a threat to the physical integrity of self or others" as well as responses that involve "intense fear, helplessness, or horror (in children this may be expressed by disorganized or agitated behavior; pp. 424 - 428)." This definition is necessarily broad and includes information about the stressor and response because different characteristics of people influence whether that individual interprets an event as traumatic. The narrative an individual gives concerning their stressful event provides information about how the stressor caused trauma for that individual (Foa, Molnar & Cashman, 1995; Foa, 2000; Holmes, 2001; Pearlman, 2001).

Types of Traumatic Events

Though individuals respond differently to stressors, certain types of events are frequently associated with traumatic responses. Green (1990) proposed eight traumatic stressors with generic dimensions that "cut across different types of traumatic events (p. 1633):" 1) threat to one's life and body integrity; 2) severe physical harm or injury; 3) receipt of intentional injury/harm; 4) exposure to the grotesque; 5) witnessing or learning
of violence to loved ones; 6) learning of exposure to a noxious agent; 7) sexual violation; and 8) causing death or severe harm to another.

Type I, Type II Trauma Model. Terr (1991) proposed a model of childhood trauma that suggests a symptom trajectory dependent on the type of trauma the child has endured. Type I trauma (acute) is characterized as a sudden, unpredictable, single event in nature. A nonabusive stressor that happens only once, such as a flood, fire, or transportation accident can cause this type of trauma. Type II trauma is characterized as a chronic or abusive stressor, which includes ongoing or multiple stressors such as chronic illness, repeated surgeries, and war. Type II also includes incidents of physical and/or sexual abuse, whether the abuse is a single or repeated experience.

Symptoms of Type I trauma include nightmares, spontaneous re-experiencing from real or symbolic exposure, difficulty falling asleep, hypervigilance, exaggerated startle response, omen formation, guilt, and generalized agitation and anxiety. Type II trauma is manifested by symptoms of detachment or estrangement from others, dissociative episodes, restricted range of affect, sadness or depression, self-blame, and a feeling that life will be too hard to manage. Children who have experienced repeated, traumatic abuse may demonstrate behaviors that are contradictory across different contexts (e.g., a well-behaved child in public who mutilates dolls during play), which can be suggestive of multiple personality or other dissociative disorders. Traumatic reenactments may take the form of self-mutilation, sexual or aggressive play, and suicidal behaviors.

Additional studies have also found similar differences in symptom presentation of youths with acute versus chronic trauma (Famularo, Fenton, Augustyn, Zuckerman,
A mixture of acute and chronic symptoms has also been reported in children who have histories of repeated traumatization and re-exposure to trauma reminders over extended periods of time, which is less characteristic of classic (adult) PTSD (Famularo et al., 1990; Famularo et al., 1996; Foy, Madvig, Pynoos, Camilleri, 1996; Kiser et al., 1991; Terr, 1991). In general, children who endure ongoing abuse exhibit more severe disturbance (e.g. psychoses) than children who are exposed to single event abuse (Sandberg, Matorin, & Lynn, 1999; Spiegel, 1993; Swica, Lewis, & Lewis, 1996; Terr, 1991). As with adults, children can be traumatized by events such as natural disasters, accidents, crime and violence, physical violation, or sexual violation. Additionally, conditions of neglect can leave a child without essential components for optimal development. For millions of children, traumatic experiences fall under the rubric of child maltreatment (CM).

**Child Maltreatment**

*Definition of Child Maltreatment*

Although many definitions of maltreatment exist, the National Incidence Study (NIS-3, Sedlak and Broadhurst, 1996) provides the following definitions of maltreatment. Physical abuse refers to a child under age 18 years who has suffered injury (harm standard) or risk of injury (endangerment standard) by a parent or parent-substitute. This injury is the result of being hit with a hand or other object or having been kicked, thrown, shaken, burned, choked, or stabbed. Sexual abuse refers to sexual exploitation by physical contact (i.e., anal, genital, oral, or breast) between a child and another person. Emotional abuse refers to verbal abuse, threats of maltreatment, and
harsh nonphysical punishment such as being restrained (e.g., locked in a room, not being allowed to interact with people or toys). Neglect refers to physical endangerment due to inadequate nutrition, hygiene, clothing and supervision, or emotional endangerment by failure to provide adequate emotional support or affection or failure to protect a child from being exposed to domestic violence (also considered emotional abuse).

Prevalence

Child maltreatment (CM) is a rampant and ever-increasing problem in American society (as well as worldwide). U.S. prevalence rates vary greatly, but incidence reports from the National Committee to Prevent Child Abuse (NCPCA; Lung & Daro, 1996) indicate continually rising rates including more than three child deaths each day over the past 10 years due to parental maltreatment. Over three million children were subjects of Child Protective Services (CPS) investigation or assessment for child abuse and neglect in 2001 (Gaudiosi, 2001). Approximately 47 of every 1,000 children (under age 18) are reported to CPS each year as victims of child maltreatment (Wang & Daro, 1998). In addition, more than 8 million children suffer from a maltreatment-related neuropsychiatric disorder (e.g., posttraumatic stress disorder, reactive attachment disorder, dissociative disorder), and millions more experience serious, though subclinical, disorders (Perry & Pollard, 1998). However, these figures likely represent a gross underestimation of actual prevalence as they indicate reported cases only.

Characteristics of Child Maltreatment

Developmental research indicates that the impact and outcome (including traumatization) of CM for any given child evolves out of multiple interactions between the environment, caregiver adequacy, and individual child characteristics (Cohen,
Thus, CM is a heterogeneous rather than a unitary construct. In this regard, any or all of a series of variables may cause derailment or negative change in the trajectory of a child's development. The effects may be temporary, influencing current functioning at that time only (e.g., agitation, anxiety, defenses; Shalev, 1996), or they may be permanent by interfering with the child's core foundations or developmental course. The pervasive developmental deficits that can evolve include irreversible changes in brain structures (Perry, 2002), deficits of memory functioning (van der Kolk, van der Hart, & Marmar, 1996), or personality changes (e.g., Borderline Personality Disorder; Briere, 1984; Linehan, 1995). CM that becomes traumatizing has also been implicated in contributing to the diathesis of an expressed phenotype such as schizophrenia (Read, Perry, Moskowitz, & Connolly, 2001).

In addition to the initial responses or traumatization, reporting of CM may further influence the negative developmental trajectory of a child through social responses. Following reports of maltreatment, a child may be ostracized or stigmatized by peers, may experience further stressful events such as placement in foster care, or required to testify in court. Detrimental effects, stress reactions, or further trauma can occur from continuing stressors such as the re-traumatization of court or being separated from the family of origin. These detrimental effects can lead a child to increasingly organize or manage his or her world in a maladaptive manner such as perceiving the world as an unsafe place with limited or no people who can be trusted (Azar, 1986; Azar & Bober, 1999; Brewin, 2001; Ehlers & Clark, 2000; Wolfe, 1987).

While some distinctive differences in the behavioral and emotional displays of children occur from each type of maltreatment, all types manifest some similarities. All
types exhibit a larger proportion of anxious or insecure attachment (see attachment theory below for more detail), as compared with non-abused controls (Fonagy & Target, 1999; Holmes, 2001). Children from each type of maltreatment also display significantly more anger, frustration, non-compliance, lowered self-esteem, less enthusiasm and positive affect, and below-average social and academic performance than controls (Belsky, 1980; Ehlers & Clark, 2000; England, Sroufe, & Erickson, 1983; Wekerle & Wolfe, 1996).

Most importantly, traumatic maltreatment affects each youth in specific ways, depending on the unique characteristics (e.g., temperament, locus of control, cognitive delays) of the individual. The meaning of the trauma may even change from one developmental period (e.g., childhood) to another (e.g. adolescence, parenting), resulting in scars that are more or less visible during different developmental periods (Cicchetti & Rogosch, 2001; Cicchetti & Toth, 1997; Perry & Pollard, 1998).

Cognitive Schema Development. Child maltreatment that begins early and is chronic can disrupt basic cognitive schema development. Distortions of cognitive schemas can develop in areas of social interaction (e.g., no one can be trusted), affective and behavioral self-regulation (e.g., increased withdrawal or increased aggression), emotional conceptions of the self (e.g., "I am unlovable"), and general cognitive and intellectual abilities (Azar & Bober, 1999; Holmes, 2001; Meadows & Foa, 2000; Perry & Pollard, 1998). Pearlman (2001) outlined 5 central need areas that can influence distortions in cognitive schemas or beliefs following traumatic events: safety, trust, esteem, intimacy, and control. In extreme cases, schemas of maltreated children include elements of emotional pain, lack of control, threat of physical harm, a sense of
helplessness, fears concerning survival, and dissociative states (Brewin, 2001; Harvey & Bryant, 2002; Perry & Pollard, 1998; Pynoos, Steinberg, & Piacentini, 1999).

A combination of abuse-related schemas can contribute to trauma responses that can result in acute distress disorder (ASD) and posttraumatic stress disorder (PTSD). A youth who has experienced abuse as traumatizing may be unable to trust others and unable to respond to positive attention and love. When a maltreated child feels overwhelmed by an unpredictable and negative environment, her or his coping abilities can become maladaptive and ineffectual (Fonagy & Target, 1999; Goldblatt, 2003; Holmes, 2001; Vernberg & Johnston, 2001). These maladaptive patterns can continue into adulthood, leaving the individual with insufficient coping and anger management skills, rendering her or him more prone to further victimization (victim-role) or to victimize others (perpetrator-role; Maddock & Larson, 1995; Vernberg & Johnston, 2001).

*Optimal Development*

In addition to the issue of threatened safety associated with CM, research has clearly demonstrated that childhood trauma can result in deleterious effects within every major developmental domain. The orchestration of development from conception through the lifespan depends on the neural networks of the brain and nervous system (Perry, 2002). The abilities humans have to sense, perceive, process, store, and act on information are first dependent on hardwired brain structures and are then influenced by the experiences of the individual. The time in life that is most influenced by experience—positively or negatively—is infancy and childhood (Perry, 2002; Pynoos, Steinberg, & Piacentini, 1999). During this time a young child has tremendous opportunity as well as
vulnerability regarding her or his social, emotional, cognitive, and physical experiences to influence and shape genetic potential. In addition, the academic functioning of the child can be negatively influenced by trauma, both in interest and abilities, which can reciprocally influence each of the other domains. Hence, when a child experiences negative reactions to adverse experiences such as injury, threat, or neglect, the disruptions of neurodevelopment can result in lifelong compromise of functioning (Perry, 2002; Pynoos, et al., 1999).

**Posttraumatic Stress Disorder**

*Definitional History of PTSD*

Reactions to traumatic stress were initially viewed according to the psychoanalytical explanation presented by Freud (1920/1959), who argued that traumatization occurs when the ego's *stimulus barrier* (within the mind) is overwhelmed by a barrage of unmanageable stimuli from external stressors. He believed the organism's functioning would be disrupted if this stimulus barrier was broken, but removal of the external stressor was expected to lead to a quick restoration of functioning (Freud, 1920/1959). Freud noted, however, that unmanageable stimuli could, at times, become extreme enough to overpower the coping mechanisms of the individual, even leading to *traumatic neuroses*. Later psychoanalytic theorists defined the re-experiencing of symptoms (such as traumatic play in children) as *defensive failures* (Terr, 1991), referencing attempts to manage traumatic exposure using defense mechanisms such as denial, dissociation, projection, and identification with the aggressor.
Some of the earliest accounts of children’s reactions to stress were reported during World War II by Bradner (1943) and others, but reports were quite infrequent during the next 25 to 30 years (Saigh & Bremner, 1999). Definitions and theories of traumatic stress in adults continued to evolve over many decades, culminating in a groundbreaking diagnostic definition in DSM-III (APA, 1980) and following heated political debate over posttraumatic responses to the Vietnam experience. Despite this recognition and classification of PTSD in adults, no formalized description of children’s reactions to traumatic stress was included in the DSM until the revised third edition in 1987 (Saigh & Bremner, 1999). One of the first researchers to do extensive work in the area of childhood trauma was Lenore Terr (1979, 1983) who described children’s reactions to the Chowchilla school bus kidnapping in 1978. Following Terr’s lead, many researchers began to recognize and investigate the specific trauma reactions of children and the differences in their reactions and symptom patterns compared to adults. Research concerning childhood trauma and childhood PTSD has thus steadily increased over the past two decades, bringing new assessment measures and interventions to the field (Cohen, 1998).

**DSM Criteria**

DSM-III (APA, 1980) was the first edition to contain a diagnostic definition of PTSD. Symptoms of posttraumatic stress disorder were clustered into four criteria that have remained the foundation of subsequent DSM editions. Criterion A of ASD and PTSD is unique in the DSM, as this is the only diagnosis that identifies an etiology as one of the diagnostic criteria. Criterion A states that an individual must be exposed to “a recognizable stressor that would be expected to evoke significant symptoms of distress
in almost all individuals" (APA, 1980, p. 236). This implies that symptoms of distress are considered normal reactions to an abnormal stressful circumstance. Additionally, DSM-III suggested that the intensity and scope of individual reactions were expected to parallel the intensity and duration of exposure to the stressor. DSM-III further acknowledged that removal of the stressor was not necessarily sufficient for symptoms to abate. DSM-III recognized that symptoms may last for an indefinite period of time and that PTSD reactions were caused by an unusually threatening stressor, rather than by the weakened nature of the victim.

Although DSM-III was widely accepted, DSM-III-R was published in 1987. Criterion A was re-worded slightly, and stated that PTSD may occur after a "psychologically distressing event that is outside the range of normal human experience" (APA, 1987, p. 247). Criterion B was changed to require the presence of one of four re-experiencing symptoms (e.g., intrusive, distressing recollections). Criterion C was expanded to require at least three of seven avoidance or numbing symptoms (e.g., constricted affect). Criterion D was modified to require two of six increased arousal symptoms (e.g., irritability or anger outbursts) and feelings of guilt were excluded from this criterion. The DSM-III-R also included a few age-specific features of PTSD-related to youth such as dreams of the traumatic event becoming more generalized nightmares including monsters or a threatening theme. (APA, 1987) Despite these additions, diagnostic symptoms of youth remained limited.

DSM-IV (APA, 1994, p. 424) further refined the diagnosis of PTSD with the following criteria:
A. experiencing or witnessing an event with actual or threatened death or serious injury, and a response of intense fear, hopelessness, or horror

B. re-experiencing of the event through such means as intrusive thoughts, dreams, or play;

C. avoidance or numbing (e.g., pessimism about the future, avoiding reminders);

D. overarousal such as difficulty sleeping, hypervigilance or irritability

Associated symptoms of PTSD described by DSM-IV (APA, 1994) included impaired affect modulation, self-destructive behavior, dissociation, somatic complains, feelings of ineffectiveness and shame, a feeling of being permanently damaged, constant fear of threat, and a loss of previous beliefs. The DSM-IV (APA, 1994, p. 424) also includes several notes of distinction for childhood PTSD, including 1) rather than a response of intense fear, helplessness, or horror, "In children, this may be expressed instead by disorganized or agitated behavior;" 2) re-experiencing in young children may take the form of "repetitive play... in which themes of aspects of the trauma are expressed;" 3) "In children, there may be frightening dreams without recognizable content and;" 4) "In young children, trauma-specific reenactment may occur."

Despite the strides that have been made in defining PTSD symptoms in adults, recognition and description of these symptoms in children has had a much shorter history. Additionally, though successive improvements have been made, the DSM has not fully delineated the symptom picture in children, which differs from that of adults (as described below). In reference to the trajectory of symptoms that result from extreme child maltreatment, a debate is currently taking place. Child researchers are questioning
whether the complicated symptoms of child trauma reactions represent a distinct entity separate from PTSD or whether the symptoms are a form of C-PTSD that specifically develop from child maltreatment. Traumatized children often display impaired psychosocial development reflecting a compromised core sense of self and decreased ability to form trusting relationships. Given this severe constellation of symptoms, a new diagnosis termed Complex PTSD or Disorder of Extreme Stress Not Otherwise Specified (DESNOS; Herman, 1992; Briere, 1997) has been proposed as an alternate Axis II personality disorder diagnosis (Ford, 1999; Herman, 1992). Further research is needed in this area, as preliminary field trial subjects with DESNOS also met criteria for classic PTSD (Herman, 1992; Kinzie, 2001; see Ford, 1999 for review of DESNOS research). Despite the limitations of DSM description of C-PTSD, clinical research over the past decade has provided a multidimensional view of the distinctions between classical (adult) PTSD and C-PTSD, including risk and protective factors.

Symptoms of PTSD in Children

The changes in stressor definition that occurred in DSM-IV Criterion A (APA, 1994, p. 424) reflect the controversy that has accompanied this definition, particularly in relation to C-PTSD. Exposure to a life-threatening event (either as victim or witness) is certainly a strong risk factor for a traumatic stress reaction. However, differences in the symptom manifestation of children versus adults vary with child-specific and stressor-specific variables (Famularo, Kinscherff, & Fenton, 1990; Perry, Pollard, Blakley, Baker, & Vigilante, 1995). For instance, children have less amnesia for details of a traumatic event than adults. Additionally, chronic physical and sexual abuse in childhood can result in severe psychopathology and interference with development that
does not parallel the classic, adult-onset, PTSD symptom trajectory (Amaya-Jackson & March, 1995). Studies by Perry and colleagues (1995; 1998; 2002) have suggested that internalization of a fear response in a mature brain results in a state memory (e.g., combat-related PTSD) whereas, in the developing brain, states organize the emerging neural systems that result in traits. In other words, experiences (including traumatic events) determine the functional capacity of the mature brain and can alter normal developmental trajectories such as brain structure, physiological hyperarousal, and memory function (Perry et al., 1995).

Studies of cognition suggest that unlike adults with PTSD, neuroimaging of children with PTSD have shown diffuse central nervous system effects (i.e., smaller cerebral volumes and corpus callosum areas; DeBellis, Keshavan, Clark, Casey, Giedd, Boring, Frustaci, & Ryan, 1999; Perry, 2002). Researchers studying neuroendocrine system functioning (HPA axis) have reported that adults with PTSD exhibit decreased levels of circulating cortisol (Kellner, Baker, & Yehuda, 1997; Yehuda, Southwick, Nussbaum, Wahby, Giller, & Mason, 1990; Yehuda, 2000). Neuroendocrine studies of youths with PTSD suggest that young people exhibit chronic hyperactivity of the HPA axis including increased levels of cortisol (Cicchetti & Rogosch, 2001; DeBellis et al., 1999; Hart, Gunnar, & Cicchetti, 1995).

The symptomatic and functional impairment of PTSD can manifest as chronic problems with relationships, regulation of self, and consciousness. PTSD symptoms are most often present in children and adults who have experienced extreme traumatization (e.g. child abuse) during critical developmental stages (e.g., infancy and childhood; Briere, 1997; Ford & Kidd, 1998; Herman, 1992). Studies indicate that victims of
prolonged abuse can develop personality changes such as profound depression, distortions of relatedness and identity, pathological dissociation, affect dysregulation, somatization, and fundamentally altered beliefs about self and relationships (Ford, 1999). Also, research has shown significant incidence of steady-state neurochemical changes that keep a trauma survivor on alert (e.g., hypervigilance or increased agitation; Perry, 1999; van der Kolk, 2001; van der Kolk, van der Hart, & Marmar, 1996), which can contribute to relationship problems and vulnerability to repeated harm, either self-inflicted or from others (Davis & Siegel, 2000; Herman, 1992).

Comorbidity

Traumatized children that develop PTSD commonly exhibit symptoms that overlap with other disorders (Famularo, Kinscherff, & Fenton, 1992; Kiser et al., 1991; March, 1999; McClosky & Walker, 2000; McLeer, Callaghan, Henry, & Wallen, 1994; Saigh, Yasik, Sack, & Koplewicz, 1999). Because of the complexity of PTSD symptoms across several developmental domains, assessment of C-PTSD should include a systematic search for accompanying comorbidities. Internalizing and externalizing behaviors are common with this population and comorbid disorders such as attention deficit hyperactivity disorder (ADHD), oppositional defiant disorder, conduct disorder, and enuresis are often present (Famularo, Fenton, Kinscherff, Ayoub, & Barnum, 1994; Fletcher, 1996; McLeer, Dixon, Henry, Ruggerio, Escovitz, Niedda, & Scholle, 1998; McNally, 1996). Some data suggest that boys are more likely to exhibit externalizing reactions to trauma, even conduct problems, whereas girls are more likely to exhibit internalizing responses (Green, Grace, & Vary, 1994; Rothe, Lewis, Castillo-Matos,
Martinez, Busquets, & Martinez, 2002; Shaw, 2000; Terr, 1991). Results, however, are mixed and more research is needed.

**Anxiety.** Anxiety symptoms are commonly comorbid with C-PTSD among maltreated children, in particular separation anxiety, trait anxiety, phobias, and panic (McLeer, et al., 1998; Wolfe, Gentile, & Wolfe, 1989; Wolfe, Sas, & Wekerle, 1994). This is not surprising given that PTSD is classified in DSM-IV as an anxiety disorder with similar hypothesized predispositions for reactions to stress (Jones & Barlow, 1990; Perry, 1994). Also, children and adolescents with anxiety disorders often experience substantial biological and psychological vulnerabilities such as apprehensiveness, a sense of lack of control or unpredictability, and hyperarousal to stressors (Malcarne & Hansdottir, 2001). As previously noted, traumatized youth exhibit elevations in stress hormones (e.g., cortisol; Cicchetti & Rogosch, 2001; DeBellis, et al., 1999; Hart et al., 1995) and often exhibit hyperarousal or increased agitation (Perry, 1999; van der Kolk, 2001; van der Kolk, et al., 1996), which have also been implicated in youth with anxiety disorders. Clearly overlap is present between anxiety and PTSD, but it is unclear whether trauma exposure contributes to or triggers the development of anxiety disorders. Another consideration is that youth predisposed to anxiety are more likely to become traumatized by stressful events.

**Depression.** Many researchers have reported that children diagnosed with PTSD frequently demonstrate major depression and dysthymia (Famularo, Fenton, Kinscherff, & Augustyn, 1996; Jones & Barlow, 1990; Trowell, Kolvin, Weeramanthri, Sadowski, Berelowitz, Glasser & Leitch, 2002; Wolfe et al., 1994). McLeer et al., (1998) reported rates of comorbid depression and dysthymia at 14% and 10% respectively, while other
studies have reported similar rates for comorbid affective disorders ranging from 12 -
17% (Dykman, McPherson, Ackerman, Newton, Mooney, Wherry, & Chaffin, 1997;
Famularo et al., 1992; McLeer et al., 1998; Merry & Andrews, 1994; Trowell & Kolvin,
1999; Wolfe & McEachran, 1997). Youths with major depression and/or dysthymia
often experience substantial biological and psychological vulnerabilities such as genetic
predispositions, negative affect, learned helplessness, misattributions, family problems,
and lack of social support (Garber & Flynn, 2001).

Linning and Kearney (2004) found a predominance of dysthymia among
maltreated youth with PTSD in shelter care. Results indicated that 43% of the children
met criteria for dysthymia and 35% met criteria for major depressive disorder, which
may suggest a personality pattern predisposing these youth to develop PTSD after
traumatic maltreatment. For example, low-grade, long-term, personality-based
depression (e.g. dysthymia) may have a priming effect toward the subsequent
development of PTSD following trauma. Children with PTSD often report feelings that
include a sense of foreshortened future, that life will just be too hard, or that they will
never be whole again following a violation such as traumatic child maltreatment. These
feelings are consistent with children diagnosed with dysthymia and represent a more
negative overall perception of the world, rather than a more optimistic perception.

Psychotic disorders and dissociation. Famularo et al. (1996) noted that a
significant number of participants in their study additionally manifested symptoms of
brief psychotic disorder or psychotic disorder NOS. While psychotic states may be brief,
dissociation is commonly comorbid with PTSD. Dissociation can become part of an
individual's personality and coping style in the form of as dissociative states,
Dissociative Identity Disorder (formerly called Multiple Personality Disorder), or PTSD with psychotic features (Klein & Schermer, 2000; Terr, 1990). Researchers have posited that when affect becomes overwhelming, trauma victims may dissociate to segregate experiences that threaten aspects of self to create psychological distance.

Dissociation has been described as spacing out, dizziness, memory problems, emotional numbing, feeling like things are unreal, a feeling that the person has left their body and was observing themselves from a distance, or engaging in a physical or mental activity to distract themselves (Classen, Koopman, Neville-Manning, & Spiegel, 2001; Klein & Shermer, 2000). Dissociation can also be combined with other self-protective defense mechanisms such as denial, splitting of consciousness (a sense of being a hidden observer), projective identification, regression, and/or repression in an effort to banish painful memories from consciousness (Sandberg et al., 1999; Spiegel, 1993; Swica et al., 1996).

Early psychoanalytic theorists such as Janet and Kardiner understood that dissociative processes were fundamental to the trauma experience. Several researchers later identified emotional numbing (Feeny, Zoellner, Fitzgibbons, & Foa, 2000) and dissociation during or shortly after traumatic events to be significant risk factors in development of PTSD (Classen, Koopman, Hales, & Spiegel, 1998; Harvey & Bryant, 2002; McFarlane, 1986). Dissociation is a way of organizing disturbing information and can occur at the time of the event or after the event as a chronic consequence of traumatic exposure. Dissociation reflects a compartmentalization (Allen, 2001; Fonagy & Target, 1999; Holmes, 2001) of information that the individual is unable to integrate into her or his normal personality state. Saxe, van der Kolk, Hall, Schwartz, Chinman,
Hall, Lieberg, and Berkowitz (1993) found that 15% of psychiatric inpatients experience a dissociative disorder invariably connected to childhood histories of sexual abuse.

*Suicide.* An increase in suicidal ideation has also been noted (Famularo et al., 1996; Mullen, Martin, Anderson, Romans, & Herbson, 1996) among youth with C-PTSD whose functioning is complicated by the presence of comorbid psychiatric disorders. Examples include reality distortions associated with Psychotic Disorder NOS or dissociative disorders, impulsivity or low frustration thresholds associated with ADHD, or the sense of hopelessness and despair that accompany affective disorders. When functioning becomes overwhelmingly burdensome or hopeless, suicide may present as an only option for relief.

The deleterious effects caused by CM, particularly in children who develop PTSD, can last many years and negatively impact behavioral, social, emotional, and academic domains. Childhood experiences, including childhood trauma, have a neurodevelopmental impact on the developing brain that can reach far into adulthood, even defining the adult. According to Perry and Pollard (1998), "the mature organization and functional capabilities of (the) brain reflect aspects of the quantity, quality, and pattern of the somatosensory experiences of the first years of life" (p. 35). Because of the developmental deficits that can result from CM that results in PTSD, researchers and clinicians should identify variables that impact this trajectory and develop interventions and preventative measures to address the probable ruinous consequences. Significant literature exists concerning many of the precipitating factors, although a paucity of literature examines the prophylactic factors of PTSD development in children who have
been maltreated. Additionally, more literature is needed to identify empirically supported treatment methods for use with traumatized youth.

The need for further study of C-PTSD is highlighted by researchers who suggest that the DSM-IV framework is currently less than adequate, as it does not emphasize developmental differences and social contextual factors of the individual (e.g. DESNOS; Briere, 1997; Ford, 1999; Herman, 1992; March, 1999; Scheeringa, Zeanah, Drell, Larrieu, 1995). In addition, because 60-80% of females with borderline personality disorder (BPD) report a history of traumatizing childhood sexual abuse and display PTSD symptoms, some researchers have suggested that BPD represents a severe, chronic manifestation of PTSD (Goodwin, 1985; Herman & van der Kolk, 1987; Herman, Perry, van der Kolk, 1989). More research is needed to define PTSD in children more clearly. To understand the symptom trajectory and debilitating effects of C-PTSD, which can affect so many levels of a child's development, several etiological theories may be considered.
CHAPTER 2

REVIEW OF RELATED LITERATURE

Etiological Theories of Posttraumatic Stress Disorder

Psychodynamic Model

As early as 1922, Freud observed that traumatized persons repeat traumatic events and experience traumatic memories in recurring nightmares (Freud, 1922/1950). He explained the traumatic neuroses of his patients using an etiological model of posttraumatic symptoms. This model suggested that neuroses were due to stimuli from outside the individual, which were powerful enough to break through the protective shield of the mind, resulting in disturbance. Freud believed the breaking of the stimulus barrier (in the mind) disrupts the organism's functioning, but removal of the external stressor was expected to allow quick restoration of functioning. Freud acknowledged, however, that unmanageable stimuli could overpower the organism's coping mechanisms, leading to an overwhelming sense of helplessness. While feeling helpless, the organism regresses and resorts to primitive defenses and repetitive compensatory behaviors to gain mastery over the stressor-event through dreams, memories, and reenactments. Enduring posttraumatic symptoms were explained by Freud as current stress that revived infantile conflicts. Thus, enduring traumatic reactions were ascribed to the victim as premorbid characteristics rather than threatening external stressor characteristics.

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Sandor Ferenczi (1929) was a contemporary of Freud who elaborated on the effects of interpersonal violence and victimization of children. Ferenczi posited that a child who is sexually abused feels so helpless, vulnerable, and needing of affection that he or she develops identification with the aggressor to defend against the trauma of their victimization. The consideration of a child's response to victimization for the sexual gratification of an adult did not sit well with the psychoanalytic community of the time. This concept was considered too awful and embarrassing to consider in public (Saigh & Bremner, 1999; van der Kolk, Weisaeth, & van der Hart, 1996), resulting in a total absence of research concerning the traumatic experiences and responses of children until the latter part of the century.

While there was a lack of research concerning PTSD in children, evaluations of stress responses and models of trauma for war veterans and survivors of concentration camps received more attention through the 20th century. Abram Kardiner, who studied under Freud, began his career in 1923 treating traumatized U.S. war veterans. He developed a theory of psychological trauma called the "Traumatic Neuroses of War" (Kardiner, 1941), which included symptom descriptions of hysteria, malingering, and epileptiform disorders. Kardiner's description of traumatic neuroses detailed the vigilance for and sensitivity to threats in the environment, as well as behavior (e.g., exaggerated startle and nightmares) that manifested as if the original traumatic situation were still in existence. Many of Kardiner's concepts concerning traumatic stress continue to be incorporated into current models of PTSD.

During the period between World War II and the Vietnam conflict there was a lapse in research and treatment of adult traumatic stress. The 1970s brought renewed
recognition of the traumatic stress Vietnam War veterans were experiencing, spurring new vigor for research in this area. Finally, near the end of the 1970s, symptoms of traumatized women (e.g. rape trauma syndrome, Burgess & Holstrom, 1974) and children (Terr, 1979; 1983) were investigated.

**Stress-Response Syndrome**

Drawing from the early psychoanalytic theories of traumatic stress, Horowitz (1986) proposed a model of PTSD that continues in the psychodynamic arena, but adds cognitive and information processing components. Using the Stress-Response Syndrome, Horowitz described traumatized patients as "striving to metabolize their pathogenic memories through alternating phases of engagement (during which they work at assimilating and accommodating these memories) and withdrawal (an adaptive response to pain generated during the engagement phase)" (Young, 2000, p. 53).

In Horowitz's model of PTSD, an individual is unable to successfully integrate the traumatic event into existing cognitive schemata. Thus, the imposing schema changes that are required cannot be integrated quickly, and reflect normal stress response tendencies gone astray. The individual's coping mechanisms become overwhelmed by active memory representations of the traumatic event, leading to an inhibition of the regulatory system to allow more time for assimilation of traumatic information. Intrusive reexperiencing (e.g., flashbacks and nightmares) reflects an inhibitory response that is insufficiently strong. If the inhibitory responses are overly strong, an avoidance or numbing phase will occur to defend against or reduce intrusive thoughts. Thus, the individual is moved alternately through intrusion and avoidance phases as denial reduces anxiety and slows cognitive processes, resulting in intrusion when the denial defenses...
erode. Each phase can be disturbing to the victim and an attempt to correct one phase usually leads to activation of the other phase.

Horowitz also recognized the role of neurotransmitter systems (dopamine and norepinephrine), positing that the arousal systems become altered as a response to traumatic events, sending false alarms that signal the intrusion phase to activate. Horowitz implicated positive social support networks as a potential buffer against development of PTSD. If these cohesive support networks are not in place, pathological stress responses can decrease endurance, thus leading to PTSD symptomatology. Though some oversights are present in this model such as failure to incorporate control and coping perceptions and the differential development of PTSD symptoms in individuals exposed to the same stressor, Horowitz addresses development, maintenance, and delayed onset of symptoms fairly well. Young (2000) indicated that Horowitz' model contributed to the development of the original DSM-III diagnostic criteria for PTSD.

**Stress and Coping Theory**

Lazarus and colleagues developed the Stress and Coping Theory over the past 30 years. This theory posits that two processes are essential mediators of stressful encounters: cognitive appraisal and coping. **Cognitive appraisal** is defined as a process of personal evaluation to determine if a particular encounter will be beneficial and in what ways (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986). **Coping** is defined as a person's efforts to manage external and/or internal demands that are interpreted as exceeding one's available resources and endangering her or his well-being (Lazarus & Folkman, 1984). Coping requires cognitive and behavioral responses that are
constantly changing. The two primary functions of coping are to regulate stressful emotions (emotion-focused coping) and change the person-environment interactions that are causing distress (problem-focused coping; Folkman et al., 1986). Lazarus and colleagues further explained that coping is *process oriented* (focuses on what a person thinks and does in a specific situation), *contextual* (influenced by appraisal of the situational demands and available resources), and incorporates *immediate outcome* (judgment of how successfully the encounter was resolved). The Stress and Coping Theory particularly notes that encounters involving threats to self-esteem or other personal vulnerabilities are particularly difficult to successfully resolve and encounters appraised as unchangeable are more difficult to resolve favorably (Folkman et al., 1986).

Building from Lazarus and colleagues, a stress and coping model has been applied to evaluate the dynamics of marital discord and family dysfunction with respect to coping strategies used by maltreated children. As noted previously, research has established that child maltreatment places children at increased risk for developmental psychopathology. Cummings (1998) investigated the complex social processes of families and how the changing thoughts and actions of a child, the contextual perspectives, personal dispositions, family history, and age and sex of the child influence her or his ability to cope with stressful family environments.

Studies of coping in youth exposed to crime and violence found that effective (problem-focused or active coping) coping can serve as a protective factor against negative responses to stressful events such as crime and violence (Berman, Silverman, & Kurtines, 2000a; 2000b; Barker-Collo & Read, 2003). Exposure (as victim or witness) to crime and violence taxes a child's effective use of adaptive coping responses. When the
child's effective responses are overwhelmed, she or he may engage in maladaptive coping strategies such as self-blame, withdrawal, anger, blaming others, and avoidance. Teaching adaptive coping strategies in a therapeutic, exposure-based setting can provide youth with corrective information. During therapy, as youth relate their experiences, the therapist can help identify maladaptive coping skills previously used and suggest better ways of managing future events. In this way, coping skills enhancement can help youth improve coping strategies and reduce PTSD symptoms (Barker-Collo & Read, 2003; Berman et al., 2000a; 2000b; Vernberg & Johnston, 2001).

Exposure to crime and violence, as well as marital discord and child maltreatment has been found to act as a cause and a product of conflict within the larger family system (Cummings, 1987; 1998; Gelles, 1987). This negatively impacts parenting, parent/child attachments, and sibling relationships. Second, these stressful events spur a child to appraise the negativity, threat, and self-relevance to herself or himself while trying to sort out the people or reasons causing conflict. Additionally, the child must appraise the resources that will be needed to cope with the conflict, which can be subject to distortions of personalization and blaming self for the conflict. Third, rather than a secondary source of analysis (from the original Lazarus model), emotions have been observed as the primary source of children for analysis, monitoring, and coping in relation to family discord. For children, cognitions are used as a second line of analysis and are often influenced by distortions. Fourth, a child's perceptions of self-efficacy are essential for adjustment and rely on the extent to which they perceive emotional security/insecurity in the context of family or marital conflict. Thus, emotional insecurity
can predict greater distress and dysregulation of behavior in the face of stressful events (Bowlby, 1973; Cummings, 1998; Fonagy & Target, 1999).

Attachment Theory

Emotional security is the primary tenet in attachment theory. With roots in a psychodynamic perspective, which identifies the impact of early life experiences on later development and functioning, Bowlby proposed that early bonds and interactions of parents with their children resulted in either secure or insecure attachment relationships. Bowlby (1969, 1973) defined attachment behavior as proximity-seeking by a dependent organism (infant or child) when she or he feels discomfort, including hunger, pain, fear, soiling, or cold. The child seeks comfort from the caregiver with an expectation of relief, comfort, and restoration of equanimity (Bowlby, 1973). Bowlby's normative theory described these behaviors as biologically instinctual, resulting in the formation of close affectional bonds when the primary caregiver (usually mother) responds to the child's bids for response to her or his needs in a consistent, predictable, comforting way. The sensitive responsiveness of the caregiver can foster development of a special social relationship and becomes the context for learning emotional regulation (Sroufe, 1996). Additionally, based on the reciprocal experiences with the primary caregiver, the child develops internal working models or schemas of herself or himself and of others that helps her or him predict the behavior of others and make judgments about the world (Bowlby, 1969).

Attachment has been divided into four categories reflective of secure or insecure attachment. Secure attachment is characterized by a young child who readily explores the environment in the presence of the caregiver, becomes distressed and anxious when
separated from the caregiver, rapidly seeks contact upon reunion with the caregiver, and
easily becomes reassured by renewed contact and returns to exploration and play.

Anxious/Avoidant attachment is characterized by children who are less anxious during
separation, do not readily seek proximity and comfort on reunion, and show no
preference for caregivers or strangers. Anxious/Resistant attachment is characterized by a
young child who displays impoverished exploration and play, is highly distressed upon
separation from the caregiver, and has difficulty calming down upon reunion. The two
anxious groups are considered insecurely attached and display arousal and ambivalence
in their coping styles, appearing to over-control their affect because they are unsure what
the caregiver will do or how the caregiver will respond to bids for proximity and
comfort.

The child develops affect regulation when interacting with the caregiver, so her
or his coping and attachment strategies are reflective of the caregiver's behavior toward
her or him. Securely attached children have usually experienced well-coordinated,
positive interactions with a caregiver who demonstrates control of her or his own arousal
as well as behaviors to help the child manage her or his spontaneously disorganized
emotional reactions (Sroufe, 1996). Hence, even in stressful situations, a securely
attached child can remain fairly organized and manage arousal. Anxious/avoidant
children, however, are said to have repeated disappointments from caregivers who are
not able to manage their own arousal from personal and social pressures and who are not
consistently attentive to the child when she or he is distressed.

The Disorganized/Disoriented is a fourth type of attachment, characterized by
children who exhibit a range of seemingly undirected responses, suggestive of
disorientation and disorganization (Main & Solomon, 1990). Behavior of this group may include head-banging, handclapping, freezing, and a predominant wish to escape the situation even in the presence of the caregiver. The *Disorganized/Disoriented* type of attachment is believed to evolve when a caregiver has served as a source of both fear and reassurance. Thus, the child experiences strong conflicting motivations for attachment and develops incompatible working models of other and of self (Bowlby, 1988; Fonagy, 1997; Main & Hesse, 1992).

Fonagy (1997) elaborated Bowlby's (1988) idea of incompatible working models, linking it with disorganized attachment and dissociative disorders. Both disorders are commonly seen in maltreated children, particularly those who have been sexually abused. Dissociation can become a coping strategy to address fear and pain of the abuse, especially if the perpetrator is a family member. Also, dissociation can initially help manage two incompatible internal working models of, for example, a stepfather who maltreats in private but who behaves normally in the public family forum. Not only does the child develop discrepant working models of the abuser, but also views herself or himself in those two contexts. The resulting disruption and incoherent attachment strategy leads the victim to resort to an aspect of self as a pathological secure base in place of a caregiver. For example, a young person may resort to cutting on herself or himself as a way of numbing the void and confusion she or he feels without a secure caregiver attachment (Holmes, 2001).

For children who are maltreated, maladaptive, insecure behavior patterns are internalized, which can become a precursor to pathology (Holmes, 2001). Without the protective buffer of a secure attachment, the child is disadvantaged for developing a
reliable capacity for arousal modulation. In addition, the child does not develop confidence of having an available parent for help and comfort. On the other hand, a securely attached child is increasingly able to recognize and own the emotions experienced, to regulate and manage emotion, and to achieve an understanding of self and others. This process of emotion regulation and management fosters development of identity and autonomy (Fonagy & Target, 1999; Sroufe, 1996). Maltreated children who are insecurely attached may not develop these positive, functional characteristics and may have a reduced protective factor from elevated glucocorticoids that result from extreme stress. The set of distorted assumptions and chronic physiological arousal an abused child carries into adulthood can lead to disturbed relationships and depression or anxiety throughout life (Holmes, 2001).

Neurobiological Framework

Based on the animal model of inescapable and/or unavoidable shock, van der Kolk, Boyd, Krystal, and Greenburg (1984) proposed a biological model of the etiology of PTSD. They posited that neurotransmitter activity leads to behavioral changes in three significant ways. First, "exposure to inescapable shock increases norepinephrine turnover, increases plasma catacholamine levels, depletes brain norepinephrine, and increases 3-methoxy-4-hydroxophenylglycol (MHPG) production...In addition, brain dopamine and serotonin are decreased, and acetylcholine is increased" (p.126). These changes in neurotransmitter function are believed to result in exaggerated and chronic noradrenergic activity, giving rise to increased startle responses and aggressive behavior. Second, a conditioned reaction of endogenous opioids is described as providing a mediating or blunting of a stress-induced response after reexposure to inescapable shock,
providing the individual with an illusion of control. Third, in response to the invoked opioid responses, the victim becomes addicted to the trauma (van der Kolk, et al., 1984), voluntarily placing himself or herself in situations reminiscent of the original traumatic event in an attempt to replay and better understand the event (Herman, 1992; van der Kolk, 1989). Subsequent research supports the role of neurotransmitters in development and maintenance of PTSD (Drugan, 1999; Perry, 2002; Southwick, Krystal, & Bremner, 1997). However, the original van der Kolk model was seen as simplistic and failed to account for the delayed onset of symptoms that some victims experience.

Another neurobiological model that implicates the role of neurochemical activity following traumatic events was proposed by Kolb (1987). This model suggests that, in addition to changes in neurotransmitter activity, neuronal pathways may change, which have particular implications for children. Kolb posits that because children do not have fully developed neuronal pathways, they are less able to accommodate the neurochemical reactions to traumatization. Consequently, even if symptoms from the original trauma or disorder remit, permanent changes may have occurred that render the individual vulnerable to disordered arousal and affect (Kolb, 1987; McFarlane & Yeduha, 1996).

Elaboration of the neurobiological framework of PTSD in children was proposed by Perry (1994). Following the work of van der Kolk et al., (1984), Kolb (1987), and others, this model suggested that prolonged alarm reactions create abnormal patterns in catecholamine activity, resulting in altered development of the central nervous system. Consequently, dysregulation of the cardiovascular system, behavioral impulsivity, and affective lability can develop with sleep abnormalities, anxiety, and increased startle.
responses. Perry further projected that C-PTSD can be considered a developmental disorder as it renders a child's developing brain vulnerable to abnormal neurotransmitter and hormone transmission.

After reviewing the psychobiological literature, several researchers (Kaplan, Pelcovitz, & Labruna, 1999; Pynoos, Steinberg, & Piacentini, 1999) provided support for Perry's model. They concluded that child maltreatment, particularly when chronic and traumatic, can be implicated in decreased hippocampal size, memory impairment, frontotemporal and anterior brain electrophysiological abnormalities, altered brain development, delayed growth, impaired sleep, and significantly lowered pain threshold levels.

Behavioral Model

Kirkpatrick, Veronen and Best (1985) used an elaboration of Mowrer's Two-Factor Conditioning Model (1939) to posit a dual conditioning learning theory model of PTSD. They defined PTSD as a stimulus-driven anxiety disorder influenced by classical and instrumental conditioning. Stressor events (unconditioned stimulus) are said to elicit extreme fear and the perception of helplessness (unconditioned response) in the child. Traumatic reminders of the event (conditioned stimulus) are formed through the cognitive, affective, physiological and environmental cues that are present during the traumatic event. These reminders can then become a conditioned response through stimulus generalization, manifesting in the form of PTSD symptoms. Stimulus generalization is also fostered by the trial and error of the child's attempts to reduce PTSD symptoms by way of cognitive and behavioral avoidance or anxiety-reducing rituals. In a separate but parallel study, Keane and colleagues (1985) found very similar
results and elaborated on an etiological model for PTSD as well as a rationale for the efficacy of flooding with traumatized adults.

Cognitive-Behavioral Model

The cognitive-behavioral perspective, as defined by Foa and Kozak (1986), recognized that an individual's response to trauma is influenced by perceived (subjective) and actual (objective) threat. This model, called the emotional processing theory, posits that traumatized people develop fear structures that become conditioned through the pairing of the event and the trauma symptomatology. Internal and external cues reminiscent of the initial traumatic event activate the fear structures by way of verbal, somatic, and behavioral mediums. The combination of these reminiscent cues can thus determine a person's meaning of whether a new event is also traumatic. For example, a child whose mother yelled loudly during physically abusive events may experience hyperarousal and fear in a public place when she hears someone shouting near her. As basic beliefs become questioned after a stressful event (e.g., a rape victim who loses her sense of the world as safe and just), alterations in meaning influence whether the event is considered traumatic. Thus, in emotional processing theory, persistent PTSD is attributed to transformed representations of self and the world, assigning danger as the default interpretation.

Davidson and Foa (1993) revised this theory to include a severity threshold. They posited that certain extreme traumatic events are above the severity threshold, thus inducing PTSD in most individuals who experience them. Lower magnitude stressors (below the severity threshold), considered minimally stressful to most people, may have
an additive effect, given a certain combination of trauma severity and predisposition. Development of PTSD is thus mediated by internal and external variables.

Foa and Rothbaum (1998) later outlined six mechanisms that further define mediation of PTSD, which they believe can foster improvement of PTSD symptoms. First, repeated imaginal reexperiencing of the trauma can promote habituation to the memory and reduce anxiety. Second, as the person deliberately confronts the trauma memory they stop negative reinforcement of avoidance behaviors. Third, reliving the trauma in a therapeutic environment allows the therapist to dispel cognitively the myth that remembering can be dangerous. Fourth, prolonged exposure allows the patient to differentiate between the traumatic event and subsequent nontraumatic events, which challenges the distortions of an unsafe world and an ineffective self. Fifth, imaginal exposure and management of symptoms provides opportunity for mastery and courage to develop. Sixth, prolonged imaginal exposure to traumatic event allows the opportunity to dispel other cognitive distortions about the event and about self-efficacy and self-worth.

Jones and Barlow (1990) offered a heuristic for PTSD development based on elementary components of anxiety in behavioral, cognitive, and physiological response systems. This model combines data available from diverse research, suggesting that PTSD develops out of complex interactions between psychological and biological predispositions, exposure to a stressful event and accompanying internal alarms, anxiety, and the coping strategies and social supports available to an individual. Jones and Barlow (1990) further explained the anxiety connection, illustrating the phenomenological similarities between Panic Disorder (PD) and PTSD such as the presence of anxiety symptoms, discrete fear responses in the form of emotional alarms,
and linking of alarms to various internal and external stimuli. Both disorders also have the common feature of avoidance of affect-related stimuli, which elicit alarms such as flashbacks or panic attacks. Thus, the combination of traumatic events and emotional alarms (true or false), coupled with chronic emotional anxiety or distress, and accompanying distortions of information processing, present an individual with sufficient symptoms for a disorder. Additionally, the experienced anxiety is focused on anxious apprehension of reexperiencing the intense affect that occurs with alarms. Thus, hypervigilence and narrowed attention actually ensure reexperiencing of emotion-laden material and help to maintain trauma symptoms.

Dual Representation Theory

Evolving from both the cognitive and neuroscience arenas is the Dual Representation Theory of PTSD (Brewin, Dalgleish, & Joseph, 1996). This theory posits "distinct types of memory that have different neural bases, behave in different ways, account for different kinds of symptoms, and respond to different kinds of treatment" (Brewin, 2001, p. 373). Brewin and colleagues (1996) proposed that memories of traumatic events are stored in one of two representational formats: verbally accessible memory or VAM, and situationally accessible memory or SAM. VAM memories support regular autobiographical memories and can be edited and can interact with the knowledge base of autobiographical memories. SAM memories support specific trauma-related reexperiencing of traumatic events such as dreams or flashbacks. Dual Representation Theory explains that SAM memories include information from extensive, lower level visuospatial information that has received limited conscious processing. For example, a particular smell may elicit a terrifying flashback of the
traumatic event. Additionally, SAM memories include information concerning the person's autonomic and motoric responses to the traumatic event. Thus, SAM memories are elaborate, affect-laden memories that do not necessarily have verbal code attached that can be communicated to others or allow the memories to be cognitively processed in relation to other autobiographic knowledge. SAM memories can be difficult to control as various random stimuli from the environment can trigger reminders of the traumatic event.

Early research on the Dual Representation Theory (Hellawell & Brewin, 2002; Grey, Holmes & Brewin, 2000; Pellemer, 1998) indicated that narrative written while a person was experiencing a flashback contained more use of perceptual words (e.g., see, red) and more reference to fear, horror, and helplessness than non-flashback memories. Also, subjects' narratives during flashbacks contained more present tense statements, whereas ordinary memories included secondary emotions such as guilt and anger. In addition, subjects experienced more interference with a concurrent visuo-spatial task while experiencing a flashback (Brewin, 2001; Hellawell & Brewin, 2002; Grey, Holmes & Brewin, 2000; Pellemer, 1998). These early findings support recent advances in cognitive neuroscience concerning the neural bases of memory of fear. In addition to understanding the neuroscience behind the development and maintenance of PTSD, therapists need to understand the prophylactic and precipitating factors that contribute to PTSD.

Risk and Protective Factors of Posttraumatic Stress Disorder

The impending question confronting PTSD researchers surrounds why only some survivors of traumatic events develop PTSD while others do not. While the interplay of a
complex matrix of biological, social, psychological and temperamental factors
determines expression of symptoms and adaptive ability, certain factors contribute more
to vulnerability and other factors to resilience. Ultimately, resilience and the ability to
tolerate some symptoms may be relevant determinants of long-term adaptation
(Vernberg & Johnston, 2001; Rind, Tromovitch, & Bauserman, 1998)

Challenges are associated with the discovery, disclosure, validation, and study of
physical and sexual abuse of children, as many of these traumatic events occur in secret.
Additionally, children often have a hard time verbalizing or relating their experiences
due to the private and specific fears that may develop concerning aspects of the abuse.
Language deficits due to a child’s young age may also interfere with communication
about the trauma (Wekerle & Wolfe, 1996). Recent development of diagnostic measures
for PTSD--appropriate for use with children and adolescents--have helped clinicians and
researchers isolate factors that moderate and mediate the impact and reactions children
experience as a result of child maltreatment. Many of these variables have a bi-
directional influence on PTSD development in a maltreated child (Amaya-Jackson &

Demographic Variables

Gender. Several researchers have found differences in gender among traumatized
children. Statistics indicate that girls are more likely to experience trauma and are more
likely to report their victimization. These statistics may suggest that girls are at higher
risk for developing PTSD (Breslau, Davis, Andreski, & Peterson, 1991; Davis & Siegel,
2000; Wolfe & Mosk, 1983; Wolfe, Sas, & Wekerle, 1994). However, other studies have
suggested that, while a slight increase is reported in sexual victimization of girls,
physical maltreatment was reported with approximately equal frequency in boys and girls (Fitzpatrick & Boldizar, 1993; Powers, Eckenrode, & Jaklitsch, 1990). Kiser, Ackerman, Brown, Edwards, McColgan, Puch, and Pruitt (1988) described a gender difference in reactions to stress, as girls were more likely to exhibit internalizing behaviors and boys more likely to exhibit externalizing behaviors following traumatization (Jaffe, Wolfe, Wilson, & Zak, 1986).

**Age.** Statistics concerning age suggest that elementary age children and older are at increased risk for PTSD versus younger children, but differences may have more to do with the child’s level of development. Studies of refugee children in the United Kingdom exposed to the traumas of war (including physical and sexual maltreatment) indicate that young children may be protected from traumatic events due to cognitive immaturity, particularly if they are shielded by their parents (Hodes, 2000). Wolfe, Sas, and Wekerle (1994) found higher rates of PTSD among sexual abuse victims above the age of 12 years than younger children. In contrast, nonsignificant differences in distribution by age of children with PTSD have been found in numerous studies (Fitzpatrick & Boldizar, 1993; Livingston, Lawson, & Jones, 1993; Nader, Pynoos, Fairbanks, & Frederick, 1990; Pynoos, Frederick, Nader, Arroyo, Steinberg, Eth, Nunez & Fairbanks, 1987).

**Ethnicity and Intelligence.** Studies of ethnicity have also yielded mixed results. LaGreca, Silverman, Vernberg, and Prinstein (1996) reported significantly higher rates of PTSD in Hispanic and black youth, whereas Shannon, Lonigan, Finch, and Taylor (1994) reported nonsignificant differences regarding race. While intelligence has been underreported in the literature, data suggest that higher intelligence may mitigate traumatic stress effects (Fletcher, 1996).
Socioeconomic Status. Socioeconomic status (SES) can be considered a risk factor for developing PTSD (Foy et al., 1996), as children from low SES families are more likely to experience interpersonal conflict and come from an abusive home environment (stress of their environment). Children from low SES environments are also more likely to witness or become a victim of community violence, which increases risk of PTSD (McClosky & Walker, 2000).

Severity and Duration of Abuse. Exposure severity and longer duration of child maltreatment are additional etiological variables that are consistently related to PTSD risk and severity. Kiser, Heston, Millsap and Pruitt (1991) suggested a positive relationship between PTSD and 1) severity of abuse and number of perpetrators in physical abuse, and 2) duration of abuse in sexual abuse. Length of time post-trauma has shown to have a negative relationship with PTSD symptoms indicating that, for many children, symptoms will decrease over time (Foy et al., 1996; Wolfe et al., 1994). However, waning of symptoms can be dependent on the type of abuse (e.g., less symptom reduction from sexual abuse). Results of a clinical study of women who experienced incest in childhood indicated that PTSD symptoms had been particularly pervasive and enduring in most subjects, even as long as 17 years following the trauma (Famularo et al., 1996).

Perpetrator Characteristics. One factor consistently supported as a risk factor for PTSD is violation of trust by a caregiver. PTSD is more common in children who were maltreated by parents or adult caregivers as compared to victimization by another child or a sibling (Browne & Finkelhor, 1986; McLeer, Deblinger, Atkings, Foa, & Ralphe, 1988). Sexual and/or physical maltreatment involve a betrayal of trust and physical
violence, which is often accompanied by coercion or deceit. The perpetrator's attempts to coerce, threaten, confuse or even console can interfere with a child's efforts to disclose the maltreatment. The unpredictability of the event, and a feeling that the event is beyond the victim's control, can change a child's global perception of the world. When previously safe or supportive people and places become associated with fear and danger, the world may be perceived as unsafe and unloving. As the child searches for meaning in this change, he or she may experience self-blame or guilt that they did not exercise enough control to stop the abuse, further hampering recovery from the trauma (Foa & Kozak, 1986; Foa, Steketee, & Rothbaum, 1989; Wolfe, Sas, & Wekerle, 1994; Vernberg & Johnston, 2001).

*Type I vs. Type II Trauma.* As explained earlier, type I trauma is an acute or single event-based trauma (e.g., natural disasters or car accidents), whereas type II trauma is chronic or ongoing (e.g., physical or sexual abuse). Although both types can result in PTSD symptoms, children exposed to type II trauma often experience a longer duration of symptoms and more character changes and severe overall problems (e.g., dissociation, eating disorders, social deficits, substance abuse; Davis & Siegel, 2000; Fletcher, 1996; Green, 1993; McClosky & Walker, 2000; Terr, 1991).

*Type of Exposure (experienced, witnessed, indirect exposure).* While research clearly shows that C-PTSD develops from experienced maltreatment and interpersonal violence, posttraumatic stress symptoms may also develop through indirect exposure from a near-miss experience. For example, a child who left the Chowchilla bus before it was kidnapped also developed PTSD symptoms (Terr, 1990). Contagion effects in the community, detailed media coverage, or retelling of the death or injury of a loved one by
family members can also precipitate or exacerbate PTSD symptoms in children (Amaya-Jackson & March, 1995).

**Multiple Forms of Abuse.** Children who were both a witness to violence and also a target of the same abusive event seem to carry the highest PTSD risk (Livingston et al., 1993; Pynoos & Nader, 1989). Witnessing abuse of mothers was significantly distressing and traumatic for very young children who were confused about the event and unable to process it (McNally, 1996; Pynoos & Nader, 1989). Particularly distressing was threatened loss of a loved one, likely due to the high dependency needs of childhood (McClosky & Walker, 2000).

McClosky and Walker (2000) also reported that children who were both a target and witness met PTSD criteria 100% of the time. Children who witnessed spouse abuse, and/or experienced child abuse are at increased risk for socioemotional, behavioral, and academic difficulties, including PTSD symptomatology (Trickett, 1998). Shipmann, Rossman, and West (1999) likewise supported previous findings that children exposed to multiple forms of maltreatment (including witnessing parental violence) are at increased risk for emotional dysregulation, PTSD development, and a decreased capacity to calm themselves when distressed. Clearly an increase of trauma develops when a child’s family is threatened or is threatening.

**Victim Characteristics**

**Affect Regulation.** Affect regulation has been defined as "the intra- and extraorganismic factors by which emotional arousal is redirected, controlled, modulated, and modified so that an individual can function adaptively in emotionally challenging situations" (Cicchetti & Toth, 1997, p. 325). Many maltreated children demonstrate
numerous deficits in their emotional-regulation abilities (e.g., more difficult to soothe or console, over-aroused and more aggressive, less securely attached), which suggests that those parent-child interactions may have been deficient. Maltreated children show distortions in their initial patterns of affect differentiation, by displaying excessive negative affect or blunted patterns of affect (Cicchetti, 1991; Cicchetti & Toth, 1997). These aberrant patterns of affect reveal problems in processing and modulating physiological arousal, which hinder ability to make rational assessments of stressful or ambiguous situations.

Physically abused children have been reported to manifest affect regulatory problems coping with inter-adult anger. Studies have shown that physically abused boys report more fear in response to angry adult behavior, which leads to greater emotional reactivity (Rieder & Cicchetti, 1989). Hypervigilance and aggression assimilation may start out as an adaptive, protective function signaling danger, though they become less adaptive when used with nonthreatening situations (Cicchetti & Toth, 1997).

*Secure attachment.* Early infant affect regulation experiences and interactions with the primary caregiver are critical in the development of secure attachment (Sroufe, 1996). To develop stable, secure attachments with the parent (or caregiver), parent-child dyadic interactions must be synchronized according to needs, as well as providing appropriate affective interchange as a partnership (Bowlby, 1969/1982). A secure attachment forms when an infant can predict a caregiver's responses to her or his bids for attention. In this way, an infant develops representational models of attachment figures, of themselves, and of themselves in relation to others. This parent-child exchange also
teaches about affect, cognitions, and expectations of future interactions, which become organized and applied to subsequent relationships (Bowlby, 1969/1982; Sroufe, 1996).

Studies of maltreated children indicate that more than two-thirds have insecure attachments (type A-avoidant, or type C-anxious resistant), while the other one-third have secure attachments (type B). These figures are directly opposite those of non-maltreated children (Ainsworth, Blehar, Waters, & Wall, 1978). Similar studies show that approximately 80% of maltreated children show disorganized attachments (atypical type D pattern), with the other 20% starting as securely attached but deteriorating into insecure attachments over time as maltreatment continues (Carlson, Cicchetti, Barnett, & Braunwald, 1989). Of particular concern with children who develop disorganized attachment is the devastating long-term impairment they can suffer. This psychological insult may lead to long-term psychobiological disorders such as PTSD and dissociative identity disorder (Cicchetti, 1991; van der Kolk, 1989).

**Resilience and hardiness.** Resilience and hardiness have recently received increased attention in the personality literature, particularly with respect to how personality can influence coping and integration of meaning for a traumatic experience. Williams (1999) defined psychobiological resilience as "the efficient blending of psychological, biological and environmental elements that permits human beings...to transit episodes of chaos necessarily associated with significant periods of stress and change successfully" (p. 105). Thus, resilience is not considered an exclusively internal characteristic, but rather an interactive process.

Similarly, hardiness is defined as a personality characterized by commitment, control, and challenge. "Commitment captures the authentic positive state of
caring... Control and challenge assess another major element of the authentic being: courage... recognizing hard facts, the personal belief that one is able to exert control over external and internal events, and attributing to stress the meaning of challenge" (Williams, 1999, p. 106). In essence, individuals with low hardness or low resilience are more likely to manifest higher symptoms of maladaptation, while hardy individuals are those who gain successful experience in coping with stressors. Such positive coping experiences thus lead to the acquisition of complex schematic networks that are able to process trauma. Positive coping also leads to more complex neuronal structures, developed from rich histories of learning, which allow better stimulus discrimination and better managed anxiety (Williams, 1999).

Temperament. Literature on resiliency also suggests a relationship between temperament and risk for PTSD. Several studies (Werner & Smith, 1980; Wertlieb, Weigel, Springer, and Feldstein, 1987; Wyman, Cowen, Work, & Parker, 1991) indicate that children whose temperament was characterized as easygoing, positive in mood, outgoing, and adaptable as infants are overall better able to adapt to stress. Children with "sensitive" nervous systems (e.g., increased sensitivity to loud noise, increased startle response; Dykman, et al., 1997) were more vulnerable to PTSD following abuse. Jones and Barlow (1990) further postulated that a genetic component may predispose an individual to diffuse stress responsivity, which manifests as chronic autonomic overarousal and noradrenergic lability. Research also suggests that children who are less consolable, have more difficult temperaments, or were more difficult infants may also have an increased risk for maladaptive coping and more vulnerability to developing PTSD after traumatic stress (Wertlieb et al., 1987; Wyman et al., 1991).
Locus of Control. The way a child comes to view her or his victimization, as well as personal characteristics and locus of control, can greatly influence her or his risk of PTSD. Lack of personal efficacy has been associated with chronic PTSD symptoms, suggesting that a child’s locus of control is instrumental in inducting and/or maintaining PTSD (Amaya-Jackson & March, 1995; March, 1999). A child with an external locus of control feels that she or he has no control over the environment, which can contribute to feelings of guilt concerning the abuse (Jones & Barlow, 1990).

Wolfe et al. (1994) studied child victims of sexual abuse, reporting that children with PTSD reported more abuse-related fears, anxiety, depression and feelings of guilt than children without PTSD. Children with PTSD were more likely to report self-blame and exhibited more externalizing behaviors than children without PTSD. Perceived threat and self-blame influence a child’s coping responses, and their development of a success-based orientation (e.g. degree of control). This orientation can thus be thwarted by maltreatment, particularly when the abuse takes place in a usually safe place, the perpetrator is an adult they know or trust, or when a child is violated within their usual (safe) environment and routines. Children whose feeling of safety has been violated are particularly vulnerable to attribution formation of self-blame and guilt (Kiser et al., 1991; Wolfe et al., 1994). The child's locus of control can be seen in the initial response to trauma, which contributes to the meaning they ascribe to the event and to themselves following the event.

Initial Trauma Reaction. Researchers have hypothesized that the immediate physiological reaction a child has to crisis is a crucial link to acute distress, which is shaped by concurrent mediating variables (precipitating or protective) from


psychological, biological and social domains (Foy, Osato, Houskamp, & Neumann, 1992; Foy, et al., 1996). Jones and Barlow (1990) suggested that some victims of PTSD may have a genetic predisposition to hyperarousal and a higher resting heart rate, as observed in those with panic disorder. Increased hyperarousal may exacerbate the child’s reactions to stress, increasing fear and helplessness, particularly when previously safe and supportive persons or places become associated with danger and fear.

Perceived control appears to be another important aspect of the initial response, as children who experience the use of threat or force are significantly more likely to meet PTSD criteria (Wolfe et al., 1994). Investigations of psychophysiological vulnerability suggests that lack of experience with control can contribute to feeling helpless and even change levels of various neurochemicals that have been correlated with PTSD symptoms, such as hyperarousal. Jones and Barlow (1990) suggested that a person’s coping strategy reflects their perceived control. They reported that non-avoidant or problem-focused coping strategies are used by people who feel they have some control in life, and are more adaptive in the long run than emotion-focused and avoidance strategies. Individuals who use emotion-focused and avoidant strategies may view their traumatic events as uncontrollable, which render them less amenable to problem-focused strategies. These studies also suggest that children with prior histories of emotional problems may be more vulnerable to long-term adjustment problems than children exposed to trauma that do not have such histories (Jones & Barlow, 1990; van der Kolk, 1989).

Several researchers have reported disturbances in memory and processing during the traumatic event, and indicate that a linear relationship exists between trauma
exposure and risk for C-PTSD (Foy et al., 1996; March, 1999; Pynoos & Nader, 1989; Saigh et al., 1999). Deficits in short-term memory and disturbances in dissociative memory can occur, particularly if physical coercion is used. Children may also omit moments of extreme life threat or duration from memory, or may distort proximity to minimize their life threat (March, 1999). These findings, in part, explain why some children develop PTSD following lower levels of traumatic exposure and others do not develop PTSD following severe trauma.

Coping Skills and Experience with Success. Though the initial response to a traumatic event can frame how a child ascribes meaning to the event, coping behaviors can also affect the meaning and the trajectory of symptoms the child experiences after maltreatment. Wertlieb et al. (1987) distinguished between children's coping behaviors that 1) focus on self, environment, or others, 2) serve to solve problems or manage emotions, and 3) engage one of the following: support-seeking, information-seeking, direct action, inhibition of action, or intrapsychic coping. Coping strategies/styles are thought to change depending on the developmental stage of the child, such as decreased use of self-calming behaviors at younger ages and decreased distraction and avoidance (e.g., read a book) at older ages. A decrease in anger use among girls occurs with age, but boys increase anger use from ages 10 to 12 years (Rossman, 1992).

More important to the moderation of the effects of trauma than the type of coping is successful coping. Effective coping relieves distress, allows the maintenance of self-worth feelings, sustains the ability to form reinforcing social contacts, and provides the capacity to meet task demands (Cummings, 1998; Chaffin, Wherry, & Dykman, 1997). However, success is dependent on coping efforts that match the circumstances of the
traumatic event and the resources available to the child (Lazarus & Folkman, 1984; Shalev, 1996). For example, passive surrender, acceptance, and cognitive reframing may be most appropriate when the situation is uncontrollable or inescapable, whereas seeking help or avoiding threatening situations may be most adaptive in other circumstances. Achieving individual coping goals results in decreased distress and an increased sense of control and mastery.

Conversely, when coping behavior is not available or is not effective, changes may be set in motion that creates vulnerability to disorders such as PTSD. Studies on the behavioral, biochemical, and pathological sequelae of inescapable stress in animals and humans have suggested that uncontrollable stress exposure can have debilitating effects. These include interference with subsequent learning (Maier & Seligman, 1976), immunosuppression (Laudenslager, Ryan, Drugan, Hyson, & Maier, 1983), opiate stress-induced analgesia (Drugan, Ader, & Maier, 1985), and gastric ulceration (Weiss, 1971). Researchers have also reported that many of the pathological effects of stress can be ameliorated when a person is allowed to alter the pattern, onset, duration, or intensity of stress by active escape behavior (coping; Maier & Seligman, 1976; Weiss, 1971), which fosters a feeling of experience with control and success.

Previous negative life events. Studies with adults have reported a correlation between negative life changes and increased traumatization (Ruch, Chandler, & Harter, 1980). Comparisons of adults that have experienced CSA only, rape in adulthood, CSA plus rape in adulthood, and no sexual trauma yielded PTSD diagnoses in all abuse categories. However, rates and severity of PTSD symptoms were significantly higher among victims of CSA and rape in adulthood (Maker, Kemmelmeier, & Peterson, 2001;
Similarly, researchers and policy advocates interested in understanding the effects of trauma and negative life events on children have examined areas such as domestic violence, child maltreatment, community violence, war, parental divorce, parental psychopathology, and substance abuse. In light of the breadth of areas involved, an ecological/transactional framework has proven useful for assessing how the convergence of these experiences can have a negative impact on a child's development.

Studies by Cicchetti, Toth, and Hennessy (1993) and Cicchetti and Toth (1997) have shown that culture, community, and family, combined with premorbid adaptation attained by a child, work together to influence child developmental outcomes. Over the course of development, vulnerability stressors such as divorce, chronic poverty, community violence, and unsupportive social networks can compromise competent and successful adaptation to stress and promote a pathological organization of developmental systems (biological, emotional, cognitive, linguistic, interpersonal, and representational). These studies also suggest that the immediate family context is vital in predicting how a child will cope with adversity. If a child's home environment has not sufficiently and positively contributed to effective coping and adaptation prior to a trauma, her or his ability to function adaptively will be compromised when faced with a traumatic event.

Family Characteristics

*Family functioning.* Developing close emotional relationships helps people anticipate and negotiate challenges, and provides protection against feelings of meaningless and helplessness. Children expect nurturance and protection from their families so when the family is not able to provide this protection, the child is left
vulnerable. Shipman et al. (1999) reported that several family factors predict PTSD development, including lower SES, high numbers of family stressors, poor maternal mental health, and neighborhood violence.

Maltreating families experience some or all of these risk factors, which lead to disruption in many aspects of family relationships. Maltreating parents are less interactive and nurturing with their children, and display more negative affect toward their children than nonmaltreating parents. Additionally, husbands and wives in maltreating families are less warm and supportive, less satisfied with their marriages, and more aggressive toward their spouses than parents in nonabusive families (Cummings, 1998). Overall, anger and conflict are pervasive in maltreating families which can exacerbate the experience of child maltreatment, and render a child less effective at coping with traumatic events (Cicchetti & Toth, 1997; Trickett & Susman, 1988).

Shipman et al. (1999) also indicated that children exposed to more than one type of family violence (e.g., child abuse, spouse abuse) exhibit more behavioral and socioemotional problems than their nonexposed peers. Children from violent families had significantly greater difficulty regulating their emotional experiences. These children also had poorer academic performance, suggesting that child maltreatment can interfere with cognitive development as well as socioemotional and behavioral regulation. Children from violent homes were at greater risk for other adaptational failures such as child psychopathology and poor peer relations (Famularo et al., 1990; Kiser et al., 1991; Shipman et al., 1999).

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Physical punishment. Another PTSD risk factor identified in the Shipman et al. (1999) study was greater frequency of physical punishment experienced by the father during childhood. The full ramifications of this factor are not clear, except that fathers who experienced more physical punishment were also more likely to use greater physical punishment with their own children. Parent psychopathology and a family history of psychiatric illness has also been reported as a significant risk factor for C-PTSD (Breslau & Davis, 1992; McFarlane, 1992).

Maternal adjustment. Research has identified the effects family functioning can have on a child’s risk for PTSD development. However, the mental health of mothers appears to be particularly predictive of a child’s adjustment following child maltreatment (Foy et al., 1996). Famularo et al. (1996) reported that 36% of children whose mothers had PTSD also met criteria for PTSD. Sexually abused children who were able to report and receive emotional support from their mother were less symptomatic than children who did not receive support. Conversely, children whose mothers reacted negatively to their report of abuse experienced more severe problems (Deblinger, Steer, & Lippmann, 1999).

Additional findings suggest that maternal level of depression is positively related to a child’s total PTSD symptoms. Maternal depression was also positively correlated with mother-reported increase in behavior problems of their children. Depressed mothers are less engaged and involved with their children, and use more forceful control strategies or avoid conflict with children by accommodating child demands (Cicchetti & Toth, 1997). Studies have not clearly determined whether depressed mothers are less available emotionally to their children, thus leading to increased child symptomatology,
or if depressed parents have less tolerance and energy, leading them to the perception that their child is more symptomatic. Research has also indicated that spouse abuse is correlated with decreased maternal availability and comforting of a child (Shipman et al., 1999). Additionally, a parent’s response to a shared trauma can be a strong mediating factor (positively or negatively) of the child’s PTSD symptom development (Foy et al., 1996).

**Parental reaction to report.** Deblinger and colleagues (1999) reported that emotional support from a non-offending adult, particularly if that adult is the mother, significantly reduced symptoms in sexually abused children. A mother’s willingness to believe her child’s report of abuse and provide comfort can also reduce symptom development. A mother’s willingness to believe her child can, however, be influenced by her relationship and dependence on the perpetrator, particularly if the perpetrator resides in the same home (Amaya-Jackson & March, 1995; Elliott & Briere, 1994).

**Support Networks**

**Family support.** A factor that has been identified as having both negative and positive relationships with C-PTSD development is support systems. From an examination of the effects of community violence, Richters and Martinez (1993b) reported that community violence was not specifically predictive of adaptational success or failure. Adaptation was most related to a child’s home environment, and rose sharply for children in safe and stable homes. Caregiver functioning can moderate negative life events, and is important for learning adaptation and coping skills. In general, a more cohesive, supportive, and functional family is more supportive and related to fewer symptoms in traumatized children.
Social support. In addition to the protective function stable families provide, a child's social network and school environment can provide protection from maladaptive reactions to trauma. Cicchetti, Toth, and Hennessy (1993) reported that maltreated children who were able to attain support at school had lower general adverse sequelae than children who did not attain social support from school. Thus, family support and social support from peers and school interactions can also serve a protective function. On the other hand, a more negative and dysfunctional family, along with poor social support, is related to greater likelihood of a child developing PTSD following traumatic maltreatment.

Summary of Risk and Protective PTSD Factors

Overall, results are mixed with respect to age, gender, ethnicity, and intelligence, but most studies have not found these variables to be significant markers of PTSD (Famularao et al., 1990; Fletcher, 1996; Foy et al., 1996; Wolfe et al., 1994). Socioeconomic status (SES), severity, and duration of abuse have interactive effects with perpetrator characteristics, suggesting that greater duration and severity of abuse is seen in lower SES environments and that violation of trust by a previously trusted perpetrator increases risk for C-PTSD. An additive effect is manifested by Type II (chronic) abuse as well as by multiple types of abuse. Individual characteristics of the child such as temperament, locus of control, affect regulation, initial trauma response, and experience with effective coping also interact to define the meaning and assimilation of the traumatic event, which can be negatively influenced by previous negative life events. In addition, family dysfunction, poor parenting practices and limited support networks can place a child at increased risk of maladaptive coping with traumatic abusive experiences.
Of particular protective importance is cohesive family functioning, secure attachment, nurturing parental reactions to reported abuse, positive parenting, psychological health of the parents, and a supportive social network. In essence, risk and vulnerability mechanisms do not cause ineffective adaptation, but are indicators of a complex template of mechanisms and processes that can affect or change the developmental course of C-PTSD. Thus, maladaptation and/or disorder are manifested in children who have developed a pathological organization of coping capacities and protective defenses over the course of their development. In light of severe trauma such as child maltreatment, when sufficient protective factors are missing, maladaptation leads to many debilitating symptoms, including PTSD.

Therapy Models

As noted above, many studies have documented the debilitating effects of trauma. In PTSD therapy, we do not treat trauma; we treat behaviors, emotions, and symptom clusters that are causing functional impairment. Therapy for PTSD has been provided by way of many different modalities, but treatment efficacy can only be evaluated through empirical research. As in other areas, research concerning assessment and treatment of youth has been slower to develop than research concerning adults with PTSD, though several studies have evaluated the effectiveness of therapies to ameliorate PTSD symptoms in young people (Foa, 2000; Chaffin & Hanson, 2000; Trickett, 1998; Trowell et al., 2002). The most dominantly used PTSD treatment method is Cognitive-Behavioral Therapy (CBT), often provided as individual therapy, which will be outlined below. Other therapy models that have demonstrated efficacy in reducing PTSD
symptoms will also be reviewed, including psychodynamic therapy, group therapy, family therapy, and psychopharmacology.

**Cognitive-Behavioral Models**

Cognitive-Behavioral Therapy (CBT) has a long tradition as the most widely used and most extensively studied treatment modality for PTSD in adults as well as youths. The key components of CBT can be viewed in terms of the response systems they target, namely cognitions, somatic responses, exposure arousal, and miscellaneous others. Many of the response systems overlap but sub groupings will be outlined separately for ease of understanding.

**Cognitive responses**

The cognitive theoretical perspective proposes that PTSD develops because a person is unable to cognitively process a traumatic experience sufficiently. Thus, PTSD symptoms are reduced through supportive processing of memory distortions, thinking distortions, and reminders of traumatic events. Further, cognitive theory posits that it is dysfunctional interpretation of a traumatic event, more than the event itself, which determines a person's emotional state or pathological emotions. PTSD research by Foa and colleagues (1986; 1989; 1993) and Brom, Kleber, and Defares (1989) identified pervasive distortions of thought structures in PTSD patients. For instance, common distortions included, 1) the world as indiscriminately dangerous, and 2) self-perceptions of inadequacy in relation to coping. Additionally, traumatic memories were found to be more disorganized than other memories and far more difficult to modify than non-traumatic memories. Cognitive therapy addresses these distorted thoughts and
disorganized memories, which can help a person restructure dysfunctional thoughts and alleviate pathological emotional responses (e.g., anxiety, depression).

Many of the commonly used components of cognitive therapy evolved from Lang's (1977) theory of fear as well as anxiety treatment proposed by Beck, Emery, and Greenberg (1985). In general, CBT includes: 1) identifying the dysfunctional thoughts; 2) gathering evidence to evaluate the validity of these thoughts and; 3) replacing erroneous or unhelpful cognitions with more accurate or more helpful thoughts. In relation to PTSD, distorted or dysfunctional thoughts may be specifically related to traumatic events, personal efficacy, and/or views of self or others. Three cognitive therapy components will be outlined in this paper, including restructuring of cognitive distortions, mindfulness, and boundary setting.

**Cognitive distortions.** Youths who develop PTSD often have difficulty processing or even believing that their traumatic events actually occurred. In the wake of ineffective or incomplete cognitive processing, cognitive distortions (or thinking errors) can develop that interfere with effective communication and effective problem solving. Restructuring of cognitive distortions is a method of identifying and challenging cognitive distortions to facilitate more reasonable thinking and communication. Ten cognitive distortions have been identified by Burns (1999), including jumping to conclusions, personalization, labeling, all-or-nothing thinking, overgeneralization, mental filter, disqualifying the positives, "should" statements, emotional reasoning, and magnification/minimization (see Appendix A). Burns' ten cognitive distortions were not identified in direct relation to PTSD, but address general negative thoughts that can foster development of fear, anxiety, worry, nervousness, and panic.
Many PTSD symptoms incorporate these same negative emotions, so restructuring distorted cognitions can also help minimize negative symptoms related to PTSD (Bryant & Panasetis, 2001; Chaffin & Hanson, 2000; Ehlers & Clark, 2000; Foa, Davidson, & Frances, 1999). For example, a youth with PTSD who frequently jumps to conclusions may interpret neutral cues as threatening. He may think other people are talking about him in a negative way or assume he can read the other person's mind. These assumptions can maintain hyperarousal, interfere with effective interpersonal relationships, and lead to a reduced social support network.

To identify dysfunctional thoughts, fear structures and fear memories must be activated. Once fear memories are activated, new information can be provided and incorporated into a new, more realistic memory structure, which can be better understood by the individual. Activation of the fear memory through repeated exposure and processing the dysfunctional or erroneous aspects of the memory helps to achieve habituation, resulting in less intense fear responses (see exposure below). In addition, reducing cognitive distortions can help a youth develop a more positive view of herself or himself, which also aids in healing (Chaffin & Hanson, 2000; March, Amaya-Jackson, Murray, & Schulte, 1998).

Mindfulness. Wise mind or mindfulness is a component of Dialectical Behavior Therapy (DBT; Linehan, 1995; Linehan, Armstrong, Suarez, Allmon, & Heard, 1991) developed particularly for chronically suicidal individuals diagnosed with Borderline Personality Disorder (BPD). Mindfulness helps patients become more keenly aware of their internal sensations and emotions, providing more opportunity for better self-regulation (Ogden & Minton, 2000). Mindfulness can also enhance self-identity and
ameliorate challenges associated with chronic feelings of emptiness, cognitive
disturbances, and impulsivity (Linehan, 1995; Ogden & Minton, 2000). Mindfulness
provides a conceptual framework for thinking about oneself as a more effective
problem-solver and decision-maker, which coordinates well with restructuring of
cognitive distortions.

The mindfulness aspect of DBT teaches individuals to recognize that people
commonly allow either emotional mind (emotional thinking) or reasonable mind
(logical, analytic thinking) to dominate their thinking and behavior. Youth are taught to
acknowledge both of these thinking styles and the utility they serve. For example,
emotions serve to warn us or prepare us, while logical thought helps in planful
consideration of consequences. Youths also learn that using a combination of emotional
mind and reasonable mind leads to more effective decision-making and choices that are
more wise (wise mind; Linehan et al., 1991; Linehan, 1995).

Mindfulness focuses on awareness of here-and-now experiences, without the
intention of changing that experience. This now-focus engages cognitive processing of
sensations, thoughts, and emotions in the present, helping to disconnect escalation of
trauma symptoms so the symptoms do not gain control (Linehan, 1995; Ogden &
Minton, 2000). For a patient with PTSD, recognizing the current environment and
current emotions she or he is experiencing can help them overcome or manage intrusive
thoughts, impulsivity, build distress tolerance, and improve interpersonal skills (Baer,
2003; Linehan, 1995; Ogden & Minton, 2000). For traumatized youth that act out (often
unconsciously) in response to their symptoms, mindfulness can help her or him
recognize and accept more responsibility and management for thoughts and behaviors.
Mindfulness skills are taught in generalities at the beginning of therapy, and are reinforced or brought to awareness during therapeutic interactions. For instance, a group therapy member may point out when someone is relating an experience in which emotional reasoning interfered with effective problem-solving. At that point, group members could help the individual identify more effective behaviors that could incorporate the analytical aspects of reasonable mind to make a more wise choice. As individuals begin using wise mind, they are better able to consider the need for setting self-protective boundaries in their lives.

**Boundary setting.** Positive cognitions and a sense of empowerment for change can be reinforced through boundary setting. Interpersonal boundaries are invisible barriers that help regulate the amount of contact one has with other people. Boundaries can provide protection by forming a physical or psychological limit or barrier from others (Chu, 1998). Boundaries for behavior exist in many social settings including family structures and school environments. Boundaries essentially set the “ground rules” or the limits of acceptability for various situations, including the use of language, nudity, touching, limits on forming relationships, and the development of interpersonal skills. Interpersonal boundaries can vary from rigid to diffuse, resulting in a variety of functional and dysfunctional interactions with others.

Boundaries that are rigid and overly restrictive limit contact with outside subsystems, which can result in disengagement (Minuchin, 1974; Nichols, 2001). Disengaged individuals are independent but isolated. While this type of boundary can foster autonomy, growth, and mastery, the resultant disengagement can also limit warmth, affection, and nurturing from others. Diffuse boundaries result in enmeshment
with the subsystem. For example, in a family subsystem, enmeshed parents are loving
and considerate and spend a lot of time with their children. If they do too much for their
children, however, children become dependent. The children are less comfortable by
themselves and may have difficulty interacting and relating to people outside the family
subsystems (Minuchin, 1974; Nichols, 2001; Schuster, Kruger, Hebenstreit, 1985).

Boundary setting often occurs in the context of family therapy, although it can
also be utilized working with groups of children or during individual therapy.
Boundaries are identified while children discuss their cognitive distortions and tell their
personal stories. Many traumatized youth have not had proper parental modeling of
appropriate boundaries and do not have the skills necessary to prevent future
victimization. So, establishment of boundaries must be taught and practiced in the safety
of the therapeutic relationship, which teaches youths how to become better problem-
solvers, more self-protective, and more proficient at self-care (Chu, 1998).

Somatic Responses

In addition to distorted cognitions and limited protective boundaries, a
traumatized person often experiences many somatic responses to trauma reminders.
When a person has a traumatic reminder of their event, their body automatically
responds as it does to any threat. The body activates the sympathetic nervous system,
which results in hyperarousal of heart rate, blood pressure, and respiration. Additionally,
stress hormones are released, which cause muscles to tense, activates hypervigilance, the
stomach may feel queasy, and sweat is released. "This hyperarousal creates a vicious
cycle: state-dependent memory retrieval causes increased access to traumatic memories
and involuntary intrusions of the trauma, which lead in turn to even more arousal” (van der Kolk, van der Hart, & Marmer, 1996, p. 305).

The arousal of the sympathetic nervous system prepares the body for *fight or flight* to protect the individual from impending threat. The power of frightening, intrusive thoughts, coupled with strong, automatic physiological responses, is very aversive to the victim. The resultant aversion and fear of these physiological responses can become so stressful that the victim often engages in avoidance of anything they think will activate these responses (Chaffin & Hanson, 2000; Famularo, Kinscherff, & Fenton, 1990). Avoidance can provide short-term relief, but can lead to longer-term problems such as ineffective problem-solving and poor stress management (Chaffin, Wherry & Dykman, 1997; Famularo, Kinscherff, & Fenton, 1990; Leitenberg, Greenwald, & Cado, 1992).

Teaching management of anxiety helps people recognize when they are becoming physiologically and psychologically aroused so they can manage these reactions with self-soothing and anxiety reduction techniques. Utilizing deep breathing, relaxation, and guided visual imagery can help a person develop greater coping skills and increase self-confidence as they achieve success controlling their own anxiety symptoms (Chaffin & Hanson, 2000; Foa, Rothbaum, Riggs, & Murdock, 1999; Frank, Anderson, Stewart, Dancu, Hughes, & West, 1988; Meadows & Foa, 2000).

General overarousal and extreme reactivity to traumatic reminders are common in youth with PTSD. Thus, anxiety management training (AMT) is essential to help a child manage these extreme reactions. AMT can be useful for managing PTSD-related insomnia, hyperarousal, somatization, and angry feelings (Deblinger & Heflin, 1996).
The therapist should help the young person identify which AMT methods are most effective for managing her or his own symptoms. It can also be helpful to guide youth in identification of situations when one AMT method may be more appropriate or effective than another method. For example, breathing exercises or progressive muscle relaxation may draw unwanted attention in a school setting, whereas visual imagery can be used in a more discreet manner.

For younger children, a single, simple image may encourage relaxation, such as acting like a wet noodle or rag doll. Proactive use of AMT can yield successful results for a young person in a short period of time (Chaffin & Hanson, 2000; Foa, et al., 1999; Frank, Anderson, Stewart, Dancu, Hughes, & West, 1988; Meadows & Foa, 2000). As youths experience this success, they can develop feelings of self-efficacy and control, which encourages further treatment progress.

*Deep diaphragmatic breathing.* Breathing can affect psychological and physiological states. Subtle shifts in breathing can cause hyperventilation, which expels carbon dioxide faster than the body can produce it. When carbon dioxide decreases, less oxygen is carried to the brain, heart, and extremities. In addition, blood acidity changes, which sensitizes the nerves. These physiological changes can result in anxiety symptoms such as panic attacks, muscle tension, migraines, and high blood pressure (Schiraldi, 2000). Conversely, deep diaphragmatic breathing can increase carbon dioxide and oxygen in the body and activate the parasympathetic nervous system, which returns the body to a calm, peaceful state of homeostasis (Schiraldi, 2000; Timmons & Ley, 1994). Teaching traumatized individuals to manage their physiological arousal can reduce aversive symptoms and increase her or his sense of self-efficacy, mastery, and control.
Progressive muscle relaxation. Developed in the 1920s by Dr. Edmond Jacobson, progressive muscle relaxation (PMR) is easy to use and positive effects can be felt quickly. PMR involves tensing and relaxing muscle groups throughout the body to release tension caused by tight, tense muscles. The function of physically tensing muscles promotes relaxation of those muscles and releases pent up energy, both of which can help a person achieve a more relaxed, calm state (Ogden & Minton, 2000; Schiraldi, 2000). Additionally, PMR focuses cognitions on the relaxation task, which interferes with anxiety and worry. Practice of PMR is encouraged between therapy sessions, and patients can benefit from a taped script for home use. PMR can also be effective for a person that has anxiety and anger management problems, which commonly co-occur with PTSD symptoms (Ogden & Minton, 2000; Schiraldi, 2000). To aid the relaxation process, relaxing thoughts can be achieved through imagery.

Visual imagery. Traumatic memories often contain powerful images that can be disturbing enough to affect mood, behavior, and health (e.g., suppressed immune system). Just as verbal statements can influence our thoughts, visual images can be even more powerful (Schiraldi, 2000). The purpose of imagery can be multifaceted. One use can be to create an image of a safe, peaceful place to visit. Relaxation is improved as the person creates an image of a safe, peaceful place to visit, which in turn competes for and can turn away traumatic memories. Safe place imagery can be used whenever a person feels stressed, overwhelmed, or unsafe (e.g., frightening situation, before an exam).

An individual can also use imagery to rescript a traumatic event, playing the event out in her or his mind with a successfully defended ending. Imagery rescripting (IR) integrates imagery, verbal processing, challenges dysfunctional trauma-related
beliefs, and uses schema-modification to reduce intrusive trauma symptoms. These techniques help the victim develop more effective coping strategies (Dancu, Foa, Hembree, Jaycox, Meadows, & Street, 1999; Dancu, Foa, Niederee, & Smucker, 1995). For example, a youth who was attacked in a park might visualize himself running fast enough to escape the perpetrator or yelling loud enough that help arrived in time to save him. The therapist provides a supportive coach-like role in IR, but the patient controls and directs image changes. This control gives her or him a feeling of empowerment through active, imaginative recreation of the fearful images, which produces change in affect, self-appraisal, and self-perception (Dancu, et al., 1999; Dancu, et al., 1995). These images can help the victim think of himself or herself as more efficacious and strong.

Exposure Responses

As mentioned with cognitive restructuring and imagery rescripting, exposure can elicit the traumatic memories to make them available for processing of the memories and the responses that accompany them. Eliciting exposure responses to traumatic reminders in a safe, therapeutic setting is an important element of trauma treatment. Youths need to have realistic experiences to practice management of anxiety and restructuring of cognitive distortions to gain a sense of self-efficacy and mastery over these trauma symptoms. Exposure therapy provides this opportunity utilizing various lengths of exposure including imaginal or in vivo flooding, systematic desensitization (SD), prolonged exposure (PE), and brief exposure. Exposure therapy has been effective with war veterans (Fairbank, Gross, & Keane, 1983), rape victims (Foa, 2000; Frank & Stewart, 1984), automobile accident victims (Muse, 1986), agoraphobia (Marks,
Boulougouris, & Marset, 1971), child sexual abuse (Deblinger & Heflin, 1996), and child physical and emotional abuse (Foy, Glynn, Schnurr, Jankowski, Wattenberg, Weiss, Marmar, & Gusman, 2000; Saigh, 1987). Prolonged exposure has demonstrated the greatest efficacy for trauma work with adults (Foa, 2000), and brief exposure is most indicated for trauma work with children and adolescents (Cohen, Berliner, March, 2000; Saigh, Yasik, Oberfield, & Inamdar, 1999).

**Imaginal and in vivo flooding.** Imaginal flooding provides exposure to the feared stimuli by thinking about it (e.g., traumatic memories), whereas in vivo flooding provides direct exposure to a feared stimuli (e.g., using a box to confront fear of small enclosed places). This exposure method starts with therapist-directed deep muscle relaxation, followed by 40 - 60 minutes of exposure (imaginal or in vivo) to the anxiety-provoking stimuli. During the exposure component, the patient gives *subjective units of disturbance* (SUDS; rating distress from 0 to 100) ratings to monitor and record anxiety responses during the procedure. Flooding directly targets the most feared stimuli and prolongs exposure until habituation (i.e., symptoms are no longer evoked by memories of the traumatic event) to the stimuli is achieved (Fairbank, Gross, & Keane, 1983; Saigh, et al., 1999). Flooding and systematic desensitization are similar but differ in degree of confrontation to the most feared stimuli.

**Systematic desensitization.** During systematic desensitization (SD; Wolpe, 1961) the therapist and client establish a fear hierarchy, identifying the most feared stimulus and several situations involving the feared stimulus. While in a relaxed state, the client imagines each one of the situations and moves through a desensitization sequence. Desensitization starts with exposure to the least distressing situation until habituation is
achieved. The exposure procedure continues for each situation until habituation is achieved for the most distressing situation. SUDS ratings are also used in SD to monitor anxiety reactions and to monitor progress. A variation of SD, called emotive imagery, can be used to help children by encouraging her or him to proceed through the exposure sequence with imagined support from a favorite superhero (Deblinger & Heflin, 1996).

Prolonged exposure. Prolonged exposure (PE) is commonly used for rape-related PTSD. PE was developed by Foa and colleagues (1986; 1991; Rothbaum & Foa, 1992), based on Lang's (1979) model of emotional processing of fear. Treatment involves activation of a fear memory so that new incompatible information can be introduced, thus forming new memories. The exposure component begins by asking the victim to recall the traumatic assault in detail and processing the event with the therapist at length, until the memory no longer evokes painful emotions. As in systematic desensitization, a hierarchical list is created of feared situations or stimuli that the victim avoids. Descriptions of the rape scene are repeated in successive sessions with more and more detail. The trauma narratives incorporate the list of hierarchically feared stimuli each session. Patients also engage in homework and in vivo tasks between sessions to augment therapeutic gains (Foa, et al., 1991). The therapist should monitor the patient's reactions outside of therapy to titrate the amount of exposure the patient can tolerate outside the supportive therapy session.

Brief exposure. Brief exposure (BE) therapy is most implicated in the treatment of traumatized children and utilizes a gradual process of exposure to traumatic memories. Like PE, brief exposure evokes feared stimuli but moves slower and more cautiously through the procedure to avoid retraumatizing the child. The procedure uses
imaginal imagery initially (e.g., the therapist tells an imaginal anxiety-provoking story),
with successive sessions consisting of the child giving narrative of her or his traumatic
experiences. In group therapy, group members take turns relating their own traumatic
experiences. While relating traumatic narrative, the youth practices using anxiety
management techniques to manage her or his symptoms, which lead to habituation (Foah & Kozak, 1986; Foy, et al., 2000). A great sense of mastery and self-appraisal can come
when the child realizes he or she survived telling their story. Many youth feel much
relief after the first narrative is given.

Other CBT Components

Psychoeducation. Psychoeducation is a method of providing education
concerning the conceptualization of PTSD and its symptoms. Psychoeducation can also
include discussion of the course of treatment (Vernberg & Johnston, 2001). Educating
youth and their parents concerning PTSD can demystify treatment and serves to
normalize trauma responses in an understandable, predictable, and treatable way.

Psychoeducation prepares the youth for treatment by providing a conceptual
and explanatory framework from which the child can understand fear, anxiety, and
related symptoms they may be experiencing since the traumatic event. This educational
process helps the child understand the nature and origin of their symptoms and make
sense of the traumatic event and its aftermath. One approach that has been used by
March Amaya-Jackson, Murry, and Schulte (1998) is to suggest that the child claim
PTSD symptoms as an enemy that can be successfully bossed or resisted. This metaphor
can then be used throughout the treatment process to help the youth develop a feeling of
empowerment and ability to control elements of their environment.
Journaling. Another cognitive-behavioral strategy for relieving traumatic stress reactions is to write about these experiences. Several studies have documented significant reductions of physician visits following trauma when the individuals wrote about their traumatic event (Greenberg & Stone, 1992; Greenberg, Stone, & Wortman, 1997; Niederhoffer & Pennebaker, 2002; Pennebaker & Beall, 1986). Additionally, studies have shown that writing about trauma has been associated with improved immune functions including enhancement in selected T-helper cell activity (Pennebaker, Kiecolt-Glaser, & Glaser, 1988), response to latent Epstein-Barr virus reactivation (Esterling, Antoni, & Fletcher, 1994), and Hepatitis B vaccination response (Petrie, Booth, Pennebaker, Davison, & Thomas, 1995). Journaling has also been shown to help with adjustment to college, resulting in improved grades (Pennebaker, Colder, & Sharp, 1990). A study of workers recently laid off from their jobs reported that journaling was correlated with securing a new job more quickly (Spera, Buhrfeind, & Pennebaker, 1994).

In general, long-term follow-up has shown that individuals who participated in journaling activities following traumatic events evaluated these experiences as valuable and meaningful. Participants indicated that the study caused them to think differently about the trauma and indicated that journaling was a profoundly powerful technique that influenced their objective and subjective well-being (Pennebaker, & Francis, 1996). Overall, negative processes of emotional inhibition, distorted cognitions, and negative personal views can be positively influenced by writing or talking about personal stressful events (Esterling, et al., 1994; Niederhoffer & Pennebaker, 2002; Pennebaker, &
Francis, 1996; Spera, Buhrfeind, & Pennebaker, 1994). Journaling, in essence, helps a person sort out and process the meaning of the traumatic event.

_Coping skills training._ Coping Skills Training (CST; Deblinger & Heflin, 1996) is a therapy model designed for children. CST incorporates many therapy components of CBT, adapted for the developmental level of young people. As previously noted children who have experienced traumatic maltreatment often engage in avoidance of trauma-related stimuli and numbing of emotions as a general response system. Avoidance may be effective short-term, as it can help a child manage a difficult situation and help reduce trauma-related distress. However, long-term avoidance can contribute to longer-range disturbance, including reactions through several different response systems (Deblinger & Heflin, 1996). Coping skills training provides skills to help youths cope with a wide array of emotions and symptoms from each response system. These coping skills include emotional expression, relaxation training, thought stopping, and cognitive coping skills (Deblinger & Heflin, 1996; Vernberg & Johnston, 2001).

To help youths acquire tolerance for examining trauma-related experiences and symptoms, young people need practice using effective, problem-solving coping skills within a supportive therapy environment. Research indicates that trauma recovery requires exposure to trauma-related memories and identification of trauma reminders, so learning to tolerate the discomfort of remembering is important to promote necessary cognitive processing of the traumatic material (Deblinger & Heflin, 1996; Vernberg & Johnston, 2001). In addition, learning to be more approach-oriented rather than avoidant-oriented can help youths progress more quickly and effectively through trauma recovery. In this way, coping skills training helps a child learn skills that will allow her or him to
focus on talking and communicating about trauma-related issues without becoming overwhelmed, angry, or avoidant (Deblinger & Heflin, 1996; Kendall, 2000).

As young people experience success controlling their reactions and symptoms while talking about trauma reminders, they dispel feelings of powerlessness that may have become a part of their self-identity since the traumatic events. As the youth gains control over PTSD symptoms, she or he becomes able to restore adaptive control-related beliefs and get a better sense of self-efficacy (Kendall, 2000; Vernberg & Johnston, 2001).

Learning and practicing new coping strategies should be done within the safe and supportive environment of therapy. In session, youths can be given opportunities for arousal to occur through exposure to traumatic reminders, while practicing use of new coping skills. Examples include 1) remaining calm while talking about trauma, 2) expressing emotions accurately and appropriately, and 3) using positive strategies (e.g., self-talk, thought stopping, relaxation techniques) to manage arousal within tolerable limits. Young people learning new coping skills may experience failure in daily life if they do not have a support system to encourage continued practice. Thus, practicing coping skills within the supportive therapeutic relationship can foster success, confidence, and mastery so they can use their new skills effectively in daily life.

*Psychodynamic Therapy*

Trauma-focused psychodynamic therapy for PTSD also pursues the goal of exploring the personal meaning of the traumatic event. In trauma processing, special attention is given to the impact on the victim's views of self and views of others, and defense mechanisms being used to avoid thinking about painful memories. In many
respects, psychodynamic therapy is similar to other major treatment modalities in its use of education about common responses to trauma, encouragement to verbalize or write about the experience, and processing of debilitating themes such as helplessness, rage, guilt, failure, and feeling damaged. What can be viewed as unique about psychodynamic therapy is specifically tailoring therapy to the unique presentation of trauma each patient presents. This process incorporates a balance of supportive and interpretive interventions during reconstruction of the trauma narrative and exploration of trauma implications (Marshall, Yehuda, & Bone, 2000).

Contemporary psychodynamic theory provides multiple theoretical perspectives concerning trauma. Perspectives such as object relations theory, drive theory, self-psychology, and interpersonal theory focus on slightly different processes and constructs. However, in general, all hold the premise that "many problems are due to repetitions of unfulfilled or unresolved strivings and conflicts rooted in earlier phases of development, particularly in relation to caretakers. Experiences of disappointment, neglect, or overt trauma are often seen as the reason for such fixation" (Marshall, Yehuda, & Bone, 2000, p. 353). In addition, psychodynamic therapy is based on the idea that when PTSD develops, emotional and cognitive processing of the trauma has become inhibited by unconscious and conscious mechanisms, which interfere with effective coping and healing. The treatment goals include eliciting or exposing the meanings of these mechanisms, challenging them, and helping the patient achieve resolution of the conflict they are experiencing in regards to the trauma (Marshall, Yehuda, & Bone, 2000). Psychodynamic therapy has predominantly been used with adults but has also
been used with traumatized youth individually and in group format (Glass & Thompson, 2000; Mellin & Beamish, 2002; Yalom, 1995).

**Group Therapy**

Group interactions are common and familiar to people as we spend a large part of our lives interacting in various groups (e.g. families, school, work, and social events). As Dwivedi (1993) stated, "Since most human problems arise in the setting of group life, many can be solved in a group setting" (p.4). As quoted here, group therapy has long been recognized as an effective method for treating psychopathology, and treatment of PTSD is no exception (Glass & Thompson, 2000; Yalom, 1995). Lomonaco and colleagues (1998) described the virtual explosion that has taken place over the past decade using group therapy as a cost-effective, time-limited, efficacious method of treating psychopathology in children and adolescents.

The benefits of a group therapy format are many. First, children are usually social beings that like to be included in groups of children. Also, as the number of children in a group is usually greater than the number of group facilitators, it can feel less threatening to the youth than a one-on-one individual therapy session. Second, group sessions lend themselves well to varied activities, therapeutic procedures, and games that often would not be possible in individual or family sessions.

Third, group therapy provides peer support and peer influence which is often sorely missing for children who have been traumatized. As children with PTSD interact with other traumatized children, they provide validation for each other, understanding of commonly experienced symptoms, fears, and pain, and essential social support that can foster cognitive processing and healing. Also, hearing the stories and discussion of other
children can trigger thoughts and ideas perhaps better than a one-on-one child/adult interaction. Fourth, group therapy can provide a format and structure that is predictable and dependable, thus reassuring a child of constancy and consistency in a world that seems chaotic and out of control. Finally, in an age of managed health care and financial cutbacks, group therapy offers a cost-effective treatment (Berman, Silverman, & Kurtines, 2000b; Glass & Thompson, 2000; Resick & Schnicke, 1992).

Family Therapy

Structural family therapy is a type of group therapy that focuses on the interlocking relationships within a family and how the relationships influence each family member. Three essential components of family therapy include identification of the structure, the subsystems, and boundaries within the family unit (Nichols, 2001). Whether trauma occurs to one individual (e.g. sexual abuse) or the whole family (e.g. a house fire), the traumatic event can affect each member of the family as well as the interactions among family members.

Predictable patterns or sequences of interactions identify the structure of a family. Establishing enduring patterns of behavior within a family unit enables roles to be defined and allows for conservation of resources (e.g. energy, time) as people perform their established roles. Within the family structure there exist covert rules that guide family transactions. Altering any one of the roles or patterns of behavior can cause a ripple effect on the entire system (Nichols, 2001). Major disruption of the family system is often a result of traumatization, especially from maltreatment (Frederick & Sheltren, 2000). Particular influence can be seen within the subsystems of the family system.
The subsystems of a family are comprised of members who join forces through common interests or to perform a particular function. Each family member plays multiple roles in several subsystems, such as a woman who is a wife, mother, and daughter. As each individual performs their various roles, specific behaviors and amount of contact with others are guided by interpersonal boundaries (Nichols, 2001).

Boundaries are intended to preserve the autonomy of the family unit and its subsystems through hierarchies and management of proximity to others. Boundaries that are too rigid or too lax can interfere with the development of optimal interpersonal skills needed within and outside the family (Nichols, 2001). Parental boundaries are often violated when a child is maltreated. The child's expectation that she or he will be protected and safe within the family become shattered and subsystems can be disrupted (Frederick & Sheltren, 2000).

Family therapy can be useful in helping families reestablish homeostasis after disruption such as traumatic maltreatment, but several considerations determine the course of treatment and who attends the sessions. If the perpetrator of the maltreatment is a member of the family then safety and rapport must have a solid foundation before family members (especially the perpetrator) are included in sessions. The victim may need several individual sessions with the therapist to feel comfortable disclosing events and emotions before introducing any family members (Deblinger & Heflin, 1996; Frederick & Sheltren, 2000).

The non-offending parent and other family members can be introduced into sessions when the child is ready. Issues such as a therapeutic working alliance, developmental level of the child, clearly defined confidentiality and limits, boundaries
for therapy, expression of feelings, incorporation of family values in therapy, and support must all be managed by the therapist as family dynamics change. In many cases two co-therapists work with a family to provide sufficient management of the case (Frederick & Sheltren, 2000). A final note regarding family therapy is that the progress and healing of the child must dictate whether family therapy (particularly with the perpetrator present) is indicated or when to introduce additional people into the sessions (Deblinger & Heflin, 1996).

**Psychopharmacology**

PTSD is a complex neurobiological disorder and developmental issues of childhood and adolescence present additional challenges to safe and effective treatment with medication. Any treatment plan needs cost/benefit analyses to present the most efficacious interventions with the least amount of side effects. This is particularly true with psychopharmacological treatment, because side effects can be severe and even fatal if medications are not titrated (adjusted dosing) and monitored properly. Though the use of psychopharmacological interventions for C-PTSD and other trauma-related disorders is becoming more widespread, a paucity of empirical literature exists to support this practice. A number of psychobiological systems can be altered during the course of PTSD, so a brief review of the types of medications that are being used and the physiological systems they target will be given.

The catecholamine system (norepinephrine, NE; epinephrine, EPI; dopamine, DA) is active in the normal *fight or flight* stress response. This system elevates heart rate, blood pressure, sweating, redistribution of blood flow, hyperalertness, and metabolic rate during stressful events. Thus, catecholamines have been implicated in
contributing to PTSD symptoms of hypervigilance, physiologic hyperarousal, and disturbances of cognitions (Cohen, 2001; DeBellis, Lefter, Trickett, & Putnam, 1994). Medications that target NE and EPI, originally developed to manage high blood pressure and heart rate (e.g., clonidine, propranolol; Kolb, Burris, & Griffiths, 1984), have been successfully used to manage hyperarousal symptoms (e.g. increased startle response, insomnia, nightmares, intrusive thoughts) in adults with PTSD. Additionally, DA activity has been decreased by traditional (e.g., haloperidol) and atypical neuroleptics (e.g., risperidone, olanzapine) to manage hyperarousal and reexperiencing symptoms in adults with PTSD (Friedman & Southwick, 2000). Each of these medications can have serious side effects such as instability of heart rate and blood pressure Extrapyramidal symptoms can also develop from neuroleptics (Cohen, 2001; Friedman & Southwick, 2000).

Serotonin blocking agents called selective serotonin reuptake inhibitors (SSRIs; e.g., fluoxetine, sertraline, paroxetine, citalopram) effectively treat PTSD symptoms of reexperiencing, avoidance, and hyperarousal (Rapaport, Endicott, & Clary, 2002; Seedat, Stein, Ziervogel, Middleton, Kaminer, Emsley, & Rossouw, 2002; van der Kolk, Dreyfuss, Michaels, Shera, Bekowitz, Fisler, & Saxe, 1994). Because SSRIs are also efficacious in treating disorders with overlapping symptomatology in adults and youths, these drugs show promise for C-PTSD treatment. For example, comorbid disorders in youth that have been treated with SSRIs include anxiety disorders such as obsessive compulsive disorder (OCD), selective mutism, and social phobia, as well as depressed mood, impulsivity, suicidal intent, and drug abuse-related behaviors (Friedman, et al., 2000; Brady, Sonne, & Roberts, 1995). SSRIs also have side effects such as changed
activation levels (e.g., restlessness or excessive fatigue), changes in weight, and headaches, but these side effects are not considered medically serious (Cohen, 2001).

Drugs that act on multiple neurotransmitter systems have also been used to treat PTSD in adults. Monoamine oxidase inhibitors (MAOIs; e.g., phenalazine) have been found to decrease symptoms in all three PTSD symptoms clusters, but dangerous side effects and interactions can occur from over-the-counter drugs and food products. Tricyclic antidepressants (TCAs; e.g., imipramine, amitriptyline) have shown modest improvements in reexperiencing and avoidance symptoms but these findings are not as robust as those with SSRIs and MAOIs (Friedman & Southwick, 2000). Kindling (heightened sensitization) of the limbic system has been treated by anticonvulsant (e.g., carbamazepine, valproic acid) and antimania medications (e.g., lithium carbonate), but life-threatening side effects can occur without stringent monitoring. Because of the side effects of each of the medications that act on multiple neurotransmitter systems, these drugs should not be considered first-line pharmacologic intervention for children except in extreme cases or when comorbidity such as bipolar disorder or extreme aggression is present (Cohen, 2001; Friedman & Southwick, 2000).

Ethnopharmacological concerns must also be considered in drug therapy. For instance, Lin, Poland, Anderson, and Lesser (1996) found different pharmacokinetic responses to the same drug and dose in Caucasian versus Asian patients. Considerations of dietary habits, beliefs about drug therapy, and social or familial factors can all contribute to the cost/benefit analysis that should drive consideration of psychopharmacology for treatment of PTSD and may influence treatment compliance.
No published placebo-controlled studies have been conducted with psychopharmacological treatment of C-PTSD, and only a few open-label studies have been published to date. This means that not enough empirical support exists for confident use of pharmacological agents with children, except where comorbid diagnoses are being treated. Nevertheless, physicians have been prescribing drugs to children with PTSD for some time, using a trial and error method, despite the demonstrated efficacy of less invasive psychotherapies such as CBT. Because of side effects, modest efficacy, time-delay for drugs to produce significant responses, and lack of empirical support for psychopharmacological treatment of C-PTSD, cost/benefit treatment analysis weighs heavily in support of trauma-focused psychotherapy as a first-line treatment for youth with PTSD as opposed to psychopharmacology (Cohen, 2001; Foa, Davidson, & Frances, 1999; Seedat, et al., 2002).

Purpose of the Study

The primary purpose of this study was to administer a psychotherapeutic intervention to reduce debilitating Posttraumatic Stress Disorder (PTSD) symptomatology in children who have experienced maltreatment. Further, this study evaluated the efficacy of a unique combination of empirically supported therapeutic components to ameliorate childhood posttraumatic stress disorder (C-PTSD) symptoms in a concentrated, brief, time-limited format. The innovative aspect of the prescribed therapy was the combination of treatment components and their use with children in shelter care.

Studies have documented that many children develop PTSD symptoms following traumatic maltreatment such as physical abuse, sexual abuse, or interpersonal violence.
(Briere, 1997; Ford & Kidd, 1998; Davis & Siegel, 2000; Herman, 1992; Perry, 1999; van der Kolk, 2001; van der Kolk, van der Hart, & Marmar, 1996). In addition, research has shown that, for many youth who develop PTSD, a negative developmental trajectory can impact functioning into adulthood (Famularo et al., 1996; Ford, 1999; Klein & Schermer, 2000). Therefore, research is needed to examine whether empirically supported interventions presented in a brief, concentrated manner can be effective in reducing PTSD symptoms in maltreated children. Development of effective, time-limited interventions for C-PTSD is especially needed because many maltreated children have therapeutic services available only for short periods of time, such as when they are placed in shelter care. For children who do not have regular access to health care benefits or welfare services, time spent in shelter care may be their only opportunity to receive therapeutic services to process traumatic experiences.

One advantage of the proposed study is that treatment outcome research with children who have PTSD is scarce, while research with youth who reside in shelter care is even more limited. As a result, studies with this vulnerable population are sorely needed. This study addresses that need. In addition, during the brief time children are in shelter care they are safe from stressful external events, rendering them better able to cognitively process their feelings and reactions regarding the traumatic events in their lives. Thus, therapy offered within the shelter may be maximally utilized by the youths who participate. Another advantage of the study was that well-standardized diagnostic measures were used to provide sound diagnoses of PTSD and comorbidity. Data for this project were collected on-site at a children's shelter and directly used for evaluation and interpretation of results. This study will add to the current knowledge base of PTSD in
children who have been maltreated. The study illuminates intervention methods that can improve a child's ability to cope with previous negative life events and help strengthen skills needed for dealing with future life stressors.

Research Design and Hypotheses

Design limitations are inherent when working with maltreated populations, especially children. A control group was not available for this study because all children at the shelter had experienced some type of maltreatment. Another challenge was the very high attrition rate with a shelter population. Some children were housed at the shelter several months and some for only a few hours. Youths were randomly assigned for assessment as a function of their presence at the shelter and availability (e.g., not being interviewed by a caseworker, attorney, or visiting prospective foster parents) on the day researchers came to the shelter to administer assessment measures. A verbal description of the study was presented to all children in the residential cottages. Those who volunteered to participate were assessed for PTSD and comorbidity. Youths who met ASD or PTSD criteria were invited to engage in six weekly group therapy sessions (see Appendix E for weekly session protocol) or as many as they were present for at the shelter. Some youths were released before completion of six sessions. Follow-up assessment was conducted within three to five days after the last session the youths attended.

Hypothesis One

The literature concerning C-PTSD suggests that traumatized individuals can be quite treatment resistant, particularly because trust is so challenging for these individuals (Allen, Coyne, & Huntoon, 1998; Foa, et al., 1999; Herman, 1992; van der Kolk,
McFarlane, & van der Hart, 1996). Because of this, some researchers who have conducted treatment outcome studies have indicated that length of treatment was correlated with a reduction of PTSD symptoms (Cloitre, Stovall-McClosky, Miranda, & Chemtob, 2004; Cohen, Deblinger, & Mannarino, 2005). For this study, the primary hypothesis was that youths participating in BTTC would report a reduction in C-PTSD symptoms post-treatment, and that the most significant symptom change would come from participants receiving the greatest number of therapy sessions. C-PTSD was measured through clinical interview with the *Children's PTSD Inventory* (CPTSD-I; Saigh, 1997), as well as through self-report with the *When Bad Things Happen* scale (WBTH; Fletcher, 1991).

**Hypothesis Two**

Examination of the C-PTSD literature identified six variables as likely predictors of C-PTSD symptom reduction: comorbidity, PTSD symptoms severity, cognitive distortions, trauma narrative, dissociation, and avoidant coping. Concerning comorbidity, several researchers including Breslau and colleagues, (1991), Garber and Flynn, (2001), McLeer and colleagues, (1998) and Trowell and colleagues, (2002) have shown that increased comorbidity was correlated with high PTSD symptoms. In particular, dysthymia and major depression have been identified as disorders highly comorbid with C-PTSD (Famularo, et al., 1996; Feeney, et al., 2000; Jones & Barlow, 1990; Linning & Kearney, 2004; Trowell, et al., 2002; Wolfe, et al., 1994).

Research has also identified that individuals with an increased number of PTSD symptoms may experience longer duration and increased symptom severity and distress.
over time (Gershuny & Thayer, 1999; Harvey & Bryant, 1998b; Shalev, Freedman, Peri, Brandes, & Sahar, 1997).

Some studies suggest that cognitive distortions or thinking errors can interfere with effective communication and effective problem solving (Burns, 1999) and that restructuring of cognitive distortions may help minimize negative symptoms related to PTSD (Bryant & Panasetis, 2001; Chaffin & Hanson, 2000; Ehlers & Clark, 2000; Foa, et al., 1999).

In addition, several researchers have suggested that trauma processing and a decrease in PTSD symptoms can be fostered through developing trauma narrative (Calhoun & Resick, 1993; Foa, 2000; Foy, et al., 2000; Kinzie, 2001; Rothbaum & Foa, 1992) and journaling (Greenberg & Stone, 1992; Greenberg, Stone, & Wortman, 1997; Niederhoffer & Pennebaker, 2002; Pennebaker & Francis, 1996).

Dissociation has also been linked to PTSD, identified by several researchers as a predictor of PTSD development, increased PTSD symptom severity (Brewin, Andrews, Rose, & Kirk, 1999; Chu, 1998; Classen, et al., 1998; Haddock, 2001; Murray, Ehlers, & Mayou, 2002; Rothschild, 2000; van den Bosch, Verheul, Langeland, & van den Brink, 2003), and higher levels of distress (Holmes, 2001; Marmar, Weiss, Metzler, Delucchi, Best, & Wentworth, 1999).

Dissociation has also been characterized as a negative or avoidant coping strategy because it allows the person to escape or avoid aversive thoughts and memories (Agargum, Kara, Ozer, Selvi, Kiran, & Kiran, 2003; Feeny, et al., 2000; Kisel & Lyons, 2001; Putnam, 1997; Spiegel, 1993). Studies have shown that individuals who use proactive coping strategies report less overall stress than individuals who use avoidant
coping (Amirkhan, 1990, 1994; Causey & Dubow, 1992, 1993; Folkman, 1991; Horowitz, 1986; Lazarus & Folkman, 1984) or other negative coping strategies (e.g., dissociation; Chu, 1998; Cole & Putnam, 1992; Putnam, 1997). Children who have experienced traumatic maltreatment often engage in avoidance of trauma-related stimuli and numbing of emotions as a general default response system. Short-term this can be effective for managing acute stress or keeping one safe. However, long-term, over-inclusive use of avoidant or negative coping strategies can contribute to longer-range disturbance, including reactions through several different response systems (e.g., emotional, behavioral, physiological; Deblinger & Heflin, 1996; Folkman, 1991; Horowitz, 1986; van der Kolk, Pelcovitz, Roth, Mandel, McFarlane, & Herman, (1996); Vernberg & Johnston, 2001).

Drawing from the available literature, hypothesis two suggested that 1) low comorbidity, 2) low PTSD symptom severity (i.e., total number of PTSD symptoms endorsed), 3) recognition and acknowledgment of cognitive distortions used, 4) verbalization of trauma narrative during sessions, 5) low dissociation, and 6) use of avoidant coping strategies would contribute a significant amount of variance in predicting PTSD symptom change from pre- to post-treatment.

_Hypothesis Three_

Studies of coping in youth exposed to crime and violence (Berman, Silverman, & Kurtines, 2000a; 2000b) have found that effective (problem-focused or active coping) coping can serve as a protective factor against negative responses to stressful events such as crime and violence. These studies also indicated that exposure (as victim or witness) to crime and violence taxes the child's effective use of adaptive coping responses. When
the child's effective responses are overwhelmed, she or he may engage in maladaptive coping strategies such as self-blame, withdrawal, anger, blaming others, and overall avoidance. Additional coping skills studies have suggested that during therapy, as youth relate their experiences, the therapist can help identify maladaptive coping skills previously used and suggest better ways of managing future events. In this way, coping skills enhancement can help youth improve coping strategies and reduce PTSD symptoms (Barker-Collo & Read, 2003; Berman, Silverman, & Kurtines, 2000a; 2000b; Vernberg & Johnston, 2001).

Hypothesis three posited that youths who used avoidant coping strategies before treatment, but learned to use active coping during treatment, would experience a greater reduction in PTSD symptoms. Thus, participating in Brief Therapy for Traumatized Children (BTTC) was expected to increase proactive coping strategies (i.e., problem solving and seeking social support) and decrease avoidant coping strategies as measured by the Coping Strategies Inventory (CSI; Amirkhan, 1990). In addition, change in positive or negative coping strategies was expected to be influenced by the number of group sessions attended.
CHAPTER 3

METHODOLOGY

Participants

Participants for this study were recruited from a county-operated child protection shelter in Las Vegas, NV. The shelter provides respite care to state and county children who have experienced maltreatment. Children at the shelter stay several hours to several months while they have pending court cases or await foster-care or adoption placement. The facility is administered by the Department of Family Services (DFS), which oversees Child Protective Services (CPS). The shelter is not part of the state-run agency, Division of Child and Family Services (DCFS), though both state custody and county custody children are sheltered at this facility. One hundred forty-seven males and females aged 12 to 17 years voluntarily participated in a structured diagnostic interview and were asked to complete several self-report questionnaires. Youths with significant cognitive impairment (e.g., documented mental retardation), severe behavior problems (e.g., unable to manage anger or physical aggression), or who were taking psychotropic medication were not included in this study. Data from fifty-eight participants were retained for analysis, having completed all pre- and post-assessment measures. Participants’ data without post-assessment measures were not included in the analyses for this study. The number of group sessions each youth attended varied depending on when the youths were released from the shelter, as shown in Table 1.
Table 1

*Frequency of Sessions Attended*

<table>
<thead>
<tr>
<th>Participants</th>
<th>Number of Sessions Attended</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>7</td>
<td>1</td>
</tr>
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<td>5</td>
<td>2</td>
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<td>5</td>
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<td>10</td>
<td>4</td>
</tr>
<tr>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td>19</td>
<td>6</td>
</tr>
</tbody>
</table>

Note: m = 3.90; sd = 2.03

Youths in the study were Caucasian (24.1%), African-American (21.4%), Hispanic (19%), Asian (6.9%), or multiracial (24.1%). In addition, 1.4% endorsed an "other" description. Furthermore, 63.8% of the sample was female, 44.8% came from single-parent homes, 43.1% had lived more than 3 months with a relative or in state custody, 79.7% had a family member who had served time in prison, and 47.5% reported regular drug/alcohol use in their home.

*Child Measures*

When Bad Things Happen

The *When Bad Things Happen* scale (WBTH; Fletcher, 1991) is a 90-item self-report measure that assesses PTSD according to DSM-IV criteria (APA, 1994; see diagnostic criteria in Chapter 1) and additional trauma-related behaviors in children.
This instrument assesses a wide range of symptoms associated with trauma such as anxiety, depression, omens, survivor guilt, self-blame, fantasy denial, self-destructive thoughts and behaviors, dissociation, antisocial behavior, risk-taking behaviors, and changes in eating habits. WBTH yields two scores. The PTSD symptom score indicates the total PTSD symptoms endorsed by the child. The PTSD severity score includes the symptoms associated with trauma (as listed above) with the PTSD symptom score. WBTH was chosen for this study for its clear and easy-to-understand wording, easy-to-use format, and sound psychometric properties.

The instrument has been used to measure PTSD in children who have experienced a variety of traumatic exposures, including children exposed to the Gulf War Crisis (Mollar-Thau & Fletcher, 1996). Internal consistency was reported with a Cronbach's alpha of .92 for the total score, and alpha values ranging from .70 to .89 for DSM-IV Criteria A-D. Convergent validity with other measures includes correlations ranging from .54 and .87 between WBTH and CPTSDI-C, the CPTSDI-P, and the PR-CRS (three other PTSD parent and child measures by Fletcher, 1991). A correlation of .54 was obtained for the PTSD subscale of the Child Behavior Checklist (CBCL; Achenbach, 1991). Additionally, scores on the WBTH were higher for the clinic sample of children than for the community sample children.

**Coping Strategy Inventory**

The *Coping Strategy Inventory* (CSI; Amirkhan, 1990) is a 33-item self-report measure that assesses how young people cope with the problems and troubles in their lives. CSI was chosen because it is much easier to understand than many other measures.
of coping, employs simple scoring and interpretation, and allows for a multidimensional evaluation of coping.

The measure was developed to remedy problems with existing coping research. Early coping research involved two main types of study. First, some researchers evaluated coping in terms of theory driven classification. This approach was broad enough to fit a variety of populations and stressors, but often yielded diminished validity for specific samples. Other coping skills researchers, who evaluated coping using empirically formulated categories, hoped to better represent more breadth of coping responses, but achieved results too closely connected to idiosyncrasies of a specific sample or stressor. In this case, results were limited in relation to generalizability (Amirkhan, 1990).

In response to these design problems, the CSI attempts to incorporate deductive and inductive approaches to identify coping dimensions that can be considered "common denominators of human dealings with stress" (Amirkhan, 1990, p. 1066). The CSI first instructs respondents to briefly describe a recent (last 6 months) stressful event that required them to make an important decision (e.g., "caused you to worry"). Participants then respond to a list of 33 specific coping behaviors, endorsing how much they used each coping behavior listed to manage the described stressful decision (not at all; some; a lot). Responses are summed into 3 subscales; problem solving (e.g., "thought about what needed to be done to straighten things out"); seeking social support (e.g., "let your feelings out to a friend"); and avoidance (e.g., "watched TV more than usual"). The scoring is multidimensional, which allows a profile of coping rather than simply dichotomizing youths into avoiders or problem-solvers.
The CSI was developed over three phases of factor-analytic investigation and a final testing phase using both university students and a community sample of young people. Items from other coping measures were incorporated, such as the widely used Ways of Coping Checklist (WCC; Lazarus & Folkman, 1984). Items retained to form the CSI were those items that repeatedly demonstrated accuracy as indicators of coping strategies over each testing phase (Amirkhan, 1990; 1994). The CSI uses real-world stressors to identify specific responses rather than anticipated responses to hypothetical events. This measure is said to include only universal modes of coping rather than idiosyncratic strategies, and studies report near perfect orthogonality of the three subscales (Amirkhan, 1990; 1994).

Reported psychometric properties of the CSI include freedom from demographic influences, recall problems, and social desirability biases inherent in many self-report measures (Amirkhan, 1990; 1994). Internal consistency had an average alpha coefficient of .89 (Seeking social support was .928, Problem Solving was .839, and Avoidance was .839) and mean test-retest correlations were .82, suggesting good overall reliability (Amirkhan, 1990; 1994). Studies by Amirkhan (1990; 1994) also demonstrated validity through significant covariation with commonly used measures of coping (e.g., WCC; Lazarus & Folkman, 1984), personality (e.g., Rotter Locus of Control Scale; Rotter, 1966), and pathology (e.g., The Center for Epidemiologic Studies' Depression scale; Radolff, 1977).

Youth Self-Report Inventory

The Youth Self-Report Inventory (YSR; Achenbach & Edelbrock, 1986; Achenbach, 1991) is a 118-item self-report measure that assesses the problem areas of
aggressive behavior, anxiety/depression, attention problems, delinquent behavior, social problems, somatic complaints, thought problems, and withdrawal. Youth are asked to rate themselves on each question using a 3-point scale (not true, sometimes true, often true). Composite scores are obtained, which provide subscale scores for internalizing behavior, externalizing behavior, and total problems.

The YSR is a widely used measure in clinical and research settings. Achenbach, McCanaughy, and Howell (1987) reported significant correlations across ratings on parallel Achenbach measures made by parents on the Child Behavior Checklist (CBCL; \( r = .38-.42 \) for internalizing behavior, \( r = .43-.49 \) for externalizing behavior) or by teachers on the Teacher's Report Form (TRF; \( r = .37-.47 \) for internalizing behavior, \( r = .56-.79 \) for externalizing behavior). These correlations are important as they demonstrate the ability of the YSR information to generalize from one informant to another. Additionally, studies reported that adolescents referred for clinical services scored significantly higher on all problem subscales as compared to a non-clinically referred sample. One-week test-retest reliability was reported to be .79 (Achenbach, McCanaughy, & Howell, 1987).

**Daily Rating of Distress**

The *Daily Rating of Distress* (DRD) scale is a self-report measure developed for this study by the primary investigator. The DRD was given after each assessment and therapy session to monitor any distress the child may be experiencing as a result of the research activity. This measure provided youths with an individually reported method (rather than verbally in front of group members) to identify distress, specific concerns, or positive reactions to the activity. This was also another means of helping youths think
about and record what they were feeling at that moment. The DRD includes 10 statements rated from 0 (not at all) to 6 (very much) to identify how happy, anxious, upset, or depressed the child feels. In addition, the DRD also evaluates his or her understanding of feelings, energy, anger, and relief experienced as a result of the research activity (see Appendix B). As mentioned in the literature review, recognition of feelings and emotions is a key component of learning to effectively use anxiety management strategies (Chaffin & Hanson, 2000; Foa, et al., 1999; Frank et al., 1988; Meadows & Foa, 2000).

Daily Rating of Behavior

The Daily Rating of Behavior (DRB) scale is a self-report measure developed for this study by the primary investigator. With this form, youths monitor their feelings and behaviors each day of the week between therapy sessions. The DRB includes 9 statements rated from 0 (not at all) to 6 (very much) to evaluate constructs such as: how much relief they felt from journal writing, how much anger they felt over a family or peer dispute, how often they were able to correct a thinking error (cognitive distortion), presence of flashbacks/nightmares, and how often they had upsetting thoughts about their traumatic experience. The youths also rated their overall "happy" or "sad" feeling for each day. Additionally, youths rated each item "overall for the week" (see Appendix C). Participants were instructed to record these ratings each evening after dinner and chores.

Post-Assessment Satisfaction Survey

Post-Assessment Questions (PAQ) is a satisfaction survey developed by the primary investigator. The questions on this form were asked of each participant at the
end of the follow-up interview. Participants were asked what they liked most and liked least about the therapy sessions. They were prompted to write in their answers based on the list of therapy components listed, but could also add their own comments. The next question asked if the participant felt therapy was helpful. From the list provided, participants were then asked to circle all therapy components they felt were most helpful to them. Participants were likewise asked to circle all therapy components they felt were least helpful to them. The final question asked what the participant thought should change (see Appendix D).

_Clinician Assessment Measures_

**Children's PTSD Inventory**

The *Children's PTSD Inventory* (CPTSD-I; Saigh, 1997) is a semi-structured interview with five subscales, developed to reflect the DSM-IV (APA, 1994) criteria for PTSD. The criteria measured include _exposure_ (assesses traumatization through experimental, vicarious, or verbal mediation), _re-experiencing_ (unwanted anxiety-evoking recollections of the trauma), _avoidance_ (divergent symptoms which were not apparent before the trauma), _general affect_ and hyperarousal, and _degree of distress_. Scores reflect one of four diagnoses: no PTSD, acute PTSD, chronic PTSD, or delayed-onset PTSD. Particular attention was given to number and type of symptoms endorsed in addition to PTSD diagnosis. This measure was chosen for its child-friendly format, distinctions of PTSD diagnoses, and attention to DSM-IV (APA, 1994) diagnostic criteria.

Following field testing in 1988 and 1989, preliminary assessment of interrater reliability yielded 100% interrater agreement (kappa = 1.0) by Saigh et al. (unpublished...
manuscript, reported in Saigh & Bremner, 1999), using an outpatient sample of 25 consecutively referred children with confirmed exposure to physical or sexual maltreatment. Preliminary data also yielded a kappa coefficient of .92 between clinician-derived diagnoses and diagnoses using the CPTSD-1. Sensitivity in this population was 100%; specificity was 92%; and diagnostic efficiency was 96%. Saigh and colleagues (unpublished manuscript, reported in Saigh & Bremner, 1999) also noted a positive predictive power of .93 and a negative predictive power of 1.0.

Another study by Yasik, Saigh, Oberfield, Rubenstein, Halamandaris, Nester, Resko, Koplewicz, Inamdar, and McHugh (1998) was conducted with 82 traumatized and 22 non-traumatized youths (N = 104) at an inpatient psychiatric hospital. At the subtest level, moderate Cronbach alphas (.53 - .89) were achieved, with an alpha of .95 at the diagnostic level. Interrater reliability yielded a kappa of .96 at the diagnostic level, and good to excellent kappas (.66 - 1.00) for the subtest level. Test-retest reliability was indicated via 97.6% agreement at the diagnostic level (Saigh et al., 2000).

Criterion and construct validity of the Children's PTSD Inventory were examined by Yasik and colleagues (1998) with 73 traumatized and 22 non-traumatized youth and by Yasik, Saigh, Oberfield, Green, Halamandaris, and McHugh (2001) with 76 traumatized and 28 nontraumatized youths at an inpatient psychiatric hospital. Responses obtained using clinical interviews, Diagnostic Interview for Childhood Adjustment-Revised (DICA-R; Herjanic & Reich, 1982) and Structured Clinical Interview for DSM-III-R (SCID; Spitzer, Williams, Gibbon, & First, 1990) PTSD module administrations were compared to responses on the Children's PTSD Inventory. The results were reported as moderate to high levels of sensitivity (.91 - 1.00),
specificity (.90 - .97), positive (.68 - .94) and negative (.95 - 1.00) predictive power, and
diagnostic efficiency (.92 - .95). Correlations with the Revised Children's Manifest
Anxiety Scale (RCMAS; Reynolds & Richmond, 1985) (r = .74), Children's Depression
Inventory (CDI; Kovacs, 1992) (r = .65), and Junior Eysenck Personality Inventory
(JEPI; Eysenck, 1963) Neuroticism scale (r = .59) represent significant evidence for the
construct validity of this measure. Convergent and discriminant validity were assessed
through a significant correlation with the CBCL Internalizing scale (r = .52), with non-
significance compared with the CBCL Externalizing scale (r = .19, and the JEPI
Extroversion scale (r = -.08). Overall, reliability and validity data concerning the
Children's PTSD Inventory are sound.

*Anxiety Disorders Interview Schedule for Children*

The *Anxiety Disorders Interview Schedule for Children* (ADIS-C; Silverman &
Albano, 1996) is a semi-structured interview with a yes/no question format. The ADIS
also uses a visual rating scale to help young people report the frequency and duration of
their worry, fear, somatic complaints and to assess the interference of these symptoms in
their daily life functioning. The questions address symptomatology, symptom history,
severity, and precipitating events. Subsections include all anxiety disorders as well as
PTSD, dysthymia, major depression, ADHD, and suicidal ideation. The ADIS-C was
chosen for its child-friendly format that helps the clinician build rapport, and for the rich
descriptive comorbidity data it yields.

The ADIS has demonstrated sound psychometric properties. In a study with 51
subjects, Silverman and Nelles (1988) found interrater reliability to have kappa
coefficients for the ADIS-C (.84), ADIS-P (.83; parent version), and a diagnosis
composite of the child and parent interviews of .78. With regard to agreement on ratings of symptom severity, they found Pearson product-moment correlations of .71 with the ADIS-C, .76 for the ADIS-P, and .74 with the composite data. Concurrent validity was evaluated by Wood, Piacentini, Bergman, McCracken, and Barrios (2002) with 186 children (aged 8-17 years) and their parents who completed the Multidimensional Anxiety Scale for Children (MASC; March, 1998) and the ADIS-C/P interview. Strong convergence was demonstrated between the MASC and ADIS, supporting the concurrent validity of the ADIS-C/P anxiety disorders section.

Silverman and Eisen (1991) evaluated the test-retest reliability of the ADIS with 50 subjects using a test-retest interval of 10 to 14 days. They reported overall Kappa coefficients of .76 for the ADIS-C, .67 for the ADIS-P, and composite diagnosis of .75. Pearson product moment correlations of severity ratings were .89, .87, and .88 for the child, parent, and composite diagnoses, respectively. Rapee, Barrett, Dadds, and Evans (1994) reported similar interrater reliability (k = .59 to .82) and found parent-child agreement to be poor (k = .11 to .44). They concluded that despite low parent-child agreement, there was little criterion variance for DSM-III-R anxiety disorders (and likely DSM-IV), suggesting that the diagnostic criteria are clear and usable. Silverman, Saavedra, and Pina (2001) evaluated test-retest reliability of the ADIS with 62 children (aged 7-16 years) and their parents using a test-retest interval of 7 to 14 days. Results suggested good to excellent reliability diagnosing DSM-IV anxiety disorders in children and also supported the reliability of using interview information from child-only and parent-only versions.
For the PTSD subscale, Silverman and Eisen (1991) reported overall test-retest reliabilities of symptom scores as .43 ($p < .002$) on the ADIS-C and .25 ($p < .05$) for the ADIS-P. This finding attests to the utility of the ADIS PTSD subscale as an assessment measure of PTSD, particularly when using the child version. However, the PTSD subscale of the ADIS does not allow for distinctions of PTSD diagnoses to be made such as acute, chronic, or delayed onset. For this reason the CPTSD-I will be used to obtain a PTSD diagnosis. The CPTSD-I has parallel questions to the ADIS regarding trauma symptoms, but also asks for additional information to obtain diagnostic distinctions and has stronger reported reliability data than the ADIS-C PTSD subscale.

Data Collected by Co-Therapists

An appropriate measure for assessing cognitive distortions in traumatized youth was not identified. Therefore, cognitive distortions endorsed by youths (Burns, 1999) were recorded by co-therapists during group sessions by placing checkmarks on a scoring sheet. Each time a child acknowledged use of a specific cognitive distortion, or thinking error, a co-therapist would make a mark for that participant. See Appendix A for a list of thinking errors.

To record how often each participant related narrative about traumatic experiences during group sessions, co-therapists would likewise make a checkmark on a scoring sheet. To control for attrition effects, an average thinking error score and average narrative score was computed for each participant, based on the number of sessions each attended.
Procedure

Procedures and measures for this study were first approved by a university-based institutional review board and a Clark County district attorney. Permission to interview and informed consent were obtained from the director of the county-run shelter facility from which the children were recruited. No parent or other collateral data were available due to bureaucratic constraints. Assent from each child was also obtained prior to data collection. Youths were interviewed and completed questionnaires at the shelter facility during one or two testing sessions. Most children who could not read well needed extra time from a second session to have the questionnaires read to them.

A structured diagnostic interview was conducted with each child individually by the primary investigator or a trained undergraduate assistant. The interview was approximately 1 to 1 1/2 hours in length. Youths were instructed that their answers were confidential and that they did not have to answer any question that made them feel uncomfortable. There was no penalty for refusing to answer questions or for withdrawing from the study at any time. The primary investigator or a paraprofessional interviewer attended approximately 20% of the interviews conducted by undergraduates for reliability purposes, yielding 100% agreement on clinical diagnoses.

Youths then completed three self-report questionnaires, which took a total of approximately 45 minutes. A demographic information sheet was included with the self-report measures, including questions concerning parental marital status/stability (current and one year ago), parent psychopathology (current and one year ago), child’s participation in counseling since the traumatic event, and education level and occupation of a child’s mother and father. The demographic sheet also included questions
concerning interaction with grandparents, exposure to violent crime, exposure to drug or alcohol use, participation in religion, and annual family income. The questionnaires and interview were ordered randomly to control for order effects and priming. A trained undergraduate student was present to assist children during completion of questionnaires and to answer questions. The primary investigator was also available to answer questions.

Therapy was provided in six 90-minute consecutive weekly sessions, facilitated by the primary investigator and attended by two silent undergraduate co-therapists. The role of the co-therapists was to provide additional adult supervision in the milieu, to ensure protocol adherence, and to record behavioral observations during sessions. Youths were reminded at the start of group therapy that other group members would hear information they disclosed during sessions, so youths were given an opportunity to discuss sensitive material privately with the primary investigator if they felt the need.

Follow-up assessment to evaluate treatment efficacy was to be collected post-therapy within seven days of the final session and again after one month. However, few children were available or could be contacted after release from the shelter. The primary investigator tried to contact caseworkers of the released children to arrange a one-month follow-up, but the response rate from caseworkers was very minimal and parents were generally hostile and uncooperative. As a result, insufficient one-month follow-up data were available. Contact information was provided to youths and the shelter staff concerning the primary investigators in case additional questions arose. All consent forms and questionnaires were coded by number and kept confidential to ensure participant anonymity.
Brief Therapy for Traumatized Children (BTTC) was designed to teach traumatized youth essential coping skills in a time-limited format to help them recover from their traumatic events. Maltreated children often have minimal access to mental health services due to limited or non-existent insurance, unstable and dysfunctional families, or transient lifestyles. A child's brief stay in a shelter may be his or her only opportunity for mental health services to address trauma. Sessions were conducted in a group therapy format to serve many children together and to provide peer support through the process. Thus, BTTC was designed to maximize available therapy time and quickly teach youth valuable coping strategies and anxiety management techniques that could help them recover and help them navigate future stressors. The following treatment components were utilized in BTTC (see Appendix D).

*Psychoeducation*

Psychoeducation prepares the child for treatment by providing a conceptual and explanatory framework from which he or she can understand fear, anxiety, and related symptoms experienced since the traumatic event. Signs and symptoms of traumatic stress are reviewed and the therapy process is explained (e.g., some youth may feel sad or upset after a session, but this is usually replaced by feeling much better soon after). This educational process helps youth understand the nature and origin of their symptoms, normalizes reactions, and helps youth start to make sense of the traumatic event and its aftermath (Shepperd, 2000; Vernberg & Johnston, 2001). During group interactions, participants can provide support and validation for each other as they discover that others have experienced similar PTSD symptoms.
Anxiety Management

Anxiety management technique (AMT) was designed to help youth recognize physiological and psychological arousal and develop skills for self-soothing and anxiety reduction. These techniques help a child develop greater coping and problem-solving skills and increase self-confidence as they experience success controlling their own negative symptoms. Techniques include learning to identify anxiety symptoms and rate severity, as well as using deep diaphragmatic breathing, progressive muscle relaxation, and visual imagery to manage anxiety symptoms (see Chapter 2). As young people become proficient at managing physiological and psychological arousal, they become better equipped to face and process memories of traumatic events.

Cognitive Restructuring

Restructuring of cognitive distortions entails identification of thinking errors (cognitive distortions) a youth commonly uses and the ways these distortions interfere with rational thinking and effective communication (Burns, 1999; Kendall, 2000). Distortions addressed include themes of self-blame, catastrophizing, exaggerating the importance of negative events, or minimizing personal accomplishments and self worth (see Appendix A).

For children and adolescents, traumatic experiences can cause distortions or biases about the way they remember traumatic events. Trauma can also distort a youth's worldview and trust of others. Teaching young people to express trauma-related thoughts and feelings can help a therapist identify how these experiences have been incorporated into a child's thinking about self or others. Young people are taught to identify negative self-statements (thinking errors) and replace them with more adaptive
internal verbalizations. For instance, teaching a child to make statements to himself or herself such as “I am brave” may help him or her overcome fears and phobias (Kendall, 2000).

Children can also be taught to increase their self-awareness and patterns of thought by self-monitoring or self-recording in a journal between sessions. Recording thoughts and behaviors outside of treatment sessions also gives the child an opportunity to recognize the distorted self-thoughts they are engaging in and the negative behaviors they perform daily. Recorded thoughts can be addressed during therapy sessions where distortions can be restructured and more positive ways of behaving and thinking can be identified.

*Emotional Expression*

A child who uses avoidant strategies to cope with hyperarousal or trauma reminders may not have an accurate sense of their own emotions or the emotions of others. Thus, it can be helpful for young people to develop a vocabulary for emotions and practice expressing emotions currently felt as well as feelings they experience when remembering traumatic events. Young people can also learn to recognize cues from others that identify feeling-states. For example, youth may understand that when people are happy, sad, or mad they often display cues of their emotions by the sound of their voice or the look on their face. As young people begin to recognize their own emotions more accurately, as well as the emotions of others, they are better able to recognize the cognitive distortions they may espouse (e.g., jumping to conclusions or “mind-reading”).

As young people begin to discuss their traumatic experiences, encouraging them to do so in a matter-of-fact, calm way can also help manage arousal. In addition, a youth
can benefit from creating a hierarchy of anxiety-provoking reminders or experiences that are difficult for her or him to discuss. Once the hierarchy is created, the least anxiety-provoking experiences can be addressed first, while the child uses AMT to help manage arousal level (Deblinger & Heflin, 1996). Anger can be an emotion that is challenging to a traumatized youth. Thus, particular attention may need to be given during practice of coping skills to help the youth recognize their anger and express it in an appropriate way, while simultaneously managing heightened arousal (Deblinger & Heflin, 1996).

Cognitive Coping Skills

Thoughts provide the foundation for developing views and belief systems, so discussion can help a therapist evaluate how a child is thinking about his or her traumatic experiences. Many traumatized youths have limited information or experience to draw from to process traumatic events. As a result, thoughts concerning traumatic events can become skewed and confusing. Talking about these events can help youths become more clear about their feelings. Talking also allows the therapist to help identify inaccurate or dysfunctional thoughts, which may be having a direct impact on emotional and behavioral difficulties. In addition, traumatized children are often avoidant of traumatic reminders, so presenting coping skills in a general way at the beginning of therapy can help youth process specific traumatic experiences. As youths discuss their thoughts and feelings about their traumatic events in the group therapy format, they also receive validation from peers as well as reality testing and cognitive restructuring from peers. This can often be a more powerful influence than the therapist-client interaction.

Young people need to understand the interrelationship between thoughts, feelings, and behaviors. For example, if a person is feeling positive about herself when
someone pays her a compliment, she will likely feel happy, more confident, and perhaps even proud of herself after receiving the compliment. However, a person who is in a bad mood or doesn’t feel very good about herself may discount a compliment and believe the statement is not true, or wonder if the other person wants something. In other words, because the person is feeling negatively about herself, she is unable or unwilling to feel good and accept the compliment given to her.

*Positive self-statements.* A youth with difficulty identifying and disputing dysfunctional negative thoughts may benefit from being taught positive self-statements. Self-statements can be tailored to a child’s own experiences or difficulties. For instance, a child with poor self-image may be encouraged to tell himself, “I am special because…” or “I am as important as other kids.” A youth who has difficulty accepting feedback and also has a negative self-image may be encouraged to say, “I am strong enough to accept feedback without getting angry.” Behavioral rehearsal with the therapist allows the young person to gain mastery of skills and to receive positive reinforcement, which helps enhance his or her sense of self-efficacy and mastery. The therapist can also help a youth generalize skills learned in the therapy office to real-life situations that the young person has already experienced or situations he or she fears.

*Role-play.* Role-play with the therapist can help a young person identify how a particular situation would feel if he or she was having positive, optimistic thoughts versus if he or she were having negative self-defeating thoughts and resultant feelings. As youths begin to understand how to consider the same situations in different ways and how different emotions can come from the same situation, they can then be taught to dispute negative thoughts. Once a youth has mastered disputing general negative thoughts...
thoughts, this same technique can be used to dispute trauma-related thoughts. This technique can be applied during gradual exposure exercises or as a priming technique to prepare for exposure (Deblinger & Heflin, 1996).

Additional practice and reinforcement of effective cognitive coping skills can be gained between sessions through self-recording and self-monitoring. This information can then be discussed in session to continue reinforcement and to help youth identify further challenging situations (Vernberg & Johnston, 2001).

Mindfulness

Mindfulness helps a child become more aware of current feelings and body sensations and to accept (not change) them. When teaching mindfulness, specific questions are asked such as, "What do you feel in your body right now?" These types of questions are intended to force the participant out of dissociated states focused on past or future, and to engage her or him in awareness of current body experience. Caution must be used in the beginning of this exercise, because full experience of physical sensations may be frightening or disturbing. As the participant becomes more present-focused and able to tolerate recognition of bodily sensations, he or she may be able to access sensations or thoughts without dissociating or feeling uncomfortable (Linehan, 1995; Ogden & Minton, 2000). The ability to tolerate sensations, particularly if they are distressing, is a crucial step in the healing process and prepares the participant for exposure therapy to further examine traumatic events and traumatic reminders.

Exposure Therapy

Brief exposure therapy is a gradual process of providing youth opportunities to practice controlling their anxiety and trauma symptoms while thinking about traumatic
events. The procedure initially uses imaginal exposure (e.g., the therapist tells an imaginary anxiety-provoking story). Successive sessions consist of group members taking turns relating their own traumatic experiences. Having each youth develop a fear-hierarchy of trauma reminders can guide her or him to successfully manage reminders before moving on the processing of the actual traumatic event. While telling their stories, young people practice using AMT to manage their symptoms and habituate to the event (i.e., symptoms are no longer evoked by memories of the traumatic event). This exercise can also help youths develop more effective coping strategies to deal with life stressors.

Journaling

Journaling is given as homework to help youth identify and monitor feelings, behaviors, fears, symptoms, and reactions they have concerning traumatic events (Pennebaker & Francis, 1996). Journaling also helps a child identify cognitive distortions they engage in daily. This homework provides a youth with between-session support and helps her or him develop further insight and recognition of traumatic reactions and reminders. Many youth find solace in journal writing, which may foster habituation as he or she creates trauma narrative about traumatic events.

Boundary Setting

Establishing boundaries and setting limits is important in the treatment of C-PTSD. Maltreated youth have often had limited experience or modeling of boundary setting and have difficulty protecting themselves by saying no to unwanted violations. Maltreatment constitutes a boundary violation, but sometimes youth do not recognize abuse as such, and blame him or herself. Youths with PTSD commonly defend the actions of their parents (or other perpetrators) and deny that maltreatment has occurred.

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In this case, group therapy can be particularly effective as peers help a youth accept the inappropriateness of the maltreatment and recognize the need for personal boundaries to prevent future violations.

Boundary violations are identified during session as a youth discusses commonly used cognitive distortions and during trauma narrative. Establishment of personal boundaries can help youths develop more effective coping strategies and also helps children learn better problem solving (e.g., thinking about consequences of behaviors), limit-setting, and self-protective habits. For instance, helping a young lady identify that the type of clothing she wears can attract unwanted behavior from men can help her establish a self-protective boundary.

Analysis of Data

*Structural Equation Modeling*

Initial evaluation of data was done using structural equation modeling (SEM) (EQS) (Bentler & Wu, 2005). SEM was chosen because it provides overall goodness-of-fit estimates, allows analysis of multiple subscales or factors, and minimizes measurement error. This approach approximates causal processes or causal impact but results are stated as “strength of hypothesized relationships” (Maruyama, 1998, p. 4) between all variables in a theoretical model. SEM gives information about the impact directly from one variable to another, as well as impact of mediating variables positioned between two variables. Mediating variables can provide useful information by helping to identify how, or by what mechanism, an independent variable influences an outcome (Holmbeck, 1997). Before evaluating a mediated effect, however, there must first be an identified relationship between the predictor variable and the dependent variable. If a
significant relationship is identified, then further evaluation can identify the mediating role of a hypothesized mediator variable. Holmbeck (1997) reaffirmed the utility of SEM by stating that, “the SEM strategy is particularly useful when one has multiple indicators for the latent variables under investigation (p. 602).”

Three models were developed for this study and evaluated using SEM. The first model examined whether number of group sessions influenced treatment outcome as measured by CPTSD-I symptom change scores from pre-treatment to post-treatment. The second model examined whether number of group sessions influenced treatment outcome as measured by WBTH symptom change scores from pre-treatment to post-treatment. The third model examined whether number of group sessions influenced treatment outcome as measured by CSI coping strategy change scores from pre-treatment to post-treatment. All change scores were derived by subtracting post-treatment scores from pre-treatment scores. Paired sample t-tests for the total scores on CPTSD-I, WBTH, and CSI were used to compare pre- and post-treatment means. These analyses helped to confirm the direction and strength of symptom change scores.

Statisticians recommend examining multiple indices of fit when conducting SEM, so three goodness-of-fit indices were evaluated to test these models: comparative fit index (CFI), Bollen incremental fit index (IFI), and standardized root mean square residual (SRMR). Acceptable goodness-of-fit criteria were defined as CFI and IFI values of .90+ and SRMR values of <.10 (Kline, 2005). It should be noted that chi-square values were used in these analyses for the purpose of mediation only, not as a measure of goodness-of-fit, because many researchers such as Browne (1998), Hu and Bentler
(1998), Holmbeck (1997), and Kline (2005) have noted that chi-square is overly sensitive to sample size.

Holmbeck (1997) recommended that, if a model is determined to have good fit, then multistep mediational analysis could be conducted via SEM. Regarding CPTSD-I symptom change, the predictor-outcome path (A→C) was first examined for adequate fit (A = CPTSD-I subscales, pre-treatment; C = CPTSD-I subscales, post-treatment). If fit was adequate, the predictor-mediator-outcome path (A→B→C; B = number of group sessions attended) was examined. If fit occurred, the A→B→C path was examined further under two conditions. Condition one was when the A→C path was constrained to zero (i.e., A = path consisting of CPTSD-I pre-treatment and number of group sessions; C = path consisting of CPTSD-I post-treatment and number of group sessions); condition two was when the A→C path was not constrained to zero.

Regarding WBTH symptom change, the predictor-outcome path (A→C) was first examined for adequate fit (A = WBTH subscales, pre-treatment; C = WBTH subscales, post-treatment). If fit was adequate, the predictor-mediator-outcome path (A→B→C; B = number of group sessions attended) was examined. If fit occurred, the A→B→C path was examined further under two conditions. Condition one was when the A→C path was constrained to zero (i.e., A = path consisting of WBTH pre-treatment and number of group sessions; C = path consisting of WBTH post-treatment and number of group sessions); condition two was when the A→C path was not constrained to zero.

Regarding CSI coping strategy change, the predictor-outcome path (A→C) was first examined for adequate fit (A = CSI subscales, pre-treatment; C = CSI subscales, post-treatment). If fit was adequate, the predictor-mediator-outcome path (A→B→C; B
number of group sessions attended) was examined. If fit occurred, the A→B→C path was examined further under two conditions. Condition one was when the A→C path was constrained to zero (i.e., A = path consisting of CSI pre-treatment and number of group sessions; C = path consisting of CSI post-treatment and number of group sessions); condition two was when the A→C path was not constrained to zero.

Mediation in each model was believed to occur if the unconstrained model did not provide better fit than the constrained model. This means that the addition of the A→C path to the constrained model did not improve the fit of the model. Stated differently, a mediational effect is believed to occur “if the previously significant A→C path is reduced to nonsignificance when the mediator is taken into account” (Holmbeck, 1997, p. 602).

Regression Equation Models

After developing an adequate SEM model to examine hypotheses 1 and 3, hypothesis 2 was examined using stepwise regression to identify which variables best predicted a decrease in PTSD symptom severity. In general, linear regression estimates the coefficients of the linear equation by identifying one or more independent variables that best predict the value of the dependent variable. Stepwise regression enters all independent variables separately, starting with the variable that has the highest bivariate correlation, or significance, with the dependent variable value upon entry. Additional variables are entered in order of the greatest amount of additional variance explained for the dependent variable. The alpha level for significance was p < .05. Stepwise regression also removes “weakened” variables that lose their predictive ability when other variables are entered into the equation.
**Chi-Squared Test**

Chi-Squared Test was used to determine whether demographic characteristics of the sample were related to participants’ high or low response to treatment. For instance, Chi-Squared Test could identify whether more females or males were represented in the high responder group. Data from the Demographic Information Sheet was entered for gender, race, parental status (i.e., single-parent, dual-parent, grandparent/other, state custody), physical abuse, sexual abuse, and witnessing domestic violence. Participants were ranked into high change (2) or low change (1) categories based on their CPTSD-I symptom change score. High change was determined by a change score of 4 or more, with a range from 4 to 20 (n = 30). Low change was determined by a change score of less than 4 or negative symptom change score, with a range from 4 to -8 (i.e., increase in symptoms; n = 28).

**Daily Rating Measures**

The Daily Ratings of Distress (DRD) scale was given to each participant after every assessment or therapy session. This measure was developed to monitor the level of distress or reaction each participant had from the interaction. The youths’ responses were situation-specific as to the time of the session, so these responses were not evaluated for a significant relationship over time.

The Daily Rating of Behavior (DRB) scale was created to help youths monitor their feelings and reactions between group sessions and to remind them to practice the skills learned in group. Significant changes from session 1 to session 6 were examined by plotting means for each question “overall for the week” (e.g., question 1, question 2) (see Appendix C) on a graph. Questions that exhibited a substantial slope were further
evaluated through Independent T-tests to examine change from pre-treatment to post-treatment.

Satisfaction Measure and Co-Therapist Data

The Post-assessment Questions (PAQ) survey was given to each participant at the end of the follow-up interview to evaluate each participant's level of satisfaction concerning the group therapy sessions (see Appendix D). The number of endorsements per therapy component was tabulated for this survey information.

To record the number of thinking errors a participant endorsed, or how often a participant related narrative about traumatic experiences during group sessions, co-therapists made a checkmark on a scoring sheet. An average thinking error score and average narrative score was computed for each participant, based on the number of sessions each attended to control for attrition effects.
CHAPTER 4

RESULTS

General Comparisons

Pearson correlation analysis was conducted for the major continuous variables. Correlation coefficients are shown in Table 2. The two variables with the strongest correlation, WBTH PTSD symptoms and WBTH symptom severity, were examined for multicollinearity using multiple regression analyses. Each variable was entered as the dependent variable. The variance inflation factor (i.e., VIF) was 1, well below the tolerable limit of 10 (Stevens, 1996). Therefore, multicollinearity was not deemed a problem for the remaining variables.

Structural Equation Modeling

Model One: CPTSD-I

Three models were examined using SEM. The first model examined whether number of group sessions influenced treatment outcome as measured by CPTSD-I symptom change scores from pre-treatment to post-treatment. This model met goodness-of-fit criteria (CFI=.934, IFI=.936, SRMR=.076) ($\chi^2=70.299$, p=.003). Cronbach’s alpha, a measure of internal consistency, was .90. The model is presented in Figure 1. Mediation analysis was then conducted regarding model two and mediation criteria were met. Adequate fit was identified for the $A \rightarrow C$ model (CFI=.934, IFI=.939, SRMR=.076) ($\chi^2=70.30$, p=.001) and the $A \rightarrow B \rightarrow C$ model (CFI=.934, IFI=.936,
SRMR=.076) ($\chi^2=70.299$, $p=.003$). Additionally, the constrained A→B→C model demonstrated adequate fit (CFI=.926, IFI=.929, SRMR=.109) ($\chi^2=73.47$, $p=.001$) and was not significantly different than the unconstrained model. Number of group sessions mediated the relationship between CPTSD-I pre-treatment and post-treatment scores. A paired sample t-test indicated that total PTSD symptoms post-treatment ($m = 16.74$, $sd = 10.38$) were significantly lower than total PTSD symptoms pre-treatment ($m = 21.29$, $sd = 10.16$) on the CPTSD-I ($p < .0001$).
### Table 2

Pearson correlation coefficients for major SEM variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. CPTSD-I reexperiencing</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. CPTSD-I avoidance</td>
<td></td>
<td>.77**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. CPTSD-I arousal</td>
<td></td>
<td>.81**</td>
<td>.77**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. CPTSD-I distress</td>
<td></td>
<td>.62**</td>
<td>.63**</td>
<td>.71**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. CPTSD-I total symptom</td>
<td></td>
<td>.93**</td>
<td>.92**</td>
<td>.91**</td>
<td>.76**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>6. WBTH PTSD symptom</td>
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<td>.64**</td>
<td>.60**</td>
<td>.65**</td>
<td>.54**</td>
<td>.69**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. WBTH symptom severity</td>
<td></td>
<td>.63**</td>
<td>.62**</td>
<td>.62**</td>
<td>.52**</td>
<td>.68**</td>
<td>.98**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. CSI problem solving</td>
<td></td>
<td>.27*</td>
<td>.26</td>
<td>.04</td>
<td>.08</td>
<td>.22</td>
<td>.01</td>
<td>.04</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. CSI seek support</td>
<td></td>
<td>.15</td>
<td>.14</td>
<td>.01</td>
<td>.20</td>
<td>.15</td>
<td>.02</td>
<td>.04</td>
<td>.56**</td>
<td></td>
</tr>
<tr>
<td>10. CSI avoidant coping</td>
<td></td>
<td>.43</td>
<td>.51**</td>
<td>.42**</td>
<td>.33*</td>
<td>.51**</td>
<td>.53**</td>
<td>.55**</td>
<td>.27*</td>
<td>.27*</td>
</tr>
</tbody>
</table>

Note: * p < .05; ** p < .01 level (two-tailed)
Model Two: WBTH

The second model examined whether number of groups sessions influenced treatment outcome as measured by WBTH symptom change scores from pre-treatment to post-treatment. This model also met goodness-of-fit criteria (CFI=.975, IFI=.976, SRMR=.047) ($\chi^2=11.208$, $p=.003$). The model is presented in Figure 2.

Mediational analysis was then conducted regarding model two and mediation criteria were met. Adequate fit was identified for the A→C model (CFI=.980, IFI=.980, SRMR=.004) and the A→B→C model (CFI=.975, IFI=.976, SRMR=.047) ($\chi^2=11.208$, $p=.003$). Additionally, the constrained A→B→C model demonstrated adequate fit (CFI=.970, IFI=.971, SRMR=.114) ($\chi^2=13.03$, $p=.001$) and was not significantly different than the unconstrained model. Number of group sessions mediated the relationship between WBTH pre-treatment and post-treatment scores. A paired sample t-test indicated that total PTSD symptoms post-treatment ($m = 41.46$, $sd = 19.30$) were significantly lower than total PTSD symptoms pre-treatment ($m = 50.64$, $sd = 21.65$) on the WBTH ($p < .0001$).

Model Three: CSI

The third model examined whether number of groups sessions influenced treatment outcome as measured by CSI coping strategy change scores from pre-treatment to post-treatment. A paired sample t-test indicated that avoidant coping post-treatment ($m = 19.71$, $sd = 4.68$) was significantly lower than avoidant coping pre-treatment ($m = 21.59$, $sd = 4.85$) on the CSI ($p < .0001$). However, the hypothesized model did not meet goodness-of-fit criteria (CFI=.777, IFI=.804, SRMR=.100) with all three subscales (i.e., avoidant coping, problem solving, seeking social support) included.
The standardized path coefficients from the diagram showed that the lowest path coefficient was avoidant coping. When avoidant coping was removed, model three was re-examined with the remaining two coefficients. Goodness-of-fit criteria were met with revised model three (CFI=.934, IFI=.943, SRMR=.053) ($\chi^2=5.523$, $p=.063$). The model is presented in Figure 3.

Mediational analysis was then conducted regarding model three and mediation criteria were met. Adequate fit was identified for the A→C model (CFI=.926, IFI=.933, SRMR=.060) ($\chi^2=5.10$, $p=.023$) and the A→B→C model (CFI=.934, IFI=.943, SRMR=.053) ($\chi^2=5.523$, $p=.063$). Additionally, the constrained A→B→C model demonstrated adequate fit (CFI=.934, IFI=.943, SRMR=.053) ($\chi^2=5.53$, $p=.062$) and was not significantly different than the unconstrained model. Number of group sessions mediated the relationship between CSI pre-treatment and post-treatment scores.

In summary, SEM models one and two supported hypothesis 1 by demonstrating goodness-of-fit. These models suggest that PTSD symptom reduction was influenced by number of group sessions. Paired-sample t-tests showed a reduction in PTSD symptom means post-treatment compared to pre-treatment. Additionally, model three partially supported hypothesis 3, indicating that proactive coping skills were influenced by number of group sessions. Model three did not suggest that avoidant coping was influenced by number of group sessions.
Figure 1. CPTSD-I Scores; Unconstrained Model with Path Coefficients.
Figure 2. WBTH Scores; Unconstrained Model with Path Coefficients.
Figure 3. CSI Scores; Unconstrained Model with Path Coefficients.
Regression Equation Models

Stepwise regression with CPTSD-I symptom change score and CSI problem solving change as dependent variables did not identify any significant predictors of change. Entering WBTH PTSD change score as the dependent variable indicated that dissociation pre-treatment was predictive of change, F (1, 52) = 5.32, p < .05, accounting for 9.1% of the variance.

To limit the number of dependent variables entered into regression equations, only total PTSD symptom change scores from CPTSD-I and WBTH were retained. Subscale scores from these measures were not included. Problem solving from CSI was identified as the most influential variable in SEM model three, so it was the only CSI symptom score retained.

To limit the number of predictor variables entered into regression equations, correlations between all potential predictors and selected dependent variables were examined. The potential predictors included:

1. Demographic Information Sheet
   a. Age
   b. Months of abuse

2. ADIS-C
   a. Number of comorbid diagnoses
   b. Depression comorbidity (combined major depression and dysthymia scores)

3. CPTSD-I
   a. Total PTSD symptoms pre-treatment
b. PTSD reexperiencing pre-treatment
c. PTSD avoidance pre-treatment
d. PTSD arousal pre-treatment
e. PTSD distress pre-treatment

4. WBTH
   a. Total PTSD symptoms pre-treatment
   b. Dissociation pre-treatment

5. CSI
   a. Avoidant coping pre-treatment
   b. Problem solving pre-treatment
   c. Seeking social support pre-treatment

6. Co-Therapist Notes
   a. Number of group sessions
   b. Average thinking errors endorsed
   c. Average narrative during session

Dissociation pre-treatment was the only predictor variable from the correlation matrix that revealed a significant correlation with CPTSD-I symptom change, WBTH symptom change, or CSI problem solving change. Additionally, the thinking errors and narrative scores had low correlations with each dependent variable, so they were eliminated. Predictor variables retained for regression equation models were thus hypothesis driven and based on correlation strengths. The retained predictors consisted of CPTSD-I total symptoms pre-treatment, comorbid symptoms pre-treatment, dissociation pre-treatment, and avoidant coping pre-treatment.
Chi-Squared Test

Chi-Squared Test was used to make comparisons across participant demographic data. Results indicated no significant differences in rate of response to treatment as a function of gender, race, parental status, physical abuse, sexual abuse, or witnessing domestic violence.

Daily Rating and Satisfaction Measures

The Daily Rating of Distress (DRD) scale was created to monitor youths’ reactions to group sessions and were situation-specific (i.e., to the time of session), so they were not evaluated for a significant relationship over time. The Daily Rating of Behavior (DRB) scale was created to help youths monitor their feelings and reactions each day between group sessions and to remind them to practice the skills learned in group. Because group participants were present for different numbers of sessions, a session-by-session group mean score was calculated for each of nine weekly questions and plotted on a graph (see Appendix C) to estimate overall change of feelings. These graphs indicated that only question 9 showed a statistically significant change from session 1 to session 6. This question read, “Overall for this week, I felt happy or sad? How much?” Each youth was prompted to circle either happy or sad and rate how much of the specified emotion on a 0 to 6 scale. The mean ratings for this question from session 1 to session 6 indicated a significant change from the amount of sadness to happiness endorsed (p < .01). All graphs are presented in Figure 4.
Figure 4. Daily Rating of Behavior (DRB) question means.
The Post-Assessment Questions (PAQ) satisfaction survey was given at the end of follow-up assessment. Participants were asked what they liked most and liked least about BTTC therapy sessions. Results indicated that participants most liked talking about their feelings and learning new skills. Many participants endorsed "nothing" as what they liked least. This option was independently written by respondents and was not on the provided list. Participants also endorsed the amount of paperwork and personal questions as what they liked least. When asked if they felt therapy was helpful to them, participants overwhelmingly marked yes (i.e., 40 yes; 5 no; 13 blank). Approximately 90% of respondents indicated that "nothing" should change. Responses are presented in Table 3.
Table 3

*Post-Assessment Satisfaction Survey*

<table>
<thead>
<tr>
<th>Liked Most</th>
<th>Liked Least</th>
</tr>
</thead>
<tbody>
<tr>
<td>Talking About Feelings</td>
<td>Nothing</td>
</tr>
<tr>
<td>Learning New Skills</td>
<td>Paperwork</td>
</tr>
<tr>
<td>Helping Me</td>
<td>Personal Questions</td>
</tr>
<tr>
<td>Friendly People</td>
<td>Learning New Skills</td>
</tr>
<tr>
<td>Being in Group</td>
<td>Unfriendly/Social Issues</td>
</tr>
<tr>
<td>Rewards (treats, stickers)</td>
<td>Being in Group</td>
</tr>
<tr>
<td>Blank</td>
<td>Blank</td>
</tr>
<tr>
<td><strong>Was Therapy Helpful?</strong></td>
<td>Leaving Group at End</td>
</tr>
<tr>
<td>Yes</td>
<td>Group Too Long</td>
</tr>
<tr>
<td>No</td>
<td>Talking About Feelings</td>
</tr>
<tr>
<td>Blank</td>
<td>Homework</td>
</tr>
<tr>
<td><strong>What Should Change?</strong></td>
<td></td>
</tr>
<tr>
<td>Nothing</td>
<td>51</td>
</tr>
</tbody>
</table>

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CHAPTER 5

DISCUSSION

A paucity of literature exists concerning youths in shelter care who have been removed from their homes due to child maltreatment. Literature addressing posttraumatic stress disorder in shelter-care youths is almost nonexistent. Because traumatic maltreatment can result in PTSD (Briere, 1997; Ford & Kidd, 1998; Davis & Siegel, 2000; Herman, 1992; Perry, 1999; van der Kolk, 2001; van der Kolk et al., 1996), and because a negative developmental trajectory can impact functioning into adulthood (Famularo et al., 1996; Ford, 1999; Klein & Schermer, 2000), identifying ways to ameliorate C-PTSD could be very beneficial to traumatized youths. This study began exploration of a much needed area of research by examining treatment outcome for youths with traumatic maltreatment in shelter-care.

Hypothesis One

Research concerning therapy for traumatized youths indicates that a supportive therapeutic environment and an opportunity to verbally process traumatic events are positively correlated with PTSD symptom reduction (Cloitre, et al., 2004; Cohen, et al., 2000; DeRubeis, Brotman, & Gibbons, 2005; Foa, et al., 1999; Kinzie, 2001; Mollica & Lavelle, 1988; Pynoos & Nader, 1993). Group therapy adds the benefit of an opportunity for victims to join with others who may also feel isolated and alienated by traumatic experiences. Interactions with group members within a safe therapeutic environment can
provide validation, support, connectedness, and strength to help members manage the challenging task of processing traumatic material (Foy, et al., 2000; Herman, 1992; Stauffer & Deblinger, 1996; Yalom, Brown, & Bloch, 1975). Additionally, research has indicated that length of treatment is positively correlated with reduction of PTSD symptoms (Cloitre, et al., 2004; Cohen et al., 2005). Building upon this literature base, Brief Therapy for Traumatized Children (BTTC) was designed to appeal to youths, create a safe therapeutic environment, teach effective coping strategies, and promote the healing process in traumatized youths.

The first research question examined whether BTTC would be effective for reducing PTSD symptoms in traumatized youths. As predicted, SEM Model One indicated that youths who participated in BTTC endorsed significant symptom change post-treatment compared to pre-treatment, as measured by the CPTSD-I structured interview. Also, results indicated that number of group sessions was a mediating factor in symptom change from pre- to post-treatment. In addition, a paired sample t-test indicated that total PTSD symptoms post-treatment were significantly lower than total PTSD symptoms pre-treatment on the CPTSD-I. In other words, as number of sessions increased, positive symptom change increased, resulting in a reduction of PTSD symptoms. Ninety-five percent of youths in the study were above the PTSD threshold (minimum of 7 symptoms across 4 of 5 domains) pre-treatment. Seventy-four percent of participants were above threshold post-treatment. In other words, almost a quarter of the participants no longer met PTSD diagnostic criteria in a very brief time. Most of the participants who were still above diagnostic threshold had symptoms reductions of \( \frac{1}{2} \) to \( \frac{3}{4} \) of pre-treatment levels. The clinical implications of this reduction are profound.
because trauma symptoms can be very distressing to the individual and can disrupt daily functioning and developmental trajectories. A reduction of PTSD symptoms can greatly enhance quality of life for the individual across multiple domains of functioning.

This study also provided internal replication to examine hypothesis one with an alternate self-report condition. As predicted, SEM Model Two indicated that youths who participated in BTTC endorsed significantly fewer C-PTSD symptoms post-treatment compared to pre-treatment, as measured by the WBTH self-report measure. Also, results for WBTH indicated that number of group sessions was a mediating factor in symptom reduction from pre- to post-treatment. In addition, a paired sample t-test indicated that total PTSD symptoms post-treatment were significantly lower than total PTSD symptoms pre-treatment on the WBTH.

Hypothesis Two

The childhood PTSD literature reveals several factors that predict development or maintenance of PTSD. To examine factors that may predict symptom change, six salient factors were extracted from the literature. As a result, this study examined the hypothesis that low comorbidity, low PTSD symptom severity, use of cognitive distortions, verbalization of trauma narrative, low dissociation, and use of avoidant coping strategies would contribute a significant amount of variance in predicting PTSD symptom change from pre- to post-treatment. Hypothesis two was only partially supported. Of the six hypothesized variables, only dissociation was identified as a significant predictor of PTSD symptom reduction.
Comorbidity

Several researchers have shown that increased comorbidity is correlated with high PTSD severity ratings (Breslau et al., 1991; Garber & Flynn, 2001; McLeer, et al., 1998; Trowell et al., 2002). In particular, dysthymia and major depression have been identified as disorders that are highly comorbid with C-PTSD (Famularo, et al., 1996; Feeney, et al., 2000; Jones & Barlow, 1990; Linning & Kearney, 2004; Trowell, et al., 2002; Wolfe, et al., 1994). This study found that overall comorbidity (r = .78, p = .000) and depression comorbidity (dysthymia plus major depression; r = .71, p = .000) were highly correlated with pre-treatment C-PTSD. However, neither comorbidity nor depression comorbidity was identified as a predictor of treatment outcome through regression.

PTSD Symptom Severity

Several studies have identified that individuals with increased numbers of PTSD symptoms often experience longer duration of PTSD, increased symptom severity, and greater distress over time (Gershuny & Thayer, 1999; Harvey & Bryant, 1998b; Shalev et al., 1997). In addition, longer duration of abuse has been identified as a predictor of PTSD development and greater symptom severity (Amaya-Jackson & March, 1995; Ford, 1999). Data from the present study indicated that higher month span of abuse was highly correlated with higher pre-treatment C-PTSD symptom severity (r = .44, p = .001). However, C-PTSD symptom severity was not identified as a predictor of treatment outcome through regression.
Cognitive Distortions

According to Burns (1999), cognitive distortions or thinking errors are believed to interfere with effective communication and effective problem solving, which may contribute to PTSD development. In addition, studies suggest that restructuring of cognitive distortions may help minimize negative symptoms related to PTSD (Bryant & Panasetis, 2001; Chaffin & Hanson, 2000; Ehlers & Clark, 2000; Foa, et al., 1999). A sensitive and psychometrically sound measure for thinking errors was not identified for this study. Therefore, to obtain a rudimentary estimate of the contribution of thinking errors to treatment outcome, basic hash mark tabulation of endorsed thinking errors was used. Unfortunately, either the measurement used was not sensitive enough or thinking errors did not account for a significant amount of variance in PTSD symptom reduction. Future research with BTTC should include a more sensitive measure to better evaluate the contribution of thinking errors to treatment outcome.

Trauma Narrative

As with thinking errors, a sensitive and psychometrically sound measure for trauma narrative was not identified for this study. Again, to obtain a rudimentary estimate of the contribution of trauma narrative to treatment outcome, basic hash mark tabulation of number of verbalizations with trauma narrative was used. Several researchers have shown that overall mental health and reduction in PTSD symptoms can be encouraged through the development and verbalization of trauma narrative (Calhoun & Resick, 1993; Foa et al., 1991; Foy, et al., 2000; Kinzie, 2001; Rothbaum & Foa, 1992; 1996) and journaling (Greenberg & Stone, 1992; Greenberg, Stone, & Wortman, 1997; Niederhoffer & Pennebaker, 2002; Pennebaker, 2004; Pennebaker & Francis, 133
Participants who shared their trauma narratives were expected to experience greater symptom reduction than youths who did not share their trauma narratives. Unfortunately, either the measurement used was not sensitive enough or the narrative did not account for a significant amount of variance in PTSD symptom reduction. Future research with BTTC could benefit from obtaining or constructing a more sensitive measure to better estimate the treatment outcome contribution of verbalizing trauma narrative to treatment outcome.

Dissociation

Dissociation has been identified by several researchers as a predictor of PTSD development, increased PTSD symptom severity, and higher levels of distress (Brewin et al., 1999; Chu, 1998; Classen, et al., 1998; Haddock, 2001; Holmes, 2001; Marmar et al., 1999; Murray et al., 2002; Rothschild, 2000; van den Bosch et al., 2003). Consistent with this previous research, the findings of this study revealed a high correlation between dissociation and PTSD. Seventy-five percent of the youths in this study with PTSD endorsed moderate to high dissociation symptoms (WBTH dissociation score of 3-8). Of those individuals, twenty five percent had high dissociation symptom scores (6-8).

One question to consider is what purpose dissociation serves for trauma victims. Putnam (1997) suggested that dissociation can serve a trauma victim in several ways, including an escape from reality, an “analgesic” effect or pain reduction, and an alteration of the sense of self. As described by Putnam (1997), the effects of dissociation could be characterized as a defense mechanism, avoidance of reality, or avoidance of the pain associated with overwhelming trauma. Additionally, some researchers have
postulated that emotional numbing is an element of dissociation. Both emotional numbing and dissociation have been shown to have a strong relationship with PTSD, and both have been characterized as negative coping strategies (Feeny, et al., 2000; Spiegel, 1997).

Initially during the traumatic event or immediately afterwards, dissociation can serve a positive function. The positive aspects can be to help a victim manage the situation without becoming too overwhelmed, or dissociation can help a victim stay alive by not fighting back during his or her assault. However, continued dissociation to avoid thinking about traumatic material or escape from this material can develop into a more global coping strategy used for many stressful situations. Used more globally, dissociation can become a negative, less effective means of coping with stress and trauma. Dissociation can also foster other negative interaction styles such as increased aggression (Cummings & Davies, 1994a; van der Kolk, Pelcovitz, Roth, Mandel, McFarlane, & Herman, 1996). Conceptualized this way, dissociation overlaps or parallels the construct of avoidant coping.

Results of this study indicated that youths with high dissociation pre-treatment reported significant symptom reduction post-treatment. Data concerning dissociation support hypothesis two and are encouraging because the treatment components of BTTC, particularly proactive coping strategies, were embraced by these youths. In other words, youths who commonly used dissociation as a coping strategy were able to start using the positive coping skills taught by BTTC.
Coping Strategies

Coping skills are classically grouped into two categories: positive or negative. Positive coping skills include problem-solving and seeking social support. Negative coping skills are usually referred to as avoidant, meaning that the individual makes conscious and unconscious efforts to avoid thinking about or remembering aversive material such as traumatic events (Amirkhan, 1990, 1994; Causey & Dubow, 1992, 1993; Horowitz, 1986; Lazarus & Folkman, 1984). As stated above, dissociation has also been characterized as a negative or avoidant coping strategy because it allows a person to escape or avoid aversive thoughts (Agargum et al., 2003; Feeny, et al., 2000; Kisiel & Lyons, 2001; Putnam, 1997; Spiegel, 1997).

General literature concerning coping styles suggests that those individuals who use more proactive coping strategies experience more satisfaction in life (Horowitz, 1986; Lazarus & Folkman, 1984; van der Kolk, et al., 1996). Additionally, individuals who use proactive coping strategies report less overall stress than individuals who use avoidant coping or other negative coping strategies (e.g., dissociation; Amirkhan, 1990, 1994; Causey & Dubow, 1992, 1993; Chu, 1998; Cole & Putnam, 1992; Folkman, 1991; Horowitz, 1986; Lazarus & Folkman, 1984; Putnam, 1997).

Individuals who develop negative coping strategies likely do so because they have not learned more positive strategies. The natural tendency is for people to want to avoid or move away from something aversive. Development of negative coping strategies is particularly likely for maltreatment victims traumatized at a young age. Many of these youths came from dysfunctional and non-supportive home environments where adults did not model more proactive coping styles (Barker-Collo & Read, 2003;
Berman, et al., 2000a; 2000b; Cummings, 1998). Indeed, youths from the study endorsed significantly fewer coping strategies from the CSI post-treatment than pre-treatment, so it appears reducing negative coping may have contributed to the overall symptoms reduction, however, further testing is needed to better understand these findings.

Understandably, children who have experienced traumatic maltreatment often learn to avoid trauma-related stimuli and numb emotions as a general response system. Avoidance may be effective short-term to help a child manage a difficult situation and can initially help reduce trauma-related distress. However, long-term avoidance can contribute to longer-range disturbance, including reactions through several different response systems (e.g., emotional, behavioral, physiological; Deblinger & Heflin, 1996; Folkman, 1991; Horowitz, 1986; Vernberg & Johnston, 2001).

Summary of Hypothesis Two Results

Overall, hypothesis two was partially supported using stepwise regression analysis. Of the six variables evaluated, only dissociation was identified as a significant predictor of symptom reduction. However, this leaves about 90% of the variance unaccounted for. This was not a complete surprise, though, given previous research findings. Foa and Riggs (1995) found that treatment processes such as fear activation during imaginal exposure accounts for a large amount of the variance of symptom improvement in cognitive-behavioral therapy. Fear activation was not evaluated in this study.

Specifically for this study, results indicated that higher levels of dissociation pre-treatment were predictive of higher symptom reduction post-treatment. Comorbidity, PTSD symptom severity, and avoidant coping style all showed significant correlations
with pre-treatment PTSD symptoms. However, as measured, these variables were not identified as significant predictors of symptom change. Findings concerning use of cognitive distortions and trauma narrative were inconclusive.

**Hypothesis Three**

Previous research has shown that engaging in cognitive avoidance after traumatic events may lead to increased risk of psychological symptoms (Johnson & Kenkel, 1991; Leitenberg et al., 1992). Additionally, negative avoidant coping suggests an inability to emotionally engage with traumatic memory, which can interfere with processes that lead to recovery (Feeney, et al., 2000; Foa, Riggs, & Massie, 1995). The current study supports previous findings by identifying that youths who engaged in high levels of avoidance also endorsed more severe PTSD symptoms. Hypothesis three posited that PTSD symptoms would be reduced though teaching youths to use more effective, proactive coping strategies rather than negative coping like avoidance or dissociation.

SEM Model Three indicated that youths who participated in BTTC endorsed significant change regarding proactive coping post-treatment compared to pre-treatment, as measured by the CSI. In addition, results indicated that number of group sessions was a mediating factor for change in the use of positive coping skills from pre- to post-treatment. SEM Model Three did not, however, identify number of sessions as a mediating factor for change in the use of avoidant coping.

Paired-sample t-tests were used to identify the direction of coping skills change. These data were inconsistent with the SEM models. T-tests indicated that avoidant coping decreased significantly. However, problem-solving and seeking social support also decreased slightly from pre- to post-treatment. This raises questions about the CSI
constructs of problem-solving, seeking support, and avoidant coping. Other factors could also be loading onto the identified constructs, which could contribute to the inconsistent findings. Another possibility is that while number of sessions ($m = 3.90, sd = 2.03$) significantly influenced coping change in a positive way and avoidant coping was significantly reduced, more than 6 sessions may have been needed to help youths more fully engage in positive coping strategies. For example, Ost, Paunovic and Gillow (2003) found 95% remittance of PTSD symptoms after 16 sessions, and Ehlers and Clark (2003) observed significant reduction of PTSD symptoms using a 12-week session format.

Despite the inconclusive results for hypothesis three concerning coping strategies change, the overall results of this study supported hypothesis one for overall symptom reduction. BTTC participants clearly embraced learning and using new skills for effective coping in lieu of using negative coping strategies like dissociation and avoidance, and BTTC participants clearly endorsed fewer PTSD symptoms post-treatment. In addition, regression analysis showed that higher dissociation symptoms pre-treatment predicted increased symptom change (i.e., decrease in PTSD symptoms), and the satisfaction survey revealed that youths most liked talking about their feelings and learning new skills. BTTC participants overwhelmingly endorsed BTTC group sessions as helpful. The data supported hypotheses one, and partially supported hypotheses two and three. The data also agreed with the information from the satisfaction ratings. In general, these data suggest that learning more proactive coping strategies and restructuring thinking concerning traumatic events helped the youths,
resulting in lowered avoidance and dissociative symptoms and lowered total PTSD symptoms post-treatment.

Clinical Implications

Results of this study indicated that youths enjoyed attending BTTC and, more importantly, that they experienced a reduction in distressing PTSD symptoms. These findings are encouraging because they suggest that BTTC may provide a brief and easily administered therapeutic modality that could be used in various settings to treat traumatized youth. In addition to use in shelter settings, BTTC could easily be administered in schools through a school counselor or after-school program. BTTC could also be administered through youth church groups or outreach programs.

BTTC is conducted in a fun, supportive group format. The social support available through this format allows youths to gain self-confidence and develop much needed perceptions of having some control of their environment. Indeed, youths begin experiencing control of their own emotional reactions and thought patterns right away through BTTC activities as well as between-session assignments. This newly experienced control allows self-confidence to grow and can help youths develop a personal sense of self-efficacy. This is important because self-confidence and self-efficacy have been found to be essential skills for adjustment and emotional security (Bowlby, 1973; Cummings, 1998; Fonagy & Target, 1999; Merrill, Thomsen, Sinclair, Gold, & Milner, 2001). Additionally, when a child feels safe within the therapeutic alliance with a therapist, he or she can learn from therapist modeling and internalize validation and support. In addition, the therapeutic environment provides a safe place to
practice new skills and experience success (Cloitre et al., 2004), which can foster additional efforts of skill building, self-insight, and self-advocacy.

The key features of this therapy protocol include bringing youths together as a group to learn effective coping strategies and to become a part of a supportive environment where talking about fears, concerns, and reactions to trauma is acceptable. Together youths learn that they are not alone with their troubling symptoms and that they are experiencing normal reactions to extreme stress. This normalization process can help neutralize the stigma and sense of isolation many of the youths feel after traumatic events. In addition, group sessions help youths learn relaxation and anxiety management strategies to calm themselves during future stressors or trauma reminders. As anxiety management skills become easier to use and more effective, the youths are better able to control arousal and control emotional dysregulation that may have previously led to impulsive and self-harming behaviors.

Thorough pre-treatment assessment provides information that the therapist can incorporate into skills training. In this way, salient material for each child (e.g., describing ways to set boundaries to avoid a future traumatic situation) can be woven into the teaching of new skills, as well as during cognitive restructuring and imaginal exposure. Incorporating salient material and examples can help individual participants practice and experience successful management for emotional reactions that are particularly challenging.

What is most encouraging about the findings of this study is that the skills taught through BTTC may help youths circumvent the debilitating negative trajectory that often accompanies development of PTSD when left untreated (Allen et al., 1998; Herman,
1992a; Linehan et al., 1991). Teaching effective coping skills and symptom management to youths may avert years of defending, avoiding, dissociating, and using self-defeating or self-harming strategies. Additionally, learning more proactive coping skills such as problem-solving and seeking social support may help youths address life challenges more effectively and may help them gain much needed confidence to make the efforts necessary to help themselves heal and prosper.

The broader implications of self-efficacy and overall effective coping reach beyond individuals to influence society as a whole. Much data has been gathered which shows that individuals with mental health problems such as posttraumatic stress disorder are high utilizers of public assistance like welfare and workforce services (van der Kolk, et al., 1996; 1999; Famularo, et al., 1992; Shaley, 1996). Traumatized people are also at least three times more likely to utilize health care services than non-traumatized people (van der Kolk, et al., 1999; Famularo, et al., 1992). In addition, untreated traumatized individuals are more likely to engage in self-harm behaviors such as substance abuse and risky sexual behaviors, and more likely to make impulsive choices that involve the legal system (Berman, Silverman, & Kurtines, 2000a; 2000b; Barker-Collo & Read, 2003). Thus, it is clear that individuals who are able to meet their own emotional needs and who are able to manage their lives effectively are far less apt to rely on social systems for help and support (Cicchetti, 1991; van der Kolk, 1989). BTTC may be one way of helping traumatized youths help themselves heal and overcome the negative impact of their trauma to become more successful individuals.
**Limitations**

Caution must be used in drawing conclusions about this study. Assessment was based solely on youth self-report data. Due to bureaucratic constraints, no collateral data were available, which could have provided rich baseline information regarding pre-trauma functioning. For example, Linning and Kearney (2004) found a significant relationship between depression, particularly dysthymia, and PTSD in shelter-care youths. However, what remains unclear is whether these youths already had an underlying propensity toward a depressive personality style (dysthymia), rendering them more susceptible to developing PTSD, or whether dysthymia developed after traumatization. Despite relying solely on youth self-report, using both interview and self-report questionnaires provided alternate conditions for internal replication. In addition, Kearney (2005) suggested that youths may be the best reporters of their own internalizing symptomatology.

Because all the children at the shelter had experienced child maltreatment, a control group was not available for this study. Structural equation modeling (SEM) was chosen for analysis to help control for the lack of a control group. SEM has several advantages over other forms of analyses: 1) provides overall goodness-of-fit estimates, 2) allows analysis of multiple subscales or factors, 3) provides information about the impact directly from one variable to another, as well as impact of mediating variables positioned between two variables, and 4) SEM minimizes measurement error.

Another limiting factor was the inability to collect one-month follow-up data. Evaluation of treatment efficacy is strongest when maintenance of treatment gains can be studied over time. Longitudinal data can also contribute to causal conclusions.
regarding treatment variables. Another limitation of this study was the relatively small sample size due to a large attrition rate. Despite inclusion of one hundred forty-seven youths in the study, sufficient pre- and post-assessment data were only available for fifty-eight participants. However, the sample was ethnically diverse, included a range of ages, utilized psychometrically-strong measures, and employed data analytic strategies to minimize measurement error.

The probability that additional variables contributed to treatment outcome limits the conclusions that can be drawn from the data. One possible contributing variable is therapeutic alliance. The therapeutic working relationship between client and therapist can be difficult to define or to measure, but some researchers have identified therapeutic alliance as a strong contributing factor in post-therapy client functioning (DeRubeis et al., 2005; Horvath & Luborsky, 1993; Kinzie, 2001; Lambert & Bergin, 1994; Wampold, 2005). This variable was not measured in the present study so it not known whether therapeutic alliance accounted for some of the variance of treatment outcome. Future research should include evaluation of therapeutic alliance.

Also, expectancy effects may have contributed to reduced PTSD symptoms if the youths desired to please the experimenter. In addition, Dearing and colleagues (2005) found that degree of engagement in the treatment process contributed significantly to treatment outcome. This variable was not measured in the present study so it may have accounted for some of the variance of treatment outcome. Future research should include evaluation of expectancy and engagement effects.

Another limitation was that information regarding trauma-specific coping skills is limited. Although much has been written about the significant contributions of coping
style (e.g., approach and avoidant) and locus of control (e.g., external or internal) to everyday problem-solving in adults and children (Amirkhan, 1994, Causey & Dubow, 1992; Folkman & Lazarus, 1984; Shalev, 1996; Wertlieb et al., 1987) these variables have received little attention in the C-PTSD literature. Because the results of this study are somewhat different than previous coping literature, many questions arise.

First, sampling a clinical population may do more to explain similarities than differences in coping strategies among victims of child maltreatment. All youths in the study had been removed from their homes to shelter-care following some form of maltreatment. Second, coping behavior can have much to do with how a child manages the distress of their symptoms as well as stressful life events. Because coping has been defined in a variety of ways, one cannot be sure that the available coping measure was truly tapping into the constructs of avoidant coping, problem solving, and seeking social support. For example, some individuals may have used avoidance to cope with failed coping, in addition to avoidance of coping with a stressor, (Karl, 2000). Avoidance of the distress from failed coping efforts may provide some short-term relief while psychosocial resources are restored. A very sensitive measure would be needed to identify these distinctions.

Thus, the CSI may have been too general and may not have been used by youths in a trauma-specific way. Each child was asked to imagine a problem or situation in which they had to make a difficult decision or solve a problem. The directions specified that the administrator should not offer examples so that participants could tailor answers to his or her own experiences. If the child thought of a more general problem rather than something trauma-oriented, that situation may not have seemed salient to him or her in
the context of survival skills needed to cope with stressors. Thus, focusing thoughts on
general, everyday problems could certainly influence the answers given, which may
differ from answers provided if he or she thought about a trauma-oriented problem.
Finally, the relatively small sample size may not have yielded enough power to fully
evaluate data from the CSI. More research is needed in this area.

In general, while some of the variables identified in this study predicted a
significant amount of the variance of PTSD symptom reduction through BTTC, much
variance remains unidentified. To achieve a clearer picture of outcome variance, the next
step would be utilizing more sensitive measures to better identify variables that
significantly contribute to outcome.

**Strengths**

Despite the identified limitations, the present study provided clear evidence that
youths who participated in BTTC experienced a statistically significant reduction in
PTSD symptoms. In addition, though the final sample was relatively small, the sample
was ethnically diverse and included a range of ages.

Though participants were the only source of information available, well-
standardized structured diagnostic interviews and well standardized measures of
posttraumatic stress disorder (PTSD) symptoms and comorbidity were used for pre- and
post-treatment assessment. Using both clinical interview and self-report questionnaires
was a source of alternate conditions for internal replication. Protocol adherence was
monitored through assessment and each therapy session to assure that each participant
received each aspect of BTTC protocol.
While there are questions that remain concerning which variables contributed most to treatment outcome, each of the treatment components has strong empirical support as an effective treatment for traumatized youths. Thus, as expected, hypothesis one was supported: youths who participated in BTTC experienced a significant decrease in PTSD symptoms.

**Future Research**

Results of this study indicated that youths who participated in BTTC experienced lower post-treatment PTSD symptoms. However, future longitudinal research is needed to identify whether these gains will hold up over time. A control group for comparison to the treatment group would provide valuable information and allow more confident conclusions regarding treatment efficacy. Further evaluation of optimal number of sessions would also be helpful. While one goal of BTTC was to develop an effective brief intervention, knowing if a few more sessions would have provided even greater therapeutic benefit would be useful.

Treatment delivery effects and therapeutic environment can also influence participant response and level of engagement. Considering the possible contributions of expectancy effects, therapeutic alliance, or treatment expectations, further research with BTTC should be done with different therapists to rule out therapist effects. Because expectancy effects and treatment expectations can be greatly influenced by the therapeutic alliance that gets built in the beginning of treatment, it would be useful to give attention to these factors in future studies to promote engagement with the therapy process. Additionally, it would be useful to measure these effects to help identify variance these variables may contribute to outcome. In addition, internal consistency
concerning treatment gains of BTTC would be strengthened by having other therapists using this treatment protocol in order to rule out therapist effects.

Future researcher of BTTC could also investigate providing the treatment using different conditions, settings, or combinations of the selected treatment components to further illuminate the specific contribution of each component. Elaborated measurement of treatment components would also be useful, such as identifying the variance contributed through fear activation during exposure therapy.

Measurement of constructs could also be improved in future studies. For instance, obtaining or constructing more sensitive measures and developing clearer construct definitions would allow better estimation of the contributions of thinking errors, trauma narrative, and coping strategies. Another direction for further research would be obtaining collateral information (e.g., parents, teachers) concerning pre-morbid functioning, pre-existing vulnerabilities (e.g., anxiety sensitivity), family environment, familial coping styles, and victim views concerning appropriate versus inappropriate behaviors.

One of the primary goals of BTTC was to provide youths with effective skills to help them address future stressors in their lives. Previous research has shown that the way an individual copes with problems or tries to deal with problems can be highly related to PTSD symptoms (Deblinger & Heflin, 1996; Folkman, 1991; Horowitz, 1986; Shalev, 1996; Vernberg & Johnston, 2001; Wertlieb et al., 1987). However, clear definitions of positive versus negative coping strategies are still evolving. More research is needed in this area, particularly with respect to the role coping plays in PTSD development, maintenance, and treatment. Because traumatic events are increasingly
common within our complex society and because many traumatized people do not have the opportunity to receive therapy from a trained professional, identifying additional treatment delivery methods would be useful. Self-help booklets or internet-delivered skills building may be viable options in the future. In addition, preventive measures such as teaching self-protective and self-healing skills could be taught in a generalized setting like school. Better self-regulation and coping skills could help youths manage stressors more effectively before they lead to complications such as drug abuse, depression, anxiety, interpersonal problems, or PTSD.

Individuals and our society as a whole pay a great toll for the negative effects of traumatic child maltreatment. This underscores the need to increase available resources both to victims and to scientific endeavors in this area. As mental health professionals gain more knowledge about traumatic maltreatment and its implications, they become better able to provide intervention, prevention, and conduct further research. The initial findings concerning Brief Therapy for Traumatized Children offer a promising start towards this effort.
APPENDIX A

THINKING ERRORS OR COGNITIVE DISTORTIONS

1. **All-or-Nothing Thinking** (absolute, black or white categories)
2. **Overgeneralization** (viewing a single negative event as a never-ending pattern of defeat)
3. **Mental Filter** (allowing a single negative detail to color the entire situation)
4. **Disqualifying the Positive** (rejecting positive events: "they don't count," so you can maintain a negative belief)
5. **Jumping to Conclusions** ("mind reading" in negative light; anticipate negative outcomes)
6. **Magnification** (Catastrophizing): exaggerate importance or
   **Minimization**: shrink reality of achievements
7. **Emotional Reasoning** ("I feel dumb, so I must be dumb.")
8. **SHOULD Statements** (self-blame that causes guilt; "should," "must," "ought;"
directed at others--causes anger, resentment)
9. **Labeling** (Negative labels like, "I'm a loser." and
   **Mislabeiling** (describing events with emotional language)
10. **Personalization** (Blame yourself for someone else's bad behavior) and
    **blame** (Blame others for your attitudes or behavior)
APPENDIX B

DAILY RATING OF DISTRESS

Please rate how you feel from 0 - 6 for each item:

\[0\] not at all \[1\] some \[2\] very much

1. I feel upset or disturbed by today's group: 

2. I feel happy after today's group: 

3. I feel anxious (nervous, afraid) after today's group: 

4. I think I understand my feelings better after today's group: 

5. I feel depressed (hopeless, don't want to do anything) after today's group: 

6. I have more energy after today's group: 

7. I feel angry after today's group: 

8. I feel relieved or better after today's group: 

9. I feel sad after today's group: 

10. I think coming to group is helpful to me: 

11. What did you like most today? 

12. What did you like least today? 

Your number ______ Group name _____________

Week __________ Date ____________________
APPENDIX C

WEEKLY RATING OF BEHAVIOR (1)
Rate your feelings for each item, for each day, between 0 - 6: Bring with you to next group

\[0 \quad 1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6\]

<table>
<thead>
<tr>
<th>ITEM</th>
<th>MON</th>
<th>TUES</th>
<th>WED</th>
<th>THUR</th>
<th>FRI</th>
<th>SAT</th>
<th>SUN</th>
<th>OVERALL FOR WEEK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today I felt relief from my problems by writing in my journal.</td>
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<tr>
<td>My emotional mind seemed to be controlling my decision-making today, rather than wise mind.</td>
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<td>I felt angry or upset about family problems today.</td>
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<tr>
<td>Today I was able to recognize my thinking errors &amp; correct my thinking to use wise mind for better decision-making.</td>
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<tr>
<td>I was having nightmares or flashbacks about my bad thing today or last night.</td>
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<tr>
<td>Since talking in group I have had a lot of upsetting or disturbing thoughts about my bad things.</td>
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<tr>
<td>Since talking in group I have had a lot of sad or depressed feelings about my bad things.</td>
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<tr>
<td>Today I felt angry or upset about things that happened in the cottage</td>
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<td></td>
</tr>
<tr>
<td>Overall, TODAY I mostly felt happy OR sad (circle one).</td>
<td>Happy</td>
<td>Happy</td>
<td>Happy</td>
<td>Happy</td>
<td>Happy</td>
<td>Happy</td>
<td>Happy</td>
<td>Happy</td>
</tr>
<tr>
<td>How much? Example: (Happy 5...Happy 2...OR Sad 3 ...Sad 4...)</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
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<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

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APPENDIX D

POST-ASSESSMENT QUESTIONS

I. WHAT DID YOU LIKE MOST ABOUT THE THERAPY SESSIONS?

II. WHAT DID YOU LIKE LEAST ABOUT THE THERAPY SESSIONS?

III. DO YOU FEEL THAT THERAPY WAS HELPFUL TO YOU?
Circle one: YES  NO
A. IN WHAT WAYS?

IV. WHAT DO YOU THINK WAS MOST HELPFUL TO YOU?
Circle letter of all that apply:
A. Explaining trauma reactions and common symptoms people feel after trauma
B. Identifying Thinking Errors you use and helping you stop them
C. Relaxation training (anxiety management)
D. Journaling
E. Discussing Boundaries
F. Brief Exposure (telling your stories and then managing your anxiety with relaxation training)
G. Talking about your feelings
H. WISE MIND — combining emotional mind with reasonable mind to make better decisions and choices for life

V. WHAT DO YOU THINK WAS LEAST HELPFUL TO YOU?
Circle letter of all that apply:
A. Explaining trauma reactions and common symptoms people feel after trauma
B. Identifying Thinking Errors you use and helping you stop them
C. Relaxation training (anxiety management)
D. Journaling
E. Discussing Boundaries
F. Brief Exposure (telling your stories and then managing your anxiety with relaxation training)
G. Talking about your feelings
H. WISE MIND — combining emotional mind with reasonable mind to make better decisions and choices for life

WHAT DO YOU THINK SHOULD CHANGE? HOW SHOULD IT CHANGE?
APPENDIX E

WEEKLY SESSIONS

Session 1

1. Rationale for therapy is given; statement that therapy group is a safe and accepting place to share feelings

2. Review of confidentiality during all project interactions and limits of therapist confidentiality (self-harm, other-harm)

3. Rules of Group: no physical contact with each other; no leaving group during a session; be mindful of how much time you take with your stories and feelings so everyone gets a turn to share their feelings; each child must have respect for each other, observing confidentiality concerning each other’s feelings and stories

4. Psychoeducation regarding common trauma symptoms

5. Description of the therapy process: during some sessions the child may feel sad or upset but will feel better by the end of the session and will feel symptom reduction by termination of session sequence (including a statement that they need to let the therapist know if they do not feel better before leaving the group so she can talk to the child individually)

6. Explain Mindfulness (combining emotional mind and rational mind for better problem-solving and decision-making using wise mind)

7. Describe Thinking Errors (Cognitive Distortions)
8. Open expression of feelings and group rapport building

9. Describe format of journaling and keeping a Daily Rating of Behavior (DRB) log sheet

10. Hand out journals, pens, and DRB for the week

11. Fill out Daily Rating of Distress to evaluate each child’s current level of distress or anxiety following the session

**Session 2**

1. Sticker reinforcement for journaling and DRB completion

2. Each child describes thinking errors they used during the week

3. Cognitive restructuring offered for each thinking error

4. Review of Mindfulness and how it can help them

5. Teach Deep Breathing Relaxation (anxiety management)

6. Teach Visual Imagery (anxiety management)

7. Practice relaxation training with soothing music

8. Imaginal Exposure: therapist tells an imaginal story and the children practice identifying anxiety arousal and practice using anxiety management techniques to reduce their symptoms

9. Discussion of boundaries that could have helped avoid a problem situation or avoided increased anxiety

10. Relaxation

11. Journal assignment: identify two cognitive distortions you used during the week; write about the feelings you experience during the week

12. Exchange competed DRB for a new DRB
13. Daily Rating of Distress

Session 3

1. Sticker reinforcement for journaling and DRB completion
2. Each child describes thinking errors they used during the week
3. Cognitive restructuring used for each thinking error and reminders of using wise mind and how it can help them
4. Teach Deep Progressive Muscle Relaxation (anxiety management)
5. Practice relaxation training with soothing music
6. Imaginal Exposure: therapist tells an imaginal story and the children practice identifying anxiety increase and practice using anxiety management techniques to reduce their symptoms
7. Children tell their own bad experiences while practicing anxiety management
8. Discussion of boundaries that could have helped avoid a problem situation or increased anxiety; role-play
9. Relaxation
10. Journal assignment: identify two cognitive distortions you used during the week; write about the feelings you experience during the week; write about the bad experience that bothers you the most
11. Exchange competed DRB for a new DRB

12. Daily Rating of Distress

Session 4

1. Sticker reinforcement for journaling and DRB completion
2. Each child describes thinking errors they used during the week
3. Cognitive restructuring used for each thinking error and reminders of using wise mind and how it can help them

4. Practice relaxation training with soothing music

5. Children tell their own bad experiences while practicing anxiety management

6. Discussion of boundaries that could have helped avoid a problem situation or increased anxiety; role-play

7. Relaxation

8. Journal assignment: identify two cognitive distortions you used during the week; write about the feelings you experience during the week; write about the bad experience that bothers you the most

9. Exchange competed DRB for a new DRB

10. Daily Rating of Distress

Session 5

1. Sticker reinforcement for journaling and DRB completion

2. Each child describes thinking errors they used during the week

3. Cognitive restructuring used for each thinking error and reminders of using wise mind and how it can help them

4. Practice relaxation training with soothing music

5. Children tell their own bad experiences while practicing anxiety management

6. Discussion of boundaries that could have helped avoid a problem situation or increased anxiety; role-play

7. Relaxation
8. Journal assignment: identify two cognitive distortions you used during the week; write about the feelings you experience during the week; write about the bad experience that bothers you the most

9. Exchange competed DRB for a new DRB

10. Daily Rating of Distress

Session 6

1. Sticker reinforcement for journaling and DRB completion

2. Each child describes thinking errors they used during the week

3. Cognitive restructuring used for each thinking error and reminders of using wise mind and how it can help them

4. Practice relaxation training with soothing music

5. Children tell their own bad experiences while practicing anxiety management

6. Discussion of boundaries that could have helped avoid a problem situation or increased anxiety; role-play

7. Help each child identify triggers of anxiety to help them monitor and manage anxiety symptoms in the future

8. Overall summary of group interaction

9. Therapist identifies the progress and strengths of each child, encouraging them to continue to make progress on their own with the new skills they have learned

10. Relaxation

11. Collect last DRB

12. Daily Rating of Distress
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Social Behavioral Sciences Institutional Review Board Approval Notice

DATE: June 3, 2003
TO: Lisa Linning
Psychology
FROM: Dr. Fred Preston, Chair
UNLV Social Behavioral Sciences Institutional Review Board
RE: Status of Human Subject Protocol Entitled:

OPRS#: 113S0403-128
APPROVAL DATE: June 3, 2003

This memorandum is official notification that the UNLV Social Behavioral Sciences Institutional Review Board has approved the protocol for the project listed above and research on the project may proceed. This approval is effective from the date of this notification and will continue through June 3, 2004, a period of one year from the initial review.

Should the use of human subjects described in this protocol continue beyond a one-year period from the initial review, it will be necessary to request an extension. Should you initiate any change(s) to the protocol, it will be necessary to request additional approval for such change(s) in writing through the Office for the Protection of Research Subjects.

If you have any questions or require any assistance, please contact Brenda Durosinmi, in the Office for the Protection of Research Subjects at 895-2794.

cc: OPRS file
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