7-31-2013

Complex Trauma in Children and Adolescents

Rachel Ann Wamser
University of Missouri-St. Louis, rachel.wamser@gmail.com

Complex Trauma in Children and Adolescents

Rachel A. Wamser
M.A., Psychology, University of Missouri- St. Louis, 2009
B.A., Psychology, University of Missouri- St. Louis, 2007

A Dissertation submitted to the graduate school of the University of Missouri- St. Louis in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Clinical Psychology

Advisory Committee

Brian Vandenberg, Ph.D.
Chairperson

Ann Steffen, Ph.D.
Committee Member

Matthew Kliethermes, Ph.D.
Committee Member

Lois Pierce, Ph.D.
Committee Member

Table of Contents

Acknowledgements

I would like to thank my advisor, Dr. Brian Vandenberg, for five incredible years of mentorship. Your guidance, encouragement, and commitment to my development have made a profound difference in my life. Thank you for the countless hours you have spent helping me. Thank you for the hundreds of thoroughly reviewed drafts as you tried to teach me how to write. Thank you for pushing me to grow into who I have become. I am most grateful.

Thank you to my committee members, Dr. Ann Steffen, Dr. Matthew Kliethermes, and Dr. Lois Pierce for your significant and thoughtful contributions to this project.

Thank you to my supervisors at CAC, Dr. Kliethermes and Dr. Megan Schacht, for your expertise, positive role modeling, and for taking an interest in me. I have greatly benefitted. I am most thankful to Dr. Jerry Dunn, who has given me the gift of three years of amazing graduate training. Working at CAC has been my most formative and meaningful graduate experience. Thank you to my other mentors at CAC, Dr. Natalie Wilcox, Kate Drewry, MSW, LCSW, and Dorothy Denny, MSW, LCSW. Each of you has made me a better clinician.

Thank you to my husband John, for everything that you are and all that you do.

Thank you to my family for your support and encouragement.

Most importantly, thank you to the brave survivors of complex trauma that I have been privileged to have worked with. I am in awe of your resiliency.

List of Tables

Figure Captions

Abstract

Complex trauma events, or chronic interpersonal traumas that begin early in life, are thought to result in profound disruptions, well beyond the symptoms of PTSD. Complex trauma events may be especially toxic for children and adolescents, whose regulatory systems are more vulnerable. This study provides empirical support for the previously unexamined hypothesis that complex trauma events result in broad systemic difficulties, not simply higher levels of PTSD symptoms. This study also offers evidence for a dimensional conceptualization of traumatic events, with acute noninterpersonal trauma residing on one end of the spectrum and complex trauma on the other. 346 treatment-seeking children and adolescents who had experienced a traumatic event were included in this study. Results indicated that children exposed to a complex trauma event had significantly higher levels of trauma-related and generalized difficulties as compared to those exposed to other, less severe traumatic events. Children exposed to successively more severe traumatic events were also reported to have increasingly higher levels of difficulties. The evidence of including an impaired caregiving system, operationalized as the child being removed from the home following the onset of the traumatic event, into the definition of complex trauma was examined, but not supported. The results demonstrate the validity of the concept of complex trauma and point to the need for a diagnostic construct related to complex trauma for children and adolescents.

Complex Trauma in Children and Adolescents

A substantial number of children and adolescents experience traumatic events such as sexual, physical, or emotional abuse, neglect, domestic violence, natural disasters, school or community violence and serious car accidents and other accidents. It is the unfortunate reality that some of these youth receive more than their fair share, experiencing severe, multiple, prolonged traumas. In fact, one nationally representative sample of over two thousand children found that 22% of surveyed children had experienced four or more different kinds of victimization within a single year (Finkelhor, Ormrod, & Turner, 2007). This suggests that the experience of extensive and repeated trauma is not all uncommon, yet this subset of survivors have not received little attention to their unique needs. Decades of research, however, have been devoted to examining the impact of single types of maltreatment (i.e., sexual or physical abuse) and consistently demonstrate the toxicity of various traumatic events. Childhood traumatic experiences have been linked to a variety of physical and mental health problems, risky and self-injurious behaviors, negative parenting outcomes, revictimization, and perpetration of interpersonal violence (Abram, Teplin, Longworth, McClelland, & Dulcan, 2004; Anda, 2006; Banyard, Williams, & Siegel, 2003; Felitti et al., 1997; Walsh, Blaustein, Knight, Spinazzola, & van der Kolk, 2007; Whitfield, Dube, Anda, & Felitti, 2003). Clearly, these well-documented symptoms extend far beyond the confines of the diagnostic construct Posttraumatic Stress Disorder (PTSD) even for acute traumatic events. When considering the impact of poly-victimization, then PTSD may be insignificant.

A diagnosis of PTSD requires the direct or indirect exposure to a traumatic event that involves an actual or perceived threat to the physical integrity of an individual or others (criterion A1; APA, 2000). Traumatic events commonly observed in childhood

include, but are not limited to: child sexual or physical abuse, neglect, domestic violence, life-threatening illness, school or community violence, unexpected death of a family member or close friend, natural disaster, motor vehicle accident or other serious accident. Thus, a wide range of events are captured under the heading of a traumatic event. But would the experience of learning of a friend's non-fatal car accident be expected to result in an identical symptom presentation as chronic sexual abuse perpetrated by one's biological father? According to the PTSD framework, yes. Despite qualitative differences in terms of the degree of involvement, severity, and chronicity of the traumatic event, with the diagnostic construct of PTSD, all traumatic events are assumed to potentially result in the same sequelae.

Yet, common sense and clinical lore suggests that survivors of severe traumatic events will have a more complicated symptom presentation. This is affirmed by research. Researchers consistently find that characteristics of the traumatic event are related to a more complicated symptom presentation- typically with non-PTSD symptoms. For example, interpersonal traumas, such as abuse and domestic violence, appear to be particularly harmful, resulting in long-lasting, severe, and more generalized symptoms than non-interpersonal traumas such as motor vehicle accidenets (Briere & Jordan, 2004; Briere, Kaltman, & Green, 2008; Ford, Stockton, Kaltman, & Green, 2006; van der Kolk, 2005). Interpersonal traumas are partly so toxic as they are intentionally perpetrated by another person, thus, the victim’s views regarding safety, intimacy, and trustworthiness are vulnerable to unhelpful or inaccurate alterations (Janoff-Bullman, 1992). The duration and the number of instances of the traumatic event are also related to outcome. Duration and number of incidents are linked together as traumatic events that are chronic, by their nature, have occurred more than once and conversely, multiple incidents of a

traumatic event often occur over an extended period of time. Unsurprisingly, the longer and more frequently the trauma occurs, the more severe and varied the post-traumatic sequelae (Blaauw, Winkel, Arensman, Sheridan, & Freeve, 2002; Mechanic, Uhlmansiek, Weaver, & Resick, 2000). Both of these characteristics may contribute to the survivor feeling overwhelmed, helpless, or that the trauma is inescapable. The age of the victim when the trauma begins is important. Traumatic events that begin in childhood result in a more severe symptom presentation compared to those which begin in adulthood (Cloitre, Scarvalone, & Difede, 1997; Roth, Newman, Pelcovitz, van der Kolk, & Mandel, 1997). In sum, all traumatic events are not created equal. Taken together, research would suggest that traumatic events which are interpersonal in nature, chronic or multiple, or begin at an early age are related to a more complex symptom presentation (Herman, 1992; Terr, 1991). Within the current PTSD construct, these differences are not acknowledged and instead are subsumed under a single diagnostic category.

PTSD also takes a one-size-fits-all approach to trauma-related symptoms, which is tragic as PTSD is fails to capture the full span of trauma-related sequelae. PTSD is classified as an anxiety disorder and consequently, PTSD describes symptoms of anxiety. Trauma survivors unfortunately have problems beyond that of anxiety. Survivors of childhood sexual abuse, for example, have difficulties in a broad range of domains including serious impairments in affect regulation, self-concept, and interpersonal problems, sexualized behavior, and somatic complaints (Cloitre, Stovall-McClough, Zorbas, & Charuvastra, 2003; Spinazzola, 2005; Stovall-McClough & Cloitre, 2006; Zucker, Spinazzola, Blaustein, & van der Kolk, 2006). These symptoms are notably absent from the list of acceptable symptoms of PTSD. As an anxiety disorder, the construct PTSD is unable to capture these difficulties without violating the organization

of the DSM. The non-anxiety symptoms which do not fit are relegated to a variety of "comorbid" conditions, which ostensibly are thought to be unrelated to the trauma. This would be acceptable if few traumatized individuals presented with non-PTSD diagnoses. Unfortunately, non-PTSD symptoms are ubiquitous, with more than 80% of individuals diagnosed with PTSD also receiving a comorbid diagnosis (Foa, Freidman & Keane, 2000). PTSD has one of the highest rates of comorbidity of any DSM diagnostic category (Kessler, Chiu, Demier, Merikangas, & Walters, 2005). This may be problematic, it is implied that some, but not all, of the patient's symptoms may be ascribed to the traumatic experience. Conceptualizing other potential effects of trauma as merely "co-morbid," as opposed to the "real" trauma disorder may also limit the validity of trauma research; as such co-morbid conditions are often excluded from trauma-focused research. In fact, a review of the treatment outcome studies demonstrated that the typical presenting client would be screened out of PTSD studies because of comorbid conditions (Spinazzola, Blaustein, & van der Kolk, 2005). Thus, much of PTSD research may not be even applicable to the typical client.

PTSD is, instead, more useful in capturing the effects of single-episode, acute traumas occurring in adulthood (Cloitre, Scarvalone, & Difede, 1997; van der Kolk, 2005). In fact, PTSD is diagnosed more frequently following single instances of trauma than after multiple or chronic traumatic events (Green et al., 2000). Clearly, this does not indicate that individuals who have experienced repeated and severe traumatic events do not present with trauma-related difficulties, but rather, that the PTSD criteria may be insufficient in describing reactions to more severe traumatic events. Since its inception into the DSM in 1980, leaders in the field of traumatic stress have argued that PTSD does not accurately capture the presentation of victims of child abuse, concentration camps,

refugee camps, domestic violence, or those that have experienced other repeated and extensive trauma (Herman, 1992; Cook et al., 2005; Courtois, 2004). The shortcomings of PTSD are too great for the most serious of traumas.

Diagnostic issues tend to be magnified in child populations and this is not exception for PTSD. Even more so than in adult populations, PTSD captures only a portion of trauma-related symptoms in children irrespective of the type of traumatic event (Briere, 1988; Cole & Putnam, 1992; Scheeringa, Zeanah, Meyers, & Putnam, 2003; Summit, 1983). Research finds that children have difficulties with aggression and impulse control (Burgess, Hartman, &McCormack, 1987; Cole & Putnam 1992; Steiner, Garcia & Matthews, 1997), attention and dissociation problems (Teicher et al., 2003), somatic complaints and health problems (Anda, 2006; Felitti et al., 1997) and interpersonal problems with caregivers, peers, and later romantic partners (Cloitre et al., 2003). Cumulative findings from the National Child Traumatic Stress Network (NCTSN) data sets (N= 1,699) indicated that a large percentage of children had forms of post-traumatic sequelae not captured in PTSD, including affect regulation problems (61.5%), attention or concentration problems (59.2%), negative self-image (57.9%), impulse control problems (53.1%), depression or anxiety (50%), and aggression or engaging in risk-taking behaviors (45.8%) (Spinazzloa et al., 2005). Additionally, approximately one-third of the sample had significant somatization problems, attachment problems, Conduct Disorder or Oppositional Defiant Disorder. One quarter of children exhibited significant dissociation. Another large NCTSN data set of 9,336 children found significant levels of behavior problems (48%), academic problems (41%), attachment problems (31%), and suicidality (11%; van der Kolk et al., 2009). With the exception of concentration problems, and some symptoms of dissociation none of the above cited problems are

described in PTSD. Traumatized children present with a host of other psychiatric disorders including substance abuse, borderline and antisocial personality disorder, eating, dissociative, affective, somatoform, sexual disorders and health problems (e.g., Breslau et al., 1997; Cloitre, Tardiff, Marzuk, Leon, & Portera, 2001; Dube et al., 2001; Felitti et al., 1997; Kilpatrick et al., 2003; Macfie, Cicchetti, & Toth, 2001; Putnam & Trickett, 1997; van der Kolk, Perry, & Herman, 1991; Zlotnick et al., 1996). PTSD is not even the most common diagnosis following traumatic exposure in children. One study found that traumatized children are diagnosed with, in the order of frequency, with Separation Anxiety Disorder (58%), Phobic Disorder (36%), PTSD (35%), Oppositional Defiant Disorder (22%), and ADHD (22%) (Ackerman, Newton, McPherson, Jones, & Dykamn, 1998). Other research supports this, finding that PTSD is uncommon following traumatic exposure in children (Copeland, Keller, Angold, & Costello, 2007).Thus, PTSD may be an infrequent outcome following childhood trauma, even when other difficulties are present.

Considering the limitations of PTSD is not just an esoteric discussion, but instead has far-reaching implications. Currently no other diagnostic entity adequately describes the impact of trauma on child development; instead children are given a number of comorbid diagnoses which do not attribute the symptoms to traumatic exposure. Only the symptoms of PTSD are legitimized by the current diagnostic system, and consequently, by society. More importantly, comorbid diagnoses only capture a piecemeal and limited aspect of the complex effects of child traumatic exposure. These separate diagnoses do not convey the full spectrum of trauma-related difficulties nor do they help inform the public or help develop appropriate assessment tools, prevention programs, or interventions. Trauma-focused therapies will not address these pervasive developmental

impairments, creating the false impression that the trauma has been resolved and that these symptoms originated from another source. Thus, these children are ill-served by the current diagnostic system, as it frequently leads to no diagnosis or multiple unrelated diagnoses.

Complex Trauma

In reaction to the limitations of PTSD, the concept of complex trauma was developed to describe how severe and extensive traumatic events produced a constellation of symptoms beyond that of PTSD (Herman, 1992). The term complex trauma, confusingly, has a dual definition, referring to both a specific type of traumatic exposure as well as the outcomes that follow such complex trauma exposure (NCTSN, 2003). The concept of complex trauma is best conceptualized as an equation- that is, some specified types of traumatic events which are qualitatively more severe than others are presumed to result in specific traumatic outcomes which are profound and far-reaching. Thus, similar to PTSD, if an individual experiences a specific type of traumatic event, then an individual is eligible to develop a specific type of symptoms. Unfortunately, this equation has yet to be investigated in children and adolescents.

Complex trauma events differ from PTSD in that they appear qualitatively more severe than other traumatic events. In the original seminal article defining the concept of complex trauma, Herman (1992) asserted that victims of child abuse, domestic violence, and concentration camps appeared to consistently present to treatment differently that those with less severe trauma histories, with symptoms surpassing PTSD. Here, complex trauma was defined as a prolonged and repeated interpersonal traumatic event. Complex trauma has been somewhat similarly defined in the DSM-IV field trial and by other

scholars (Cook et al., 2003; Pelcovitz et al., 1997) as a traumatic event which is chronic, interpersonal and begins in childhood. Examples of complex trauma events can include child sexual, physical, and emotional abuse, neglect, witnessing severe domestic violence, the experience of being in a refugee camp, among others. Thus, complex trauma events have greater specificity than PTSD- focusing exclusively on traumas that appear qualitatively more severe.

The aftermath of a complex trauma event is presumed to be, as the name implies, complex. Different researchers have identified similar domains of complex trauma impairment including problems with regulation in affect, behavior, impulses, attention, and consciousness, interpersonal and identity problems as complex trauma outcomes (NCTSN, 2003; van der Kolk et al., 2005). Note that these difficulties are not limited to anxiety-based symptoms. Indeed, complex trauma outcomes are fundamentally different than the symptoms delineated by PTSD or other diagnostic constructs as they span nearly every domain of functioning.

Why might complex trauma outcomes be so broad? Complex trauma events are prolonged and occur within the context of development. They are not isolated incidents of interpersonal violence that occur in adulthood, but rather, begin early and occur frequently. A single-episode of trauma may result in anxiety and fear. It may even develop into PTSD or alter one's assumptions about themselves, the world, and others (Janoff-Bullman, 1992). A life of trauma, instead, alters development. Valuable resources must be allocated to survival rather than development, and one developmental task, self-regulation, may be particularly vulnerable to complex trauma events. Self-regulation is a key developmental task that develops in the context of a secure and stable environment. The complex trauma environment is anything but secure and stable, but

instead is toxic and chaotic. Literature from child abuse populations, domestic violence, concentration camp survivors indicate that complexly traumatized individuals are characterized by widespread difficulties with regulation (Herman, 1992). In one large study of clinicians who are part of the NCTSN, self-regulation was cited as the most frequent problem observed in treatment-seeking children who were exposed to repeated and extensive traumas (Spinazzola et al., 2005). In the absence of self-regulation, the child will be unable to modulate overwhelming amount of distress, leading to pervasive disturbances in mood, including depression and anger, or may dissociate (Cicchetti & Toth, 2005). As dysregulated individuals handle their distress in varied ways, the complex trauma outcomes are similarly varied. In sum, the aftermath of complex trauma does not lend itself into a neat, cohesive list of symptoms. Despite these obstacles, scholars have attempted to define complex trauma outcomes for both adult and child populations, proposing two different constructs, Disorders of Extreme Stress Not Otherwise Specified (DESNOS) and Developmental Trauma Disorder (DTD), which were proposed for inclusion in DSM-IV and DSM-V, respectively (Herman, 1992; van der Kolk, 2005).

DESNOS

DESNOS describes the psychopathology resulting from complex trauma exposure as it manifests in adulthood (Roth, Newman, Pelcovitz, van der Kolk, & Mandel, 1997). DESNOS was the product of two independent research groups who both compiled commonly observed symptoms from the extant literature on child sexual abuse, rape, concentration camps, torture, and domestic violence (Herman & van der Kolk, 1987; Spitzer, Kaplan, & Pelcovitz, 1989). Both groups noticed that survivors of these types of

traumas had widespread problems which were not captured by PTSD. Eventually, the most frequently cited sequelae were organized under the rubric of DESNOS. Herman (1992) arranged 27 commonly cited symptoms into 7 categories: dysregulation of (a) affect and impulses, (b) attention or consciousness, (c) self-perception, (d) perception of the perpetrator, (e) relations with others, (f) somatization, and (g) systems of meaning.

During the development of DSM-IV, the DSM committee organized a field trial for PTSD to determine if victims of interpersonal assault as a group tended to meet PTSD criteria, or if their symptom presentation was more accurately captured by another construct- DESNOS (Herman, 1992). Researchers of the field trial hypothesized that: 1. interpersonal traumatic events were more likely to result in DESNOS symptoms than non-interpersonal traumatic events, 2. chronic traumatic events were more likely to result in DESNOS symptoms than acute traumatic events, 3. traumatic events beginning at an early age (i.e., before 14) were more likely to result in DESNOS symptoms than traumas occurring later in life, and 4.) interpersonal traumas beginning at an early age (i.e., before 14) were more likely to result in DESNOS symptoms than interpersonal traumas occurring later in life, regardless of how chronic the traumatic event was. Chronicity was not additionally examined in this last hypothesis.

Each of these hypotheses was supported by the field trial (Roth et al., 1997). That is, first, individuals who had experienced an interpersonal trauma reported having more DESNOS symptoms than victims of a non-interpersonal trauma. Individuals who experienced an interpersonal traumatic event had significantly different symptom endorsement on all seven categories of DESNOS symptoms. Second, those who experienced a chronic traumatic event were observed to have more DESNOS symptoms than victims of an acute traumatic event. Third, individuals whose traumatic experience

began at an early age (i.e., before 14) reported more DESNOS symptoms than if their traumatic event began later in life. Further, the younger the individual was at the age of onset of the trauma, the higher the likelihood that they had DESNOS and PTSD. Fourth, survivors of interpersonal traumas which began early in life reported more DESNOS symptoms than those who experienced an interpersonal trauma later in life. Seventy-seven percent of those exposed to early, interpersonal traumas suffered from significant dysregulation of affect and impulses, 84% depersonalization and other dissociative symptoms, 75% feelings of shame, self-blame, and feeling permanently damaged, 83% unable to negotiate relationships, 73% lost sustaining beliefs. For these individuals, the experience of early onset interpersonal traumas resulted most frequently in a diagnosis of both PTSD and DESNOS (61%). Only 16% of this group was diagnosed with PTSD alone. In contrast, the late interpersonal trauma did not result in PTSD and DESNOS (33%) more often that PTSD alone (26%) and, of those who experienced a non-interpersonal traumatic event, PTSD was the more frequent diagnosis (15%) than PTSD and DESNOS (8%). In sum, each aspect of the complex trauma definition that was investigated was related to more DESNOS symptoms.

DESNOS and PTSD frequently co-occurred. Of those that met criteria for PTSD, 72% met criteria for DESNOS (Roth et al.,1997), leading some to question whether DESNOS may be a severe sub-type of PTSD (Ford, 1999). However, approximately 5% of the field trial sample met DESNOS criteria but not PTSD (6.2% in treatment-seeking sample, 4% in the community sample). Other samples found higher rates of PTSD-independent DESNOS diagnoses (25%-45%; Ford, 1999; Ford & Smith, 2008). Although PTSD and DESNOS often occur simultaneously, DESNOS is found in the absence of PTSD.

The results from the field trial also demonstrated that DESNOS is specific to trauma, as it is rarely found among non-traumatized individuals, suggesting good discriminant and construct validity. Ford (1999) found that despite overlap between PTSD and DESNOS, the two conditions are substantially different in terms of symptoms and functional impairment. In sum, DESNOS appears to specifically capture the trauma-related symptom presentations associated with chronic, interpersonal trauma beginning at an early age. This presentation is not captured by PTSD. Despite this evidence, DESNOS was ultimately included in the "Associated and Descriptive Features" of PTSD, rather than as a discrete disorder. As a rationale for this decision, the DSM-IV working group noted that DESNOS did not fit neatly into the anxiety disorders category.

This decision is unfortunate. DESNOS represented an important advancement in delineating complex trauma outcomes as this construct accounted for the consistent and pervasive impact of complex traumatic events in adults and resulted in a greater and more accurate understanding of the complex trauma population. The DESNOS field trial strongly challenged the view that trauma solely leads to anxiety-based symptoms but that core competencies were disrupted across a variety of domains. It also questioned the ability of established trauma-focused treatments to address such difficulties (Cloitre, Koenen, Cohen, & Han, 2002; Courtois, 2004; Ford, Fisher, & Larson, 1997). Even though DESNOS was not included in DSM-IV, some research has been devoted to complex trauma (Ford, 1999; Cook et al., 2005; Kliethermes & Wamser, 2012; van der Kolk, 2005).

Despite these accomplishments, DESNOS is limited. DESNOS, like PTSD, is rooted in research on adults that was assumed to apply equally to children. But would a child be expected to present the same as an adult? That is unlikely. Child

psychopathology is, at times, continuous with adult symptom presentation; however, the ways in which the disturbance is expressed is influenced by the individual's stage in development (Cichetti & Toth, 2005). This is true for children's reactions to trauma. For DESNOS, the ways in which the symptoms are operationalized are inappropriate for children. As one example, DESNOS criteria for alterations in self-perception include feelings of ineffectiveness, being permanent damaged, guilt, responsibility, shame, the feeling that no one can understand, and minimizing. These symptoms presume a fully developed sense of reflective self judgments which is not yet developed in younger child populations. DESNOS disregards the unique ways in which children respond to complex trauma, despite the wealth of literature delineating such outcomes. Instead, DESNOS is operationalized for adults- even though the precipitating event occurs in childhood. DESNOS, like PTSD, ignores decades of research describing how children react during and immediately following complex trauma experiences. The child victims of complex trauma remain overlooked.

Developmental Trauma Disorder

A diagnosis is needed that is both appropriate for children and delineates complex trauma outcomes. As no established diagnostic construct adequately addresses the varied impact of complex trauma events in a developing child, a new diagnostic construct, Developmental Trauma Disorder (DTD), has been proposed for inclusion in DSM-V (van der Kolk, 2005). DTD delineates the specific ways in which children are impacted by complex trauma. Again, complex trauma is unlikely to selectively impair restricted aspects of the child's development, but rather disrupt the ability to regulate oneself, resulting in diverse and complicated symptoms (Cicchetti & Toth, 1995; Kendall-Tackett,

Williams, & Finkelhor, 1993). Further, as self-regulation is the basis for many later developmental tasks, DTD focuses on the specific ways in which impaired self-regulation manifests in children following complex trauma exposure. Currently, specific DTD symptoms have not been published; however, several domains of impairment following complex trauma in children have been described and tentatively proposed: affective, physiological, behavioral, biological and cognitive, and self and relational dsyregulation (van der Kolk, 2005). Similar to DESNOS, these domains of impairment were developed by the Complex Trauma workgroup of the NCTSN, who reviewed the extant literature on repeated and extensive trauma.

DTD is the best effort to date that describes children's reactions to complex trauma. DTD is developmentally sensitive, as the provisional domains of impairment are based on child and adolescent difficulties. It takes into account the ways in which complex trauma would impact core developmental processes and how, in turn, this manifests in specific symptoms. DTD delineates the full range of trauma-related symptoms, not just those that are anxiety-based. In the absence of DTD, children are diagnosed with multiple, unrelated, comorbid conditions. By including DTD in DSM-V, a more accurate understanding of child complex trauma populations would likely result. Despite the conceptual and diagnostic merits of including a diagnostic construct devoted to complex trauma, little empirical research has investigated DTD or even complex trauma events or outcomes in children. For DTD, or any other diagnostic construct regarding complex trauma outcomes in children and adolescents to be considered in DSM-V and beyond, research is needed investigating complex trauma in child populations.

Definition of Complex Trauma

Complex trauma has been defined by the NCTSN as traumatic events which are chronic or multiple, interpersonal traumas beginning at an early age (Cook et al., 2003). However, an alternative definition has been proposed. Ford and Courtois (2009) define complex trauma events as being interpersonal, chronic or multiple, impact the caregiving system, and have the potential to severely disrupt development. Thus, the core concept of complex trauma remains the same. Two aspects are unique- the emphasis on the caregiving system and the impact on development. While it is important to recognize that complex trauma impacts development, it is less helpful to include this in the definition as doing so is a circular argument. Alterations in development are akin to an outcome of complex trauma. Including this as a criterion for a complex trauma event is tantamount to stating that one has experienced a complex trauma event if one has a complex trauma outcome. However, the emphasis on the impact on the caregiving system, or the attachment relationship, is paramount.

Trauma is often disruptive to children's attachment relationships. Research demonstrates that 80% of maltreated children are insecurely attached, as opposed to approximately one third of non-maltreated children (Cicchetti, Toth, & Maughan, 2000; Cook et al., 2003). Moreover, the attachment relationship has implications for development. The child's ability to explore and master their environment is dependent upon their relationship to the caregiver. In normal development the child ventures into the world, learning and mastering developmental milestones, while the caregiver represents the "secure base" from which the child derives support and stability (Cook, Blaustein, Spinazzola, & van der Kolk, 2003). The attachment relationship then forms the foundation for the mastery of the environment, and ultimately, developmental

competencies. The attachment relationship provides a framework from which the child develops representations of themselves, others, and themselves in relation to others; what Bowlby termed "internal working models (Bowlby, 1980). These models serve as templates for future relationships by guiding expectations and attachment behaviors, by informing them whether the figure will respond, and by indicating whether they are someone worth responding to. Moreover, the attachment relationship is related to self-regulation. Self-regulation is, optimally, achieved through the child anticipating the caregiver's response, and the caregiver assisting the child in regulating affective and behavioral responses. This "co-regulation" serves as the basis for self-regulation. Observing and being comforted by the caregiver following stressors allows the child to return to exploration of the environment and gain mastery of their level of arousal. Securely attached children learn how to regulate their emotions, as the caregiver has been consistently attuned to them and been successful at soothing them.

In the face of trauma, a secure attachment relationship protects against trauma-related symptoms. Research consistently demonstrates that the attachment relationship is related to outcome (Cohen, Mannarino, & Deblinger, 2006; Elliott & Carnes, 2001). As one example, the attachment relationship is the most important determinant in child outcome following child sexual abuse, even more important than variables related to the traumatic experience itself (Finkelhor & Kendall-Tackett, 1997). The combination of attachment disruption and maltreatment consistently leads to more severe levels of symptomatology, over and above the effects of maltreatment alone (Aspelmeier, Elliott, & Smith, 2007; Cicchetti & Beighley, 1996; Ford, Connor, & Hawke, 2009). In one study (Ford, Connor, & Hawke, 2009), multiple out-of-home placements were the most consistent variable in determining both externalizing and internalizing problems as well

as overall psychosocial impairment. Similarly, children who experienced ongoing trauma in combination with inadequate caregiving were more likely to meet criteria for other non-trauma-related disorders (Ackerman, Newton, McPherson, Jones, & Dykamn, 1998). The combination of the traumatic exposure and the impaired caregiving relationship is toxic to the child, and together, likely forms the basis for the subsequent difficulties following trauma exposure. Consequently, this aspect of Ford and Courtois (2009) definition of complex trauma is paramount in determining how children respond to complex trauma events and warrants inclusion. In sum, a more helpful definition of complex trauma for children and adolescents may be traumatic events which are interpersonal, chronic or multiple, begin at an early age and impact the attachment relationship. This definition requires validation in children and adolescents; however, some discussion of how best to investigate complex trauma in children is warranted.

A Dimensional Conceptualization of Trauma

The characteristics of a complex trauma event are thought to result in a type of trauma that is categorically different than other traumatic events, so much so that another diagnostic category is needed. Research from the DSM-IV field trial investigating DESNOS supports this notion, as adults who have experienced complex trauma were consistently observed to have difficulties beyond that of PTSD, consistent with DESNOS. This research is lacking in child populations. As discussed, children, like adults, are more likely to experience complex trauma outcomes beyond that of PTSD following a complex trauma event as PTSD is better suited for adults. Thus, the totality of the experience of a complex trauma event is likely so horrific that special diagnostic constructs and treatments are likely necessary. In fact, treatment protocols for addressing

complex trauma outcomes have been developed (e.g., Integrative Treatment for Complex Trauma (ITCT), Briere, 2003; Attachment, Regulation, and Competency (ARC), Kinnibrugh, Blaustein, Spinazzola, & van der Kolk, 2005) and modifications for Trauma-Focused Cognitive Behavioral Therapy (TF-CBT; Kliethermes & Wamser, 2012). The concept of complex trauma represents a great advancement in the study of trauma, representing an explicit acknowledgment that all traumatic events are not equal and that different traumatic events result in different symptom presentations.

This is ironic. Even though complex trauma represents this acknowledgment, simultaneously, it represents "more of the same." That is, the way that complex trauma is currently conceptualized; a complex trauma diagnostic construct such as DTD would resemble PTSD. This construct would be focused exclusively on those who suffered a traumatic event that met the all of the characteristics of the complex trauma definition. Instead of considering some of the nuances of traumatic exposure, individuals would be lumped into one of two "trauma bins." In short, the inclusion of DTD or DESNOS would just increase the number of possible bins. This limitation does not negate the merits of including DTD or DESNOS, but speaks to a greater problem with the current organizational structure of the DSM. However, those exposed to a non-interpersonal, acute traumatic event would be funneled into the PTSD bin and expect to have PTSD difficulties. Those exposed to a chronic interpersonal trauma beginning in childhood and impacting the attachment relationship would be expected to have complex trauma difficulties. The question then becomes what to do with those in between, who have experienced, for example, a single interpersonal trauma from childhood or a chronic interpersonal trauma that begins in adolescence? These children represent the majority of traumatized clients (Wolfe, 2006). For both of these examples, the traumatic event is

occurring relatively early in life and has the potential to alter development. Again, are these children meant to have the same symptom presentation as someone who was in a car accident? These traumatized children do not meet full criteria for a complex trauma event, but likely have more severe symptoms than those exposed to a non-interpersonal trauma. Would they not potentially benefit from a diagnostic construct that validates the full spectrum of their symptom presentation and treatments that actually treat the full range of their symptoms? By conceptualizing traumatic events as residing on a continuum, the symptoms of children and adolescents may be better understood and treated.

The child maltreatment literature lends some support to a dimensional conceptualization of trauma. Decades of research have been devoted to examining aspects of the specific abuse types in relation to sequelae. Research has demonstrated that various variables relating to characteristics of the abuse such as chronicity, relationship to perpetrator, severity of abuse are often related to symptom presentation (Putnam, 2003). Each of these factors results in an increase in level of symptoms. The child maltreatment literature has been useful as it formed the basis for developing the concept of complex trauma (Herman, 1992). Nevertheless, the child maltreatment is insufficient in investigating complex trauma. Child abuse research investigates child abuse, not complex trauma. The child maltreatment literature is focused, rightfully so, on examining aspects of a specific type of trauma (i.e., childhood sexual abuse, physical abuse, emotional abuse) and variables specific to that trauma (Kendall-Tackett, Williams, & Finkelhor, 1993; Walsh, 2007; Zlotnick, 1996). Although certainly some experiences of child maltreatment (i.e., chronic sexual abuse) may be considered a complex trauma

event it does not examine complex trauma specifically. Nor has one study investigated each of these characteristics either separately or in tandem across trauma types.

The Present Study

The current study first seeks to provide empirical support to the NCTSN definition of complex trauma. Investigating the existence of complex trauma in children and adolescents could be accomplished in several ways. One way might be to simply examine whether children and adolescents exposed to chronic interpersonal traumas which begin at an early age actually do have a more complicated symptom presentation than those exposed to an acute noninterpersonal trauma. This research is useful. Nonetheless, as discussed, grouping children into two "trauma bins" will exclude many, if not the majority, of children exposed to trauma (Wolfe, 2006). These children deserve attention as well; particularly as those exposed to a traumatic event that meets some of the qualifications of a complex trauma event likely have some significant difficulties. Consequently, the present study will examine the complex trauma definition categorically as well as dimensionally. Further, as discussed, Ford and Courtois (2009) provide an alternative definition of complex trauma which includes an impaired caregiving system, which is likely paramount in the definition of complex trauma. Therefore, when investigating a dimensional conceptualization of complex trauma, a modified definition of complex trauma will be used. This modified definition is operationalized as children exposed to a chronic interpersonal trauma which begins at an early age and results in an impaired caregiving system. The modified definition of complex trauma represents the severe end of the dimensional spectrum of trauma.

To examine the complex trauma definition categorically, it is hypothesized that:

1. A complex trauma event will have worse outcomes than a non-complex trauma, PTSD criterion A event: children and adolescents exposed to chronic or multiple interpersonal trauma beginning at an early age will exhibit more trauma-related difficulties, including PTSD symptoms, mood and behavior problems, than those exposed a single-episode of non-interpersonal trauma.

The following hypotheses will examine the additive effects of the various aspects of the complex trauma definition, that is, examine the definition of complex trauma dimensionally:

2. Interpersonal traumas will have worse outcomes than non-interpersonal traumas: children and adolescents exposed to an acute interpersonal trauma will result in greater trauma-related difficulties including PTSD symptoms, mood and behavior problems, than those exposed a single-episode of non-interpersonal trauma.

3. Chronic traumas are will result in worse outcomes than an acute trauma: children and adolescents exposed to chronic interpersonal trauma will exhibit greater trauma-related difficulties including PTSD symptoms, mood and behavior problems, than those exposed to an acute interpersonal trauma.

4. An earlier age of onset of the trauma will have worse outcomes than later age of trauma: children and adolescents exposed to chronic interpersonal trauma that begins at an early age (i.e., before age 10) will have greater trauma-related difficulties including PTSD symptoms, mood and behavior problems, than those exposed chronic interpersonal trauma that begin at a later age (i.e., after age 10).

5. Removal from the home will result in worse outcomes than remaining the home: children and adolescents exposed to chronic interpersonal trauma and who were removed from their home will have greater trauma-related difficulties including PTSD symptoms, mood and behavior problems, than those exposed chronic interpersonal traumas and who remained in their home.

6. Exposure to a complex trauma event with removal from the home will result in worse outcomes than exposure to a complex trauma event without removal from the home: children and adolescents exposed to chronic, interpersonal traumatic events beginning at an early age and who were removed from their home will result in worse outcomes than those exposed to chronic, interpersonal traumas beginning at an early age who remained in their home.

Methods

Participants

Three hundred and forty-six children and adolescents between the ages of 3 and 18 seeking treatment from a Child Advocacy Center were included in the study (M = 9.67, SD = 2.4; see Table 1). Eligible participants had experienced a traumatic event including sexual, physical, or emotional abuse, neglect, domestic violence, homicide, suicide, serious accident or injury, natural disaster, and school or community violence. The sample contained 134 males (38.7%) and 212 females (61.3%) and 210 African-Americans (60%), 106 Caucasians (30.6%), 5 Hispanics (0.01%), and 25 Biracials/Multiracials (.07%). Of the 25 individuals who reported being Biracial/Multiracial, 13 (52%) described themselves as Caucasian/African-American, 4

(26.6%) as Caucasian/Native-American, 3 (12%) as Caucasian/Hispanic, 2 (0.08%) as Caucasian/Asian, 1 (0.04%) as African-American/Native-American, 1 (0.04%) African-American/Hispanic, and 1 (0.04%) as Hispanic/Native-American.

The majority of the participants reported being sexually abused (74.56%, see Table 2). Approximately 30% of the participants reported being physically abused, 22.83% reported emotional abuse, 76% reported neglect, 27.74% reported witnessing domestic violence, 0.01% reported kidnapping, 0.01% reported experiencing War/Terrorism, 0.04% reported homicide, and 0.03% reported suicide, 0.05% reported serious injury/accident, 0.03% reported natural disaster, 0.01%, reported school violence, 0.09% reported community violence, 26.3% reported experiencing an impaired caregiver (i.e., parental mental illness), and 15% reported death of a loved one, 0.05% reported serious illness.

Two hundred and thirty-four participants completed the intake assessment with their biological parent, 43 by their non-relative foster parent, 25 by a kinship placement or other relative (i.e., grandparents), 10 by an adoptive parent, 23 by a caseworker, and 2 by a residential staff worker.

Table 1
Participant demographics

		N	%
Gender	Male	134	38.72
	Female	212	61.12
Race	Caucasian	106	30.63
	African-American	210	60.69
	Hispanic	5	0.01
	Asian	0	0
	Native American	0	0
	Biracial/Multiracial	25	0.07

Table 2
Participants' reported traumatic exposure

Traumatic Event			
		N	%
Interpersonal			
	Sexual Abuse	258	74.56
	Physical Abuse	107	30.92
	Domestic Violence	99	27.74
	Emotional Abuse	79	22.83
	Neglect	76	21.96
	Community Violence	30	0.09
	Homicide	13	0.04
	School Violence	5	0.01
	Kidnapping	3	0.01
	War/Terrorism	2	0.01
Noninterpersonal			
	Impaired Caregiver	91	26.3
	Death of a loved one	52	15
	Serious Injury/Accident	19	0.05
	Serious Illness	18	0.05
	Natural Disaster	9	0.03
	Suicide	9	0.03

Materials

Personal Information Form. Participants completed a demographic questionnaire that included information on child's age, grade in school, gender, race/ethnicity, household income, and parents' education and occupation. The questionnaire also asks which type(s) of trauma the child was exposed to including sexual abuse, physical abuse, emotional abuse, neglect, domestic violence, kidnapping, war/Terrorism, homicide, suicide, serious injury/accident, natural disaster, school violence, community violence, impaired caregiver (i.e., parental mental illness), death of a loved one, and serious illness as well as the age of onset of the traumatic event. As part of the Personal Information Form, participants are also asked information regarding the child's involvement with Children's Division. Specifically, participants indicate whether the child has ever been removed from the child's legal guardian, the status of any Children's Division investigation, and involvement in any legal proceedings.

Child Behavior Checklist (CBCL/6-18; Achenbach & Rescorla, 2001). The CBCL is a widely used 113-item measure completed by a parent/guardian that assesses a variety of childhood symptomatology for children ages 6 to 18. The forms were revised in 2001 and use new national norms for problem, competence, and adaptive scales. Evidence for content, construct, and criterion-related validity is well documented (Achenbach, 2001). The CBCL has nine subscales withdrawn, somatic complaints, anxious/depressed, social problems, thought problems, attention problems, delinquent behavior, and aggressive behavior and two broadband scores measuring total internalizing and externalizing behavioral difficulties. The CBCL scoring system separates the nine subscales, the DSM-oriented subscales, and the total score scales, providing the user with three profiles. Consistent with this, this study separated out the nine subscales from the three total

scores. The DSM-oriented subscales were not used as part of this study. Of the sample of 346, there were 255 completed CBCLs, all of which were included in the main analyses.

Trauma Symptom Checklist for Children (TSCC, Briere, 1996). The TSCC is a 54-item standardized self-report measure for the assessment of trauma-related symptoms in children ages 8 to 16. The author has also indicated that 17 year-olds can use the TSCC; however, they may score lower on the anger subscale. T-scores are used to interpret the child's level of symptomatology. The TSCC provides validity subscales and clinical subscales for anxiety, depression, anger, posttraumatic stress, dissociation, and sexual concerns. Alpha coefficients for clinical scales ranged from .77 to .89 in the standardization sample, and adequate convergent, divergent, and predictive validity have been demonstrated in normative and clinical samples. The TSCC will be used in the present study as no validated assessment tools have been developed to measure complex trauma outcomes in children and adolescents. Complex trauma outcomes will be operationalized as more severe outcomes on the TSCC. As discussed, complex trauma events are presumed to result in widespread difficulties, including symptoms of posttraumatic stress, mood and behavior problems. Of the sample of 346, there were 230 completed TSCCs, all of which were included in the main analyses.

Trauma Symptom Checklist for Young Children (TSCYC, Briere et al., 2001). The TSCYC is a 90-item caregiver-report measure for the assessment of trauma-related symptoms in children ages 3 to 12. T-scores are used to interpret the child's level of symptomatology. The TSCYC includes validity subscales and clinical subscales for posttraumatic stress-intrusion, posttraumatic stress-avoidance, posttraumatic stress-arousal, sexual concerns, anxiety, depression, dissociation, and anger/aggression. A multi-site study (Briere et al., 2001) found good reliability for the TSCYC, with alpha

coefficients ranging from .81-.93. Predictive validity was also demonstrated for childhood trauma. Of the sample of 346, there were 215 completed TSCYCs, all of which were included in the main analyses.

UCLA PTSD Index for DSM-IV-Child Version (UPID; Pynoos et al., 1998). The UPD is a 48-item child-report measure of both exposure to traumatic events and DSM-IV PTSD symptoms in school-aged children ages 7 to 18. The initial 26 questions of the UPID were developed to serve as a brief screening tool for assessing traumatic exposure as reported by the child. These questions include asking if the child was exposed to a natural disaster, physical, emotional, or sexual abuse, witnessing domestic or community violence, or violent death of a loved one. Alpha coefficients are adequate, with Chronbach's alpha coefficients falling in the range of .90 (Roussos et al., 2005) and test re-test coefficient of .84. For the purposes of this study, only the initial 28 items relating to the child exposure to traumatic events will be used. Of the sample of 346, there were 210 completed UPIDs, all of which were used to rate a child's traumatic exposure.

Procedure

Participants in the study are a treatment-seeking sample of children and their legal guardians. The legal guardians of the children completed an initial intake assessment phone call, during which it is determined whether the child has been exposed to a traumatic event and is experiencing some difficulties such that they may benefit from treatment services. Children who are actively suicidal or psychotic or with severe substance problems may be given a referral to another clinic. If deemed appropriate for treatment services, the child is assigned to a therapist. Eligible participants and their caregivers completed several measures including, when applicable, the CBCL, TSCC,

TSYC, and UPID at the beginning of treatment (i.e., first three sessions) as part of routine clinical practice. The caregiver completed measures included the Personal Information Form as well as the CBCL, and TSCYC when applicable. Children and adolescents ages seven or eight and older completed the UPID and TSCC, respectively.

Two independent raters were used to determine the type of traumatic exposure as both the child and caregiver are providing information regarding the traumatic event. Raters were trained by the principal investigator to rate participant's traumatic histories and given readings regarding complex trauma. Raters then coded whether the traumatic event was coded as interpersonal or noninterpersonal as well as if the traumatic exposure was chronic or acute.

Interpersonal. Interpersonal traumas included sexual, physical, or emotional abuse, neglect, domestic violence, homicide, kidnapping, war/terrorism, and school or community violence. Noninterpersonal traumas included serious illnesses, serious injury/accident, suicide natural disasters, death of a loved one, impaired caregiver. To determine if the traumatic event was coded as interpersonal, raters checked the caregiver's report on the Personal Information Form and the youth's report on the UPID, when applicable. If either the caregiver or the youth reported experiencing any interpersonal trauma, then the traumatic event was coded as interpersonal. Disagreement regarding whether the youth experienced a traumatic event was also recorded (N=23). Numerous charts (N=68) were missing the Personal Information Form as the form was not used by the agency as part of the intake process at that time. These charts typically contained a clinician-completed questionnaire relating to aspects of the traumatic event (i.e., chronicity, relationship to the perpetrator, severity). The traumatic histories for these charts were obtained through this questionnaire, caregiver's report during the initial

phone intake, or by the intake summary completed by the clinician. For the cases in which the raters disagreed, the principal investigator made the final decision. Inter-rater agreement was good (Kappa = .69).

***Chronicity of trauma*.** Independent raters checked the caregiver's report on the Personal Information Form. If the caregiver indicated that child had experienced multiple episodes of trauma over the course of six months or longer, then raters coded the child as having experienced a chronic traumatic event. If the caregiver reported that the child has experienced a single-episode of trauma, then raters examined the child's report on the UPID. If the child also reported experiencing a single-episode of trauma, then raters coded the child as having experienced an acute trauma. However, if the child acknowledged experiencing multiple episodes of trauma, then raters coded the traumatic exposure as being chronic. Also, if the child reported experiencing single instances of a traumatic event by different perpetrators or different types of traumatic events over the course of six months or longer, then this was also coded as chronic. For the cases in which the raters disagreed, the principal investigator made the final decision. Inter-rater agreement between two raters was good (Kappa = .74).

***Removal from the Home*.** For the purposes of this study, removal from the home was operationalized as being whether the child was removed from their legal guardian's care by Children's Division subsequent to the onset of the first reported traumatic event. Further, children who were removed from their biological parent's care and placed with a relative as a foster parent (i.e., a kinship placement) were also coded as being removed from their home. Independent raters checked the caregivers' report on the Personal Information Form. For the cases in which the raters disagreed, the principal investigator made the final decision. Inter-rater agreement was very good (Kappa = .81).

For each of the hypotheses, participants' traumatic exposure was coded as 0 if their traumatic history was presumed to result in the less severe symptom outcomes and 1 if their traumatic history was presumed to result in the more severe symptom outcomes. For instance, for hypothesis 1, participants who experienced a noninterpersonal trauma were coded a 0 whereas those who experienced a chronic interpersonal trauma beginning at an early age were coded as 1.

Results

Preliminary Analyses

All 346 participants were included in the main analyses, as no case was deemed to be an outlier. No missing data was imputed. Preliminary analyses indicated that the CBCL, TSCYC, and TSCC were all found to be moderately positively skewed and kurtotic. Square-root and log-linear transformations were conducted but failed to significantly improve the level of positive skewness for the majority of these variables (N = 23). More importantly, transformations significantly altered the profiles of the measures, which are a main point of interest for this study. Profile analysis is, however, robust to violations of normality as long as there are more cases than dependent variables in the smallest group and sample sizes are relatively equal (Tabachnick & Fidell, 2007). Larger sample sizes also result in smaller standard errors, increasing the likelihood of rejecting the null hypothesis when even minor deviations from normality are present. Indeed, profile analysis is often used when violations of normality are present, thus, it was decided that no further transformations were deemed necessary.

The assumption of homogeneity of covariance is met when the variability of the dependent variables is similar between groups. Box's *M* tests were conducted for each hypothesis, and were often significant (12 of 24 tests were significant). Following either log-linear or squarer-root transformations, Box's *M* tests remained significant. However, roughly equivalent sample sizes renders Box's *M* unnecessary, and many of the groups have relatively equal sample sizes. The Box's *M* test is also notoriously sensitive (Tabachnick & Fidell, 2007). Robustness of significance test is therefore expected. The assumption of linearity of dependent variables was met as evidenced by matrix scatter-ploys of each dependent variable to one another all demonstrated linear relationships. Levene's test was conducted and was generally non-significant for all dependent variables, thus indicating that the assumption of equality of error variances is met.

A priori power and effect size analysis through G*Power suggested a sample size of approximately 190 was needed to achieve power of .80 and a moderate effect size (Buchner, Erdfelder, Faul, & Lang, 1992-2006). Data from 346 participants was collected to ensure an adequate number of cases per cell. Profile analysis requires a minimum sample size wherein every cell contains more cases than there are dependent variables in the model (Tabachnick & Fidell, 2007). Cell sizes ranged from a low of 22 to a high of 128, with no cell containing fewer cases than the number of dependent variables (9). Cell size was sufficient for all cells to be included in the analysis.

Covariates. Prior to main analyses, several tests were conducted to check for the presence of covariates such as age of the child, gender, ethnicity, and the caregiver's relationship to the child. Age was not found to be significantly correlated to any of the dependent variables, thus, age was not used as a covariate. Similarly, ANOVAs did not yield significant differences between genders for any of the dependent variables, thus,

this variable was not used as a covariate. To determine if ethnicity was a covariate, ethnicity was coded into two groups (0 = Caucasian, 1 = Non-Caucasian). Ethnicity was coded into these groups for two reasons. First, approximately 10% of the sample identified as neither Caucasian nor African-American. Research has found some symptom differences between Caucasians and non-African-American minority groups (e.g., Feiring, Coates, & Taska, 2001; Mennen, 2004; Ullman & Filipas, 2005), thus, it was thought that individuals who identified as Hispanic or Bi-racial/Multiracial should be included in the analysis of ethnicity as a covariate. Second, non-African-American minority groups would have been examined separately, however, these groups had cell sizes which were too small to analyze. ANOVAs yielded significant differences between Caucasian and Non-Caucasians on one of eight CBCL subscales, Anxiety/Depressed ($F(1,253)= 6.15$, $p = .01$) and one of the three CBCL total scores, Internalizing Problems ($F(1,253)= 5.84$, $p = .02$). For both of these scales, Caucasian caregivers were more likely to report higher levels of symptoms than Non-Caucasian caregivers ($M = 63.05$ vs. $M=59.52$; $M = 63.46$ vs. $M =59.84$). No other differences were found for any of the remaining seven subscales on the CBCL. For the TSCYC, Caucasian caregivers were more likely to report higher levels of Anxiety symptoms ($F(1,227)= 5.196$, $p < .05$, $M = 64.95$ vs. $M = 59.24$) as well as sexual concerns ($F(1,227)= 9.288$, $p < .05$, $M = 71.52$ vs. $M = 62.38$). No other differences were found for the remaining seven TSCYC subscales. No differences were found between groups for any of the ten subscales for the TSCC. Taken together, minority status was not generally found to be related to symptom reports for any of the measures and thus was not used as a covariate.

The child's relationship to the caregiver completing the CBCL and TSCYC was also examined as a potential covariate. As noted above, the majority (67.63%) of the

children in the sample were accompanied to treatment by one of their biological parents. Due to the small cell size of the remaining types of relationships that the child had to the adult raters (e.g., other relatives = 25, adoptive parent = 10), it was decided to code the relationships into two groups, Biological Parent = 0, and Non-Biological Parent = 1. It is thought that biological parents likely have a unique type of relationship with their child than the other caregivers, and generally have more long-standing relationship with the child than the groups. Adoptive parents were not grouped into the biological parent category as many of the 10 adoptive parents in this sample did not adopt the child until later in life. ANOVAs did not reveal significant differences between groups for the CBCL on any of the other subscales or the total scales. ANOVA yielded a significant difference between groups on one of the nine subscales of the TSCYC, depression, ($F(1,227) = 8.04$, $p = .005$), with biological parents being more likely to report higher levels of depressive symptoms than non-biological parents ($M = 64.2$ vs. $M = 55.9$). As differences were observed for only one subscale on the TSCYC, the child's relationship to rater was not used as a covariate.

Main Analyses

Hypothesis 1. Children and adolescents exposed to chronic or multiple interpersonal trauma beginning at an early age were expected to exhibit more trauma-related difficulties than those exposed to a noninterpersonal trauma. The levels hypothesis in profile analysis, similar to a between-subjects main effect in repeated measures ANOVA, was used to examine whether there are significant differences among the means of the two groups on the measures. Consistent with hypothesis 1, profile analysis yielded a main effect for the CBCL subscales for groups ($F(1,253) = 20.43$, $p < .001$, Partial Eta

Squared = .12; see Tables 1 and 3, Figure 1). Similarly, profile analysis yielded a main effect for the CBCL Total Scales ($F(1,253) = 10.44$, $p < .001$, Partial Eta Squared = .06; see Figure 2). Profile analysis also yielded a main effect for the TSCYC ($F(1,227) = 13.49$, $p < .001$, Partial Eta Squared = .09; see Figure 3) and for the TSCC $F(1,213) = 4.47$, $p < .05$, Partial Eta Squared = .03; see Figure 4). Thus, hypothesis 1 is fully supported as profile analysis yielded significant results for all four measures. As expected, individuals exposed to a complex trauma consistently had more complicated symptom presentations when compared to individuals exposed to a noninterpersonal trauma. This was found for generalized behavioral symptoms on the CBCL subscales and Total scores, as well as trauma-related symptoms on the TSCYC as reported by the caregiver. Children exposed to complex trauma also reported experiencing higher levels of symptoms on the TSCC when compared to those exposed to a noninterpersonal trauma. Thus, children exposed to the NCTSN definition of a complex trauma event present to treatment with a very different symptom presentation than those exposed to a traumatic event that has nearly none of the features of a complex trauma event.

Table 3
Partial eta squared values of hypotheses

	CBCL Subscales	CBCL Total Scales	TSCYC	TSCC
Hypothesis 1	0.12*	0.06*	0.09*	0.03*
Hypothesis 2	0.03	0.01	0.04*	0.05*
Hypothesis 3	0.07*	0.03*	0.02*	0.01
Hypothesis 4	0.09*	0.11*	0.02*	0.01
Hypothesis 5	0.01	0.01	0.01	0.00
Hypothesis 6	0.01	0.01	0.00	0.00

Note. *= significant at $p < .05$

Figure 1
Hypothesis 1, CBCL Subscales

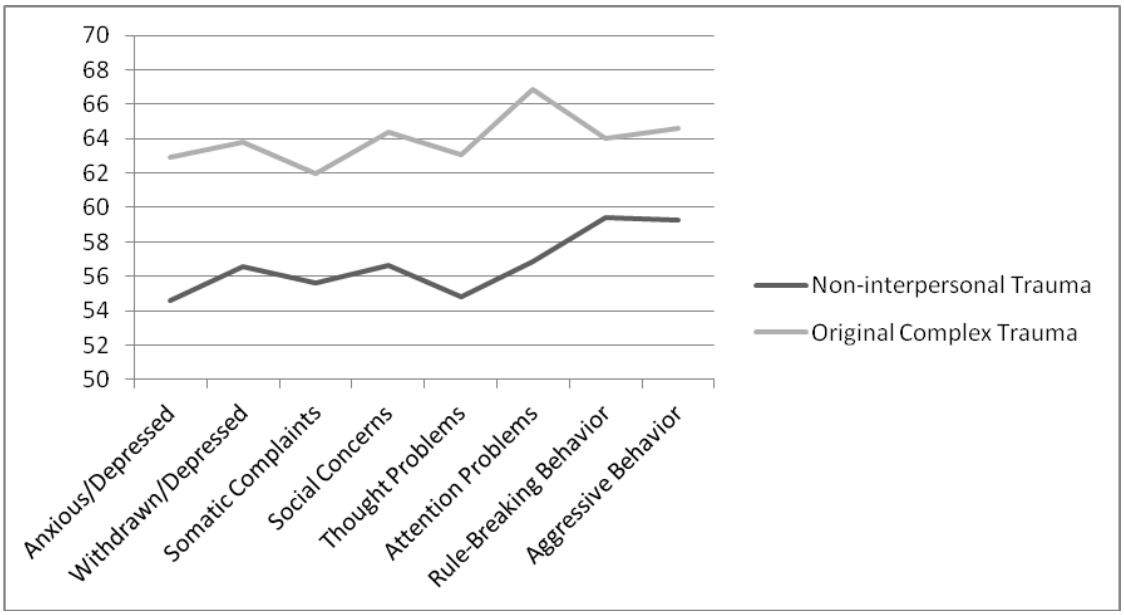


Figure 2
Hypothesis 1, CBCL Total Scales

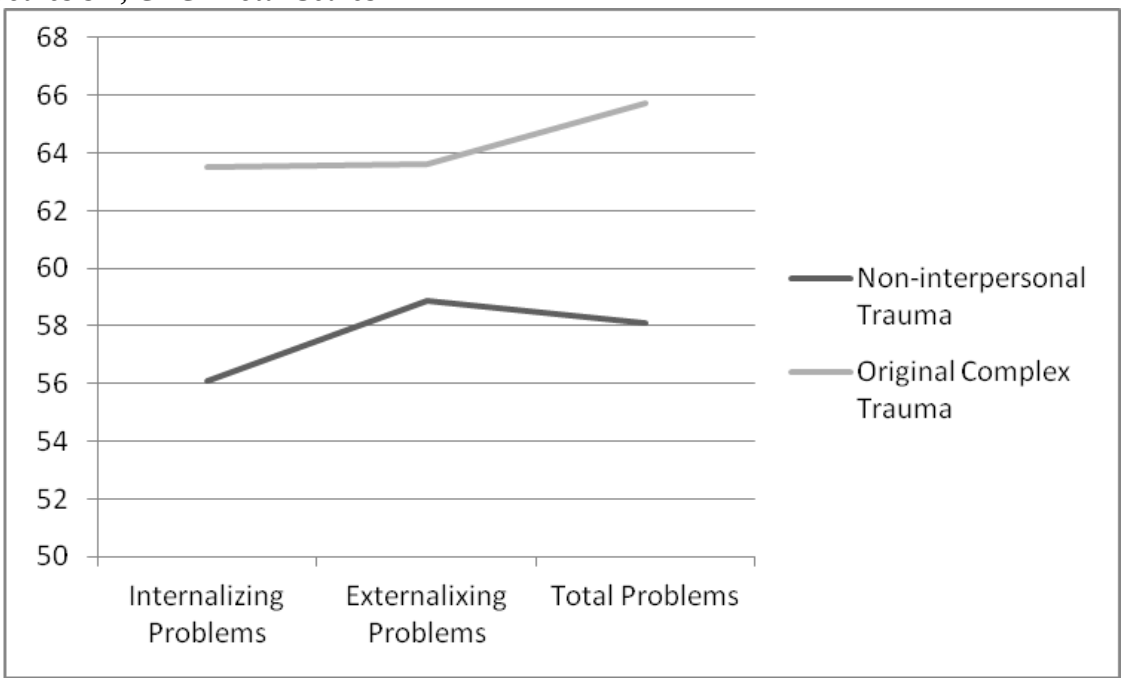


Figure 3
Hypothesis 1, TSCYC

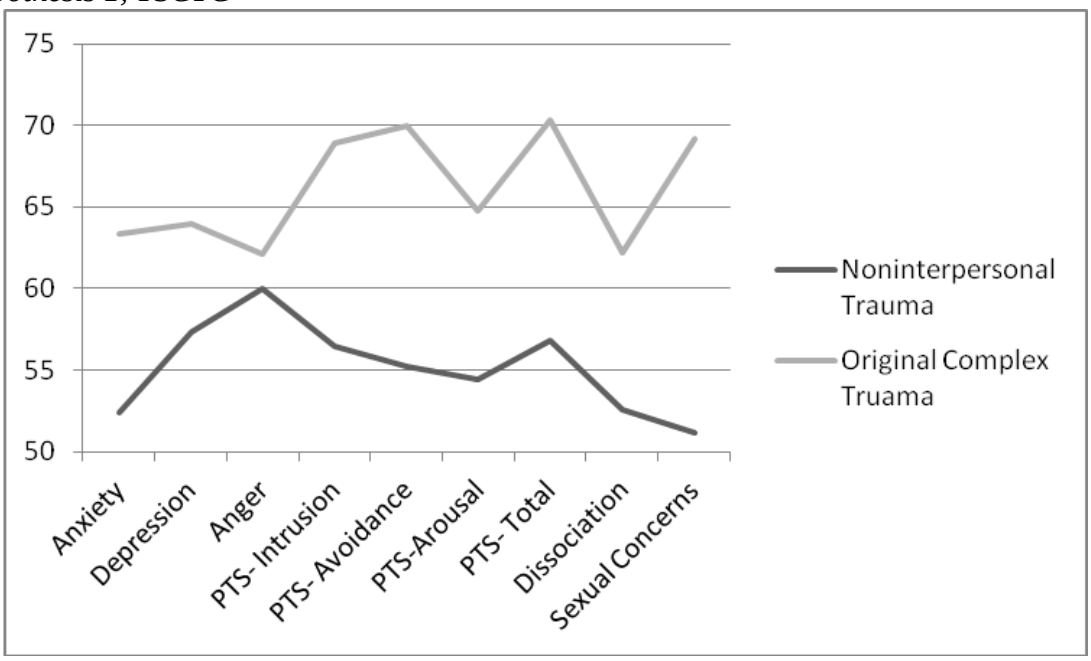
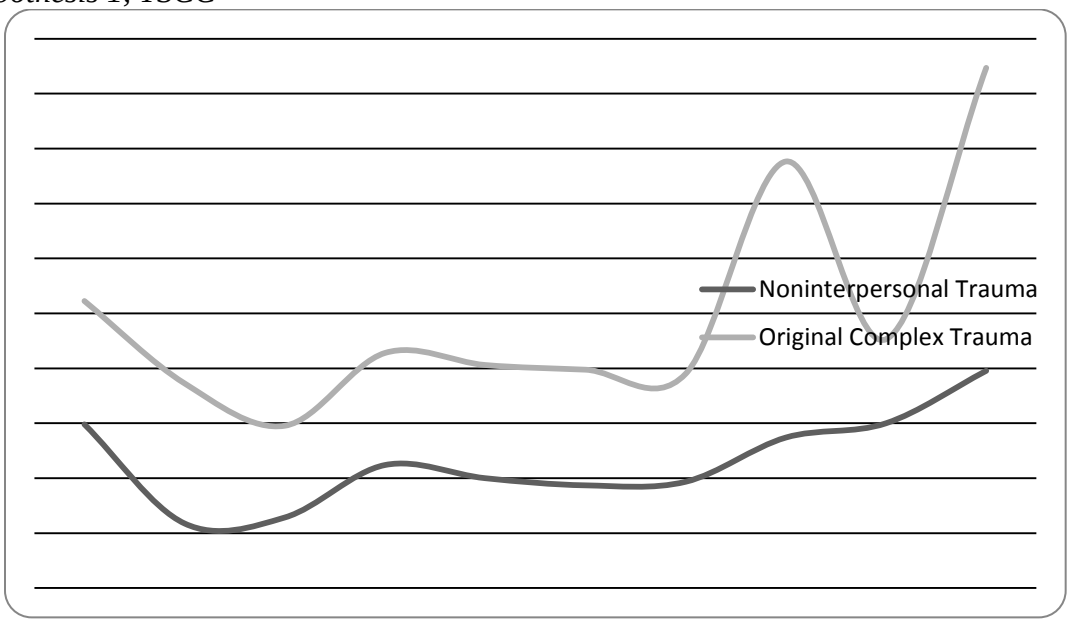


Figure 4
Hypothesis 1, TSCC



Hypothesis 2. Children and adolescents exposed to an acute interpersonal trauma were expected to have greater trauma-related than those exposed to a non-interpersonal

trauma. Profile analysis did not result in a significant main effect for the CBCL subscales ($F(1,253) = 3.35$, $p = .07$, Partial Eta Squared = .03), nor were the results significant for the CBCL Total scores ($F(1,253) = 1.08$, $p = .29$, Partial Eta Squared = .01). Profile analysis did, however, result in a main effect for the TSCYC ($F(1,227) = 5.04$, $p < .05$, Partial Eta Squared = .04; see Figure 5). Similarly, profile analysis produced a significant main effect for the TSCC ($F(1,213) = 3.99$, $p < .05$, Partial Eta Squared = .05; see Figure 6). In sum, hypothesis 2 is partly supported. Significant differences were observed between those who experienced an acute interpersonal trauma and those who experienced a noninterpersonal trauma for both the caregiver and child's report of trauma-related symptoms on the TSCYC and TSCC. Reports of generalized behavior problems on the CBCL subscales and Total scores, however, were not significant.

Figure 5
Hypothesis 2, TSCYC

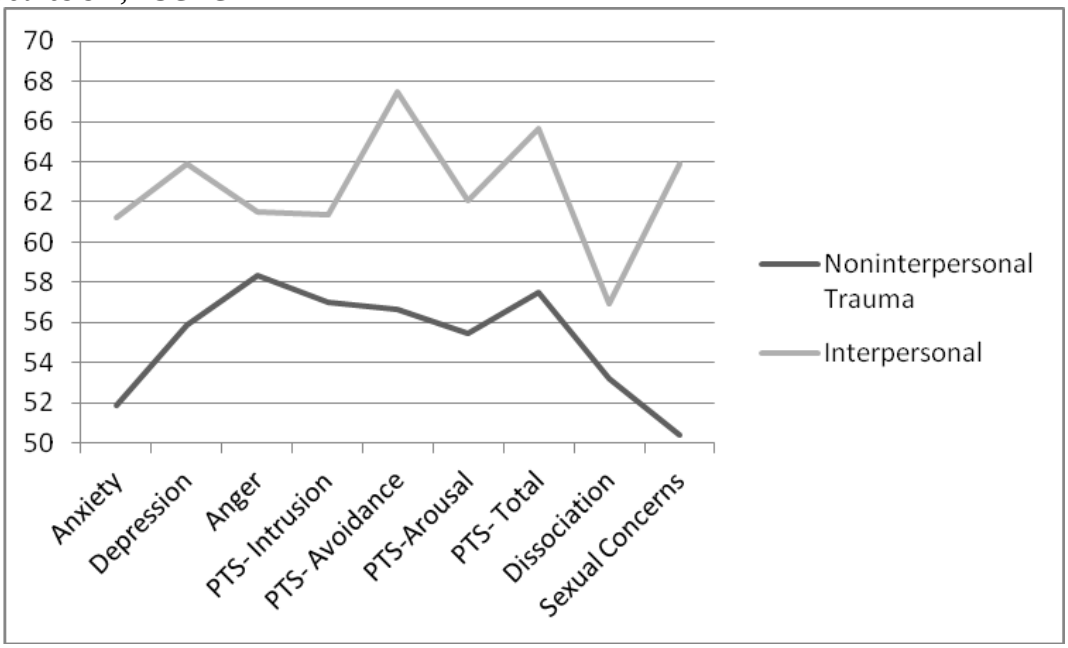
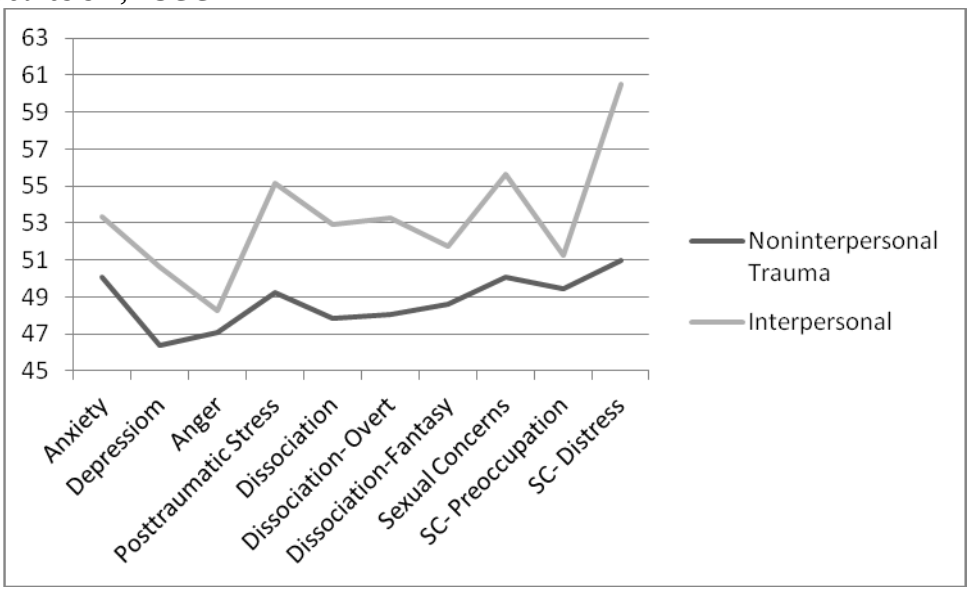


Figure 6
Hypothesis 2, TSCC



***Hypothesis 3*.** Children and adolescents exposed to chronic interpersonal trauma were expected to have greater trauma-related difficulties than those exposed to an acute interpersonal trauma. Consistent with hypothesis 3, profile analysis yielded a significant main effect for the CBCL subscales ($F(1,253) = 17.82$, $p < .001$, Partial Eta Squared = .07; see Figure 7) and the CBCL Total Scores ($F(1,253) = 11.25$, $p < .05$, Partial Eta Squared = .03; see Figure 8). Profile analysis also yielded a main effect for the TSCYC ($F(1,227) = 3.76$, $p = .05$, Partial Eta Squared = .02; see Figure 9). Profile analysis, however, did not indicate a main effect for the TSCC ($F(1,213) = 5.04$, $p = .10$, Partial Eta Squared = .01). Taken together, hypothesis 3 is mostly supported as three of the four profiles had significantly different profiles between groups. This was found for both trauma-related symptoms on the TSCYC and generalized behavior problems on the CBCL subscales and Total scales as reported by the caregiver. Thus, a higher level of caregiver-reported difficulties was observed in children exposed to chronic, as opposed to

acute, interpersonal trauma. This suggests that chronicity of a traumatic event is predictive of difficulties as observed by the caregiver. The TSCC, however, failed to show a main effect, indicating that, regardless of the chronicity of the trauma, children reported similar levels of trauma-related symptoms.

Figure 7
Hypothesis 3, CBCL Subscales

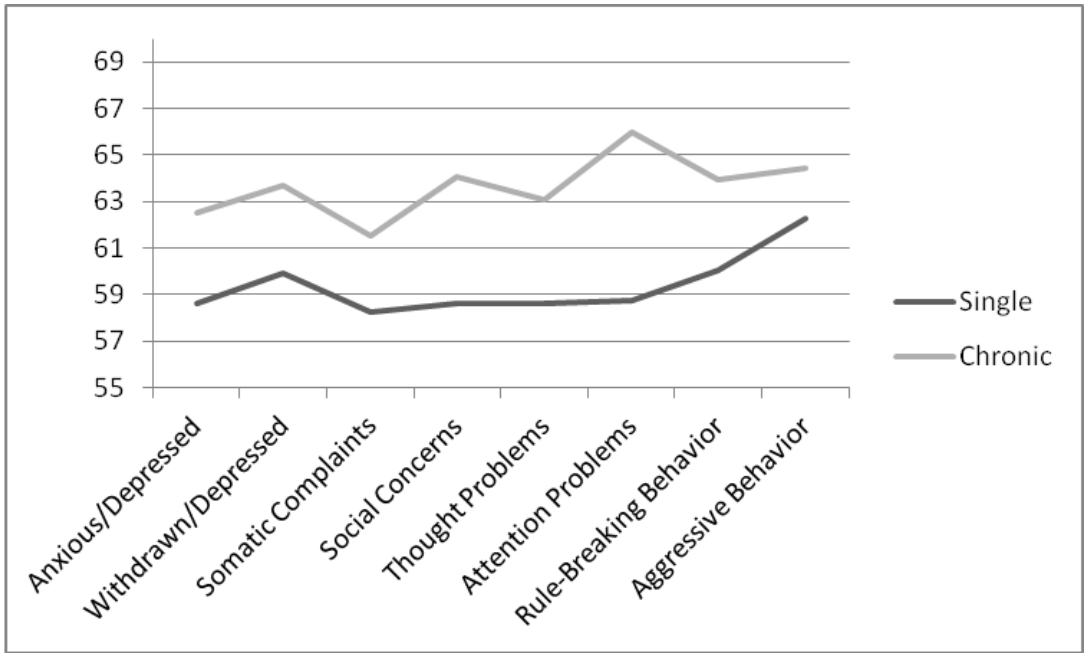


Figure 8
Hypothesis 3, CBCL Total Scales

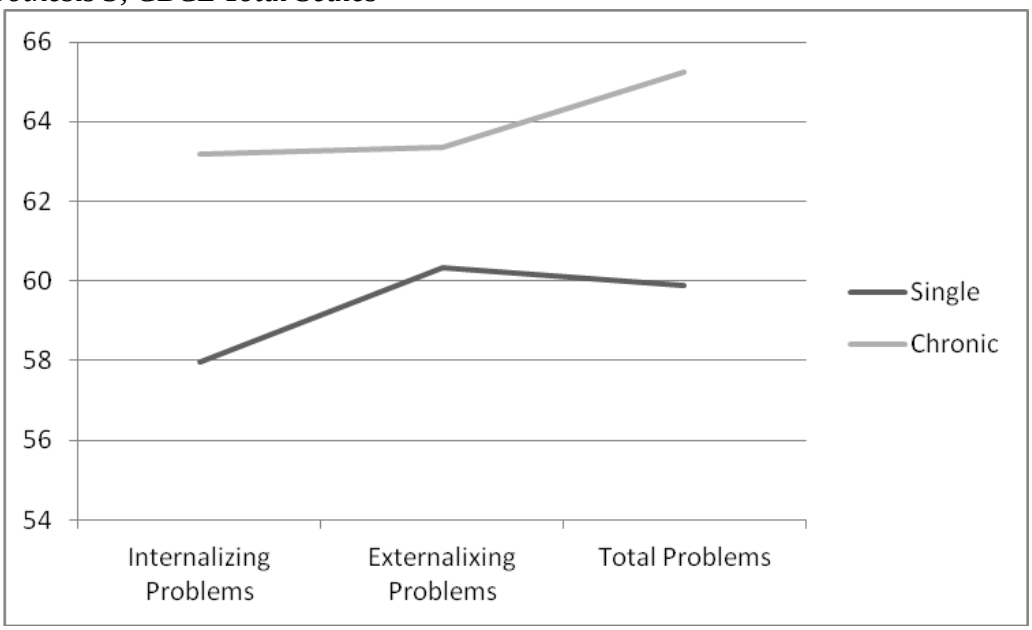
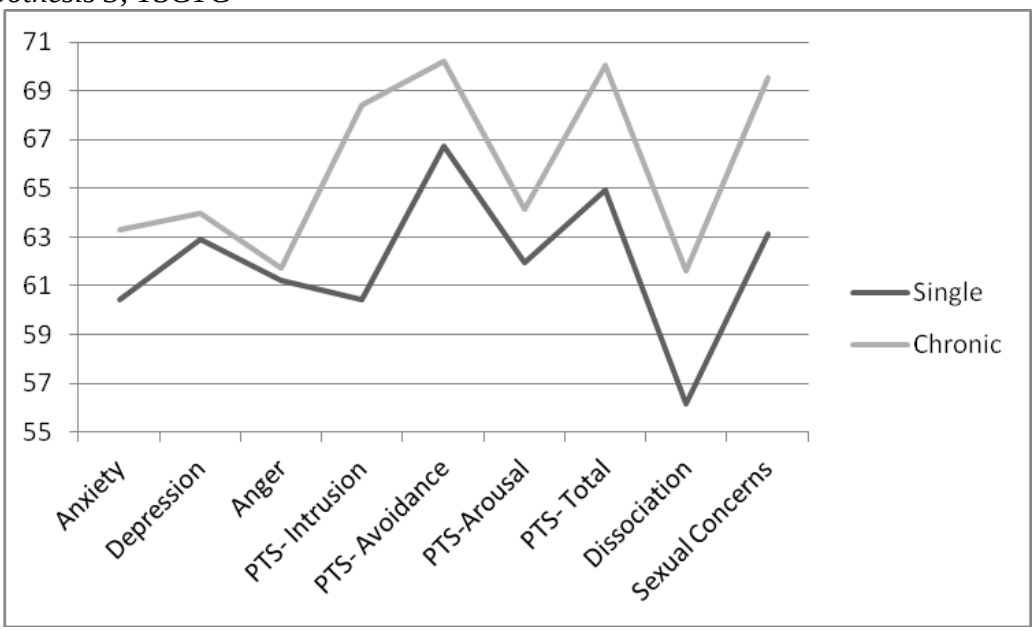


Figure 9
Hypothesis 3, TSCYC



Hypothesis 4. Children and adolescents exposed to chronic interpersonal traumas which begin at an early age (before age 10) were expected to have greater trauma-related difficulties than those exposed chronic interpersonal traumas which begin at a later age (after age 10). Consistent with hypothesis 4, profile analysis yielded a main effect of the CBCL subscales ($F(1,253) = 17.10$, $p < .001$, Partial Eta Squared = .09; see Figure 10) and for the CBCL Total scales ($F(1,253) = 22.08$, $p < .001$, Partial Eta Squared = .11; see Figure 11). Profile analysis also indicated a significant main effect for the TSCYC ($F(1,253) = 3.80$, $p = .05$, Partial Eta Squared = .02; see Figure 12). Profile analysis did not, however, yield a main effect for the TSCC ($F(1,253) = 2.08$, $p = .16$, Partial Eta Squared = .01). Hypothesis 4 is mostly supported, as three of the four profiles had significantly different profiles between groups. Indeed, the pattern of results for hypothesis 4 are identical to those for hypothesis 3, with significant differences being observed for generalized behavior problems on the CBCL subscales and Total scales and for trauma-related symptoms on the TSCYC as reported by the caregiver. These results suggest that the developmental timing of the traumatic event is predictive of the level of caregiver-reported difficulties, with traumatic events beginning earlier in life resulting in more difficulties as observed by the caregivers. The TSCC, again, failed to show a main effect, indicating that, regardless of age of onset of the trauma, children reported similar levels of trauma-related symptoms.

Figure 10
Hypothesis 4, CBCL Subscales

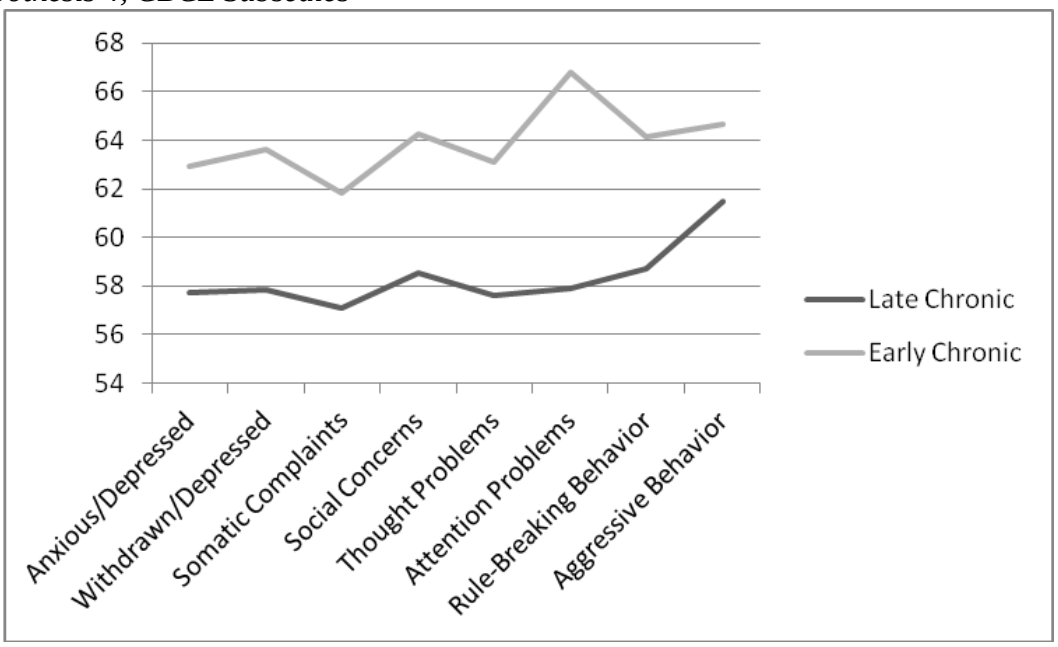


Figure 11
Hypothesis 4, CBCL Total Scales

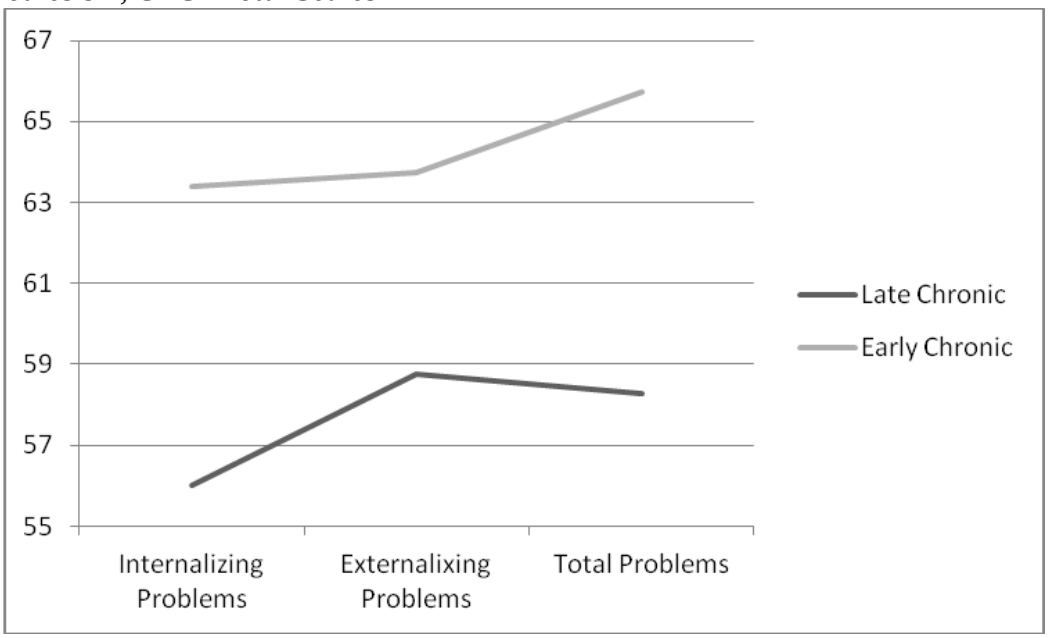
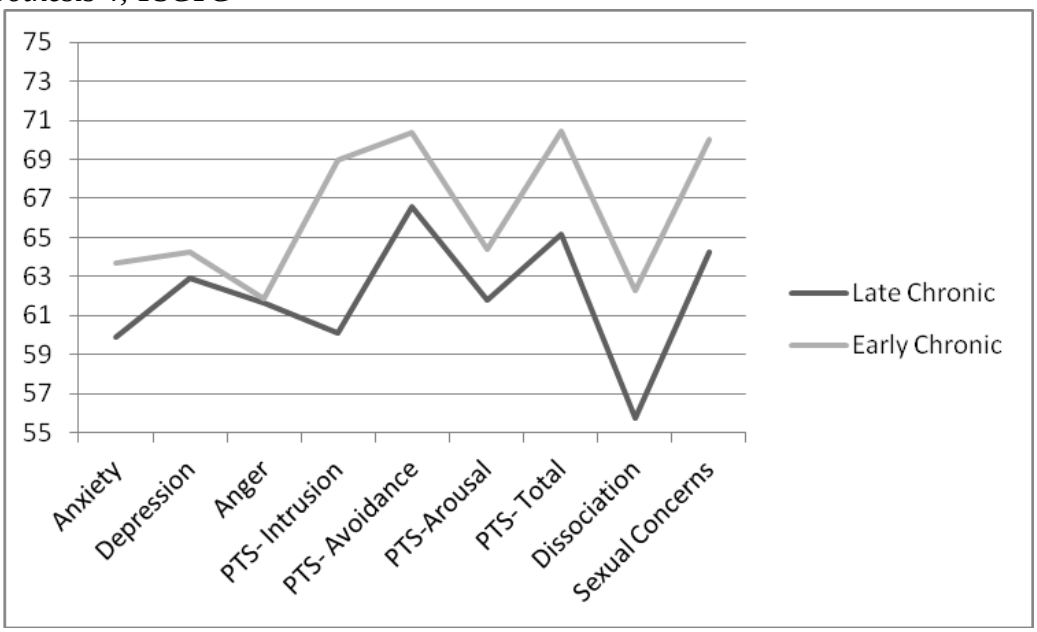


Figure 12
Hypothesis 4, TSCYC



Hypothesis 5. Children and adolescents exposed to chronic interpersonal trauma and who were removed from their home were predicted to have greater trauma-related difficulties than those exposed chronic interpersonal trauma who remained in their home. Contrary to expectations, profile analysis did not demonstrate a significant main effect for the CBCL subscales ($F(1,253) = .40$, $p = .52$, Partial Eta Squared = .01), nor for the CBCL Total Scales ($F(1,253) = .79$, $p = .37$, Partial Eta Squared = .01). Profile analysis also did not yield a main effect for the TSCYC ($F(1,227) = 1.17$, $p = .28$, Partial Eta Squared = .01), nor for the TSCC ($F(1,213) = .07$, $p = .78$, Partial Eta Squared = .00). Hypothesis 5 was not supported. Children exposed to chronic interpersonal traumas and who were removed from their home were not reported to have higher levels of generalized behavior problems or trauma-related difficulties as reported by the caregiver or the child when compared to those exposed to chronic interpersonal trauma who remained in their home.

Hypothesis 6. Children and adolescents exposed to chronic, interpersonal trauma beginning at an early age and were removed from their home were expected to have worse outcomes than those exposed to chronic, interpersonal trauma beginning at an early age who remained in their home. Profile analysis, however, did not yield a main effect for the CBCL subscales ($F(1,253) = .48$, $p = .48$, Partial Eta Squared = .01), nor for the CBCL Total scores ($F(1,253) = 1.24$, $p = .26$, Partial Eta Squared = .01). Profile analysis did not indicate a main effect for the TSCYC ($F(1,227) = .00$, $p = .95$, Partial Eta Squared = .00), nor for the TSCC ($F(1,213) = .13$, $p = .72$, Partial Eta Squared = .00). Hypothesis 6 was not supported. Children exposed to chronic interpersonal traumas which began at an early age and who were removed from their home did not present to treatment with higher levels of generalized behavior problems or trauma-related difficulties as reported by the caregiver or the child when compared to those exposed to chronic interpersonal traumas which began at an early age who remained in their home. This pattern of results is the same as hypothesis 5, which provides further evidence that removal from the home is not predictive of symptom presentations in children.

Secondary Analyses

Hypothesis 1 provides support for the definition of complex trauma proposed by the NCTSN (2003). Children exposed to a complex trauma event as defined by the NCTSN presented to treatment with significantly more reported symptoms than those exposed to an acute noninterpersonal trauma. This finding is promising; however, many traumatized children do not fall into either "bin." Further, an acute noninterpersonal trauma is, objectively, the least severe traumatic event. The question then becomes, do children exposed to a NCTSN complex trauma consistently have different symptom

presentations than those exposed to other variations of trauma? Additional analyses were conducted to investigate this question by comparing children exposed to a NCTSN complex trauma event to other groups of traumatized children. The groups of comparison children were groups that met two criteria. First, the group had to have an adequate cell size. Second, they could not have been examined by another hypothesis. This resulted in two comparison groups, children exposed to an acute interpersonal trauma and children who experienced a trauma which began at an early age.

Complex Trauma vs. Acute Interpersonal Trauma. Children exposed to a NCTSN complex trauma event, specifically an interpersonal traumatic event that is chronic and began at an early age, were compared to children exposed to an acute interpersonal trauma. It was expected that children exposed to a complex trauma event would have higher levels of reported difficulties than those who experienced an acute interpersonal trauma. Profile analysis yielded a main effect for the CBCL subscales *(F(*1,253) = 22.47, $p < .001$, Partial Eta Squared = .09; see Figure 13) and for the CBCL Total scores (*F(*1,253) = 13.59, $p < .001$, Partial Eta Squared = .06; see Figure 14). Profile analysis also resulted in a main effect for the TSCYC (*F(*1,227) = 7.13, $p = .008$, Partial Eta Squared = .03; see Figure 15). Profile analysis did not yield a main effect for the TSCC (*F(*1,213) = 3.09, $p < .08$, Partial Eta Squared = .02). The post-hoc hypothesis that children exposed to an NCTSN complex trauma event was mostly supported, as three of the four profiles had significantly different profiles between groups. Caregivers observed more broad behavioral problems on the CBCL subscales and Total scores and specific trauma symptoms on the TSCYC in children exposed to a complex trauma event than an acute interpersonal trauma. Children, however, again did not report themselves as

experiencing more symptoms on the TSCC when they had experienced a complex trauma event than when they experienced an acute interpersonal trauma.

Figure 13
Single interpersonal trauma versus NCTSN complex trauma, CBCL subscales

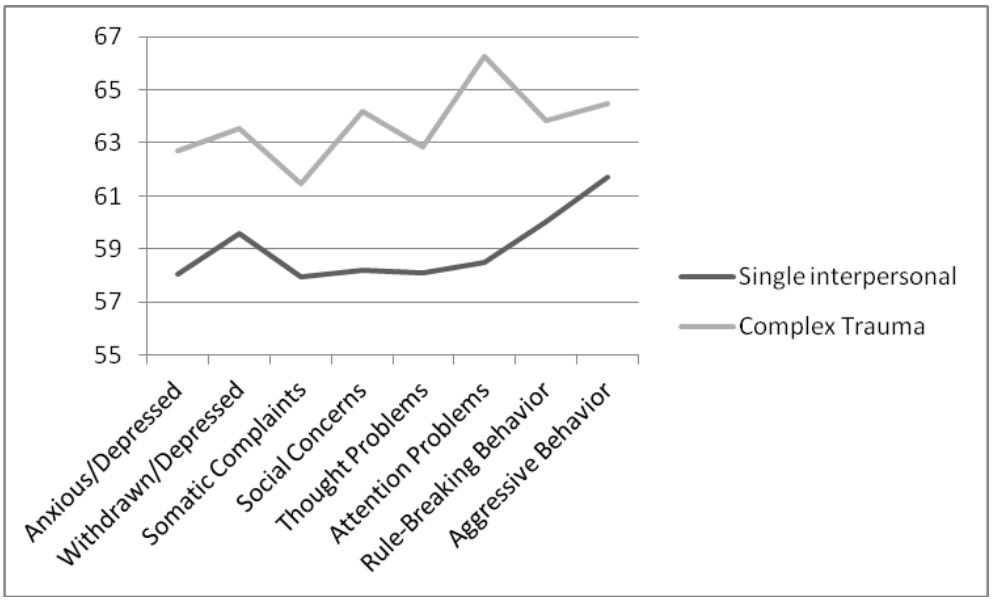


Figure 14
Single interpersonal trauma versus NCTSN complex trauma, CBCL total scores

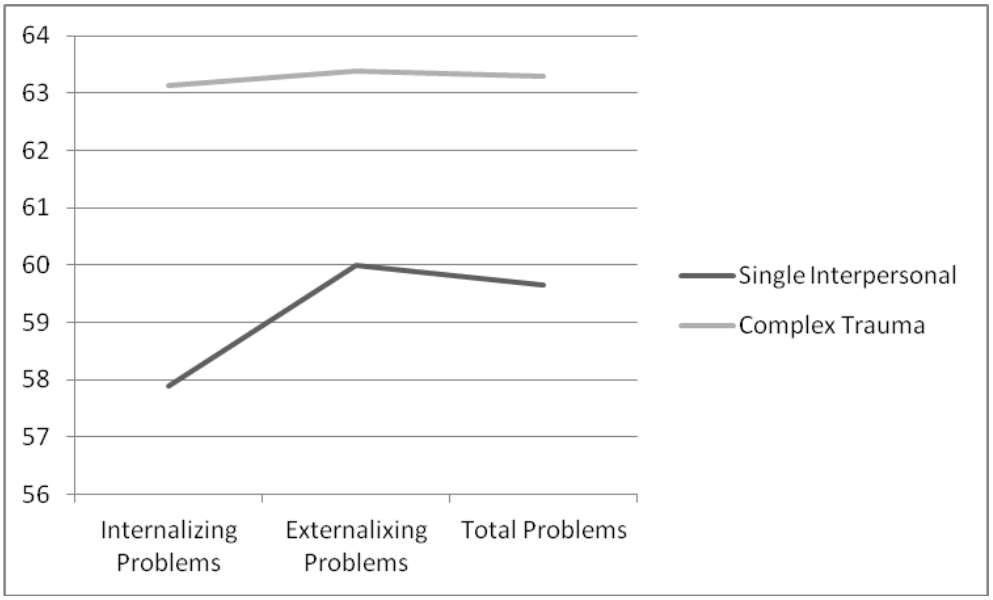
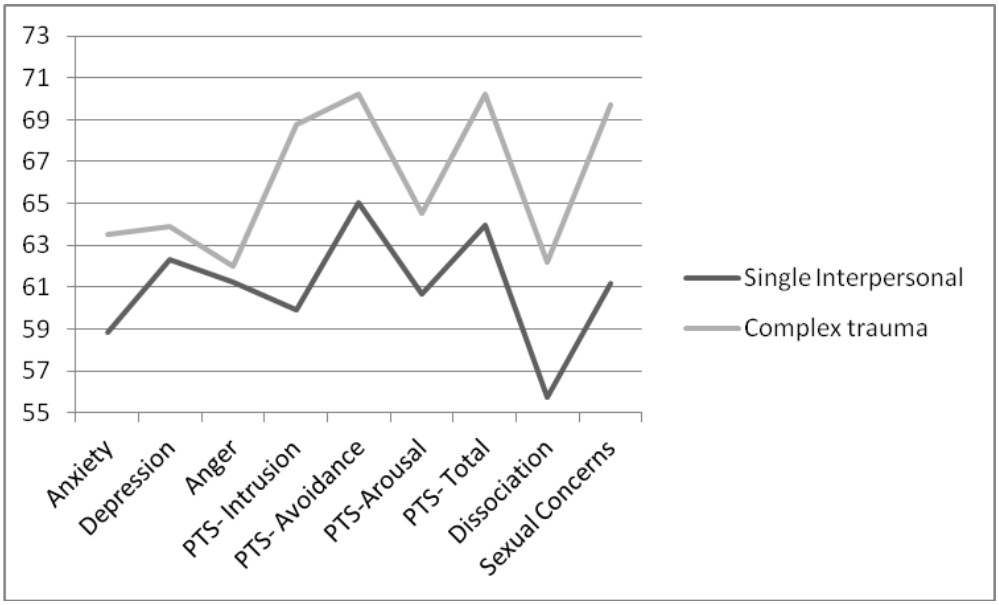


Figure 15
Single interpersonal trauma versus NCTSN complex trauma, TSCYC



Complex Trauma vs. Early Age. Children exposed to a NCTSN complex trauma event were compared to children exposed to a trauma that began at an early age. It was expected that children exposed to a complex trauma event would have higher levels of reported difficulties than those who experienced a trauma which began at an early age. Profile analysis yielded a main effect for the CBCL subscales ($F(1,253) = 17.06$, $p < .001$, Partial Eta Squared = .08; see Figure 16) and CBCL Total scores ($F(1,253) = 13.19$, $p < .001$, Partial Eta Squared = .06; see Figure 17). Profile analysis, however, did not result in a main effect for the TSCYC ($F(1,227) = 2.96$, $p = .08$, Partial Eta Squared = .02) nor for the TSCC $F(1,213) = 1.48$, $p < .22$, Partial Eta Squared = .01). Children exposed to a complex trauma event, compared to those who experienced a traumatic event which began early in life, evinced greater generalized behavior problems as reported by the caregiver on the CBCL subscales and Total scores. No differences,

however, were found for specific trauma symptoms as reported by the caregiver on the TSCYC or the child on the TSCC.

Figure 16
Early onset of trauma versus NCTSN complex trauma, CBCL subscales

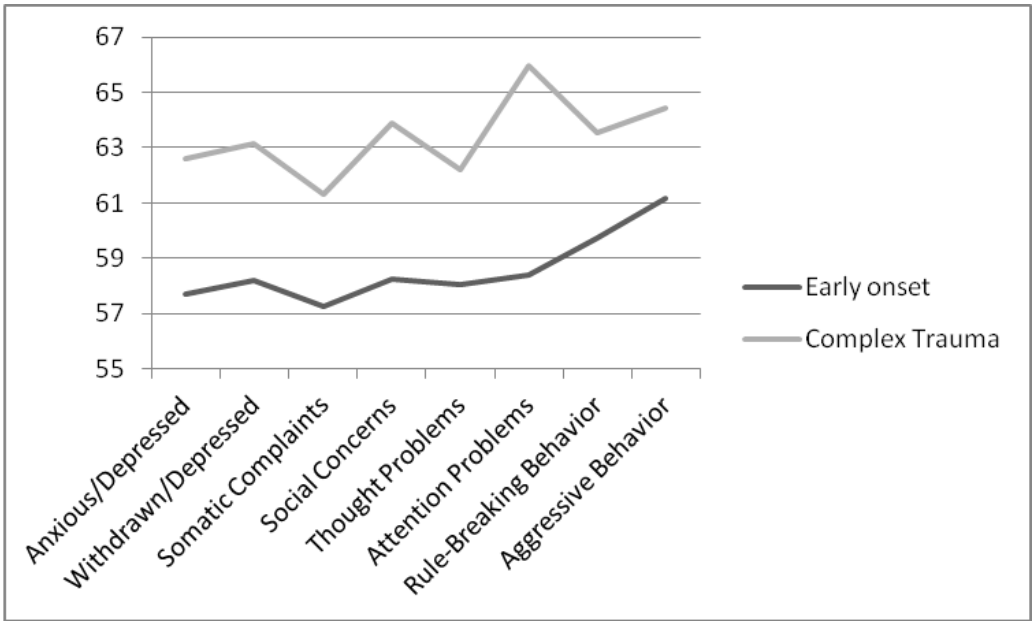
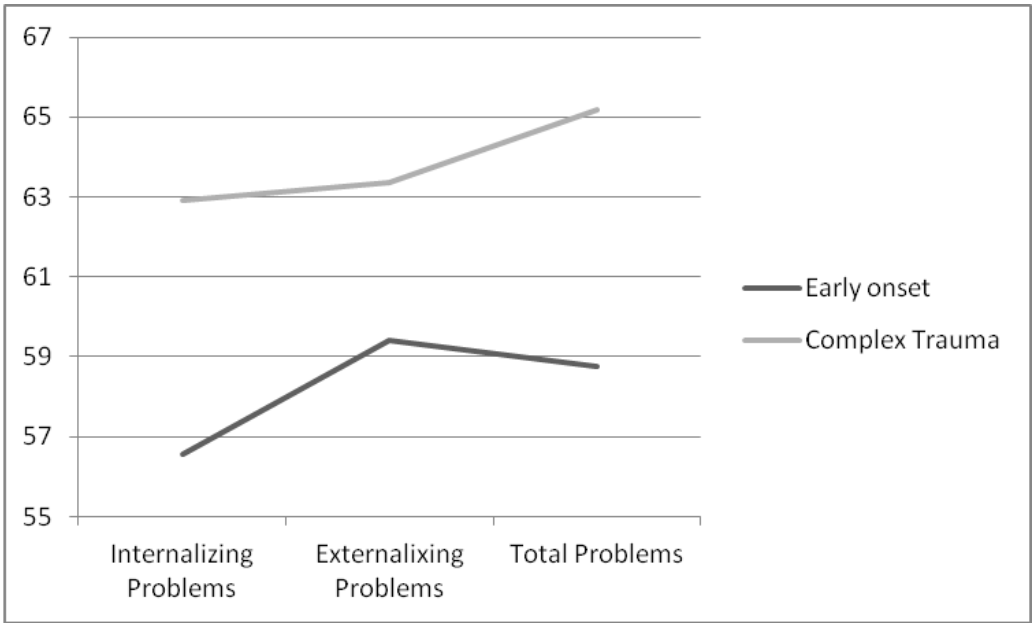


Figure 17
Early onset of trauma versus original complex trauma, CBCL total scores



Discussion

Three decades have passed since Herman (1992) coined the term complex trauma in reaction to the significant limitations of the diagnostic construct PTSD to describe the symptom presentations of individuals exposed to qualitatively more severe traumatic events. The concept was developed following a consensus from clinicians in the field and reviews of the extant literature from survivors of childhood sexual abuse, domestic violence, and concentration and refugee camps, which suggested that aspects of the traumatic event are linked to symptom presentations. Since the development of the construct, two diagnostic constructs developed to capture the aftermath of complex trauma events have been proposed for inclusion into the DSM, namely, DESNOS and DTD (Roth et al., 1997; van der Kolk, 2005). Yet, three decades and two diagnostic constructs later, the field of complex trauma is in its infancy. The DSM-IV field trial is a notable exception, which provided strong evidence that adults exposed to a complex trauma event, defined as a traumatic event which was a chronic interpersonal trauma beginning at an early age, presented with more DESNOS symptoms than their more acutely traumatized counterparts (Roth et al., 1997, Pelcovitz et al., 1997). The DSM-IV field trial helped to increase the legitimacy of the concept of complex trauma by demonstrating empirical support for the definition of complex trauma in adults. Alas, despite the strong findings from the field trial, DESNOS was not included into the DSM-IV. More research is needed to strengthen the claims that a diagnostic construct specific to complex trauma is needed.

Despite the merits of DESNOS, children remain overlooked. This is ironic, as complex trauma events typically begin during childhood. Moreover, it is unlikely that there is a "sleeper effect" for the impact of complex trauma; that is, that symptoms lie

dormant in childhood only to manifest in adulthood. Indeed, children exposed to complex trauma events are theorized to have serious and widespread difficulties. DTD was developed to capture these difficulties and has been proposed for inclusion into DSM-V. Yet, there has been very little research specific to complex trauma in children and adolescents. This appears backwards. No studies to date have examined the empirical support for the definition of complex trauma in children and adolescents nor have the specific symptoms of DTD been published. Prior to the development of a diagnostic construct, research is first needed that indicates that children exposed to complex trauma events present with significantly different symptom presentations. For DTD, or any other diagnostic construct relating to complex trauma in children and adolescents, to be successful, research is needed to legitimize the need for another trauma-related construct in the DSM beyond PTSD. The present study sought to remedy this oversight.

Categorical Examination of Complex Trauma

Hypothesis 1. The first purpose of the study was to examine the empirical support for the presumption that children and adolescents exposed to a complex trauma event indeed have more complicated symptoms than those exposed to a non-complex trauma event. This was accomplished by examining the definition of complex trauma categorically. That is, the present study aimed to examine the level of difficulties observed in children who had been exposed to a traumatic event which met the all of the characteristics of the NCTSN complex trauma definition (i.e., a chronic interpersonal trauma which begins at any early age) as compared to those who experienced a traumatic event which met none of the characteristics of a complex traumatic event (i.e., an acute noninterpersonal trauma which begins later in life). This would potentially provide

support for the notion that the experience of a complex trauma event is a type of trauma that is categorically different than other traumatic events, so much so that another diagnostic category is needed. Unfortunately, children exposed to an acute noninterpersonal trauma late in life rarely present to treatment, and thus there were small cell sizes in the group of children that met none of the criteria for a complex trauma event. The present study consequently was unable to compare children who had been exposed to a complex trauma event to those who had been exposed to a traumatic event which met none of the three characteristics of a complex trauma event. Instead, hypothesis 1 examined whether children and adolescents exposed to a complex traumatic event had significantly more reported difficulties than those exposed to an acute noninterpersonal traumatic event. The age of onset of the trauma was not included in hypothesis 1.

Consistent with expectations, children who experienced a complex trauma event presented with more generalized difficulties as reported by the caregiver (CBCL subscales, Total scores), as well as more trauma-related difficulties as reported by the caregiver (TSCYC) and child (TSCC) than children who were exposed to an acute noninterpersonal trauma. Children exposed to a NCTSN complex trauma event, then, present to treatment with very different symptom presentations than those exposed to traumatic event that does not meet the majority of the characteristics of complex trauma event. The results from hypothesis 1 are consistent with the previous literature that consistently finds that aspects of the traumatic event are important in determining the development of trauma-related difficulties (Briere & Jordan, 2004; Briere, Kaltman, & Green, 2008; Cloitre, Scarvalone, & Difede, 199; Ford, Stockton, Kaltman, & Green, 2006; Mechanic, Uhlmansiek, Weaver, & Resick, 2000). These studies have been useful,

but as discussed, none have directly examined, either separately or in tandem, the features of complex trauma in children and adolescents. The present study builds upon these previous findings by providing initial empirical support for the definition of complex trauma in children and adolescents. Complex trauma events, as defined by the NCTSN, do result in significantly higher level of difficulties in children and adolescents.

Note that complex trauma events do not simply result in more severe levels of PTSD. Significant group differences were not restricted to the trauma-specific measures that assess traditional trauma symptoms (i.e., TSCYC, TSCC); instead, generalized behavior problems as measured by the CBCL subscales had the largest effect size (Partial Eta Squared = 0.12). This effect size corresponds to nearly a large effect size (Cohen, 1988). This is a noteworthy finding, providing initial support for the previously unresearched claim that complex trauma events uniquely result in widespread difficulties across domains, not simply more severe levels of PTSD symptoms. The widespread behavioral difficulties observed in children exposed to complex trauma events suggests deficits in ability to self-regulate, which is consistent with the theoretical claims of DTD (van der Kolk et al., 2005). These difficulties are likely related to the trauma. PTSD then does not capture the impact of complex trauma events in children and adolescents. Thus, this finding provides empirical support that a diagnostic construct devoted to complex trauma, like DTD, is needed to describe the reality of the aftermath of complex trauma events.

Secondary Analyses. The findings from hypothesis 1 prompted the inclusion of two additional analyses to add further empirical support to the definition of complex trauma as defined by the NCTSN. These analyses compared children exposed to a complex trauma event to those who experienced other combinations of traumatic events.

First, children exposed to a complex trauma event were compared to those exposed to an acute interpersonal trauma. Results indicated that significant differences were observed for generalized behavior problems on the CBCL subscales and CBCL Total scores and for trauma-related symptoms on the TSCYC as reported by the caregiver. Caregivers consistently reported their children as having more difficulties when they were exposed to a complex trauma event when compared to an acute interpersonal trauma. This suggests that, for interpersonal traumas, the chronicity and the age of onset of the trauma are, together, related to the level of children's difficulties, as reported by their caregivers. Children's reports, however, were found to be similar between groups. There are several plausible explanations for this finding, which will be considered following a discussion of hypothesis 4.

Second, children exposed to a complex trauma event were compared to children exposed to a trauma that began at an early age. Results indicated that the groups differed in generalized behavior problems. For traumatic events that begin at an early age, traumatic events that were both interpersonal and chronic were related to higher levels of children's symptoms, as reported by their caregiver. Children exposed to a complex trauma event, however, did not report, and were not reported to have, more trauma-related difficulties than those exposed to a traumatic event that began early in life. This is a noteworthy finding that suggests that more severe traumatic events have a broader impact on children that is not revealed in the symptoms of PTSD. The problem with presuming that traumatic events only result in PTSD is that the systemic disruptions are not accounted for and PTSD fails to address the wide reach of these events.

Dimensional Conceptualization of Complex Trauma

Hypotheses 2, 3, 4. The results of hypothesis 1 and the secondary analyses are useful first steps in providing empirical support for the definition of complex trauma in children and adolescents. However, as discussed previously, they are limited in that simply grouping children in two "trauma bins" will exclude the many, if not the majority, of children exposed to trauma. These children are the reality of traumatic exposure, and thus require attention as well. The second aim of the study was to then examine the impact of traumatic events dimensionally. That is, the study also examined the additive effects of the various aspects of the complex trauma definition, successively comparing groups of children exposed to increasingly more severe traumatic events. Hypotheses 2, 3, and 4 address whether the addition of each characteristic of a complex trauma event is predictive of higher levels of symptoms. This also allows for an examination of each of the characteristics of a complex trauma event.

Hypothesis 2 proposed that children exposed to an acute interpersonal trauma would have more difficulties than those exposed to a non-interpersonal trauma. Contrary to expectations, no differences were found between groups on generalized behavioral difficulties. However, significant differences were found, as anticipated, for the trauma-related symptoms. The finding that there were only significant differences for trauma-related symptoms is consistent with a conceptualization that acute traumas more commonly result in traditional PTSD symptoms whereas complex traumas result in broader, more widespread difficulties (Cloitre, Scarvalone, & Difede, 1997; Green et al., 2000; van der Kolk, 2005). Acute traumatic events, regardless of the nature, result in PTSD-like symptoms, as opposed to larger systemic disruptions.

Hypothesis 3 examined children exposed to chronic interpersonal traumas compared to those exposed to an acute interpersonal trauma. This hypothesis was mostly supported as three of the four profiles had significantly different levels of symptoms on the CBCL subscales and Total scores and the TSCYC between groups. This indicates that caregivers reported their children as having more generalized behavioral and trauma-related symptoms when exposed to a chronic interpersonal trauma than an acute interpersonal trauma. Chronicity of interpersonal trauma is then predictive of caregiver-reported problems, and thus, appears to uniquely add to the definition of complex trauma. Children exposed to interpersonal traumas, however, reported similar levels of trauma-related symptoms, regardless of chronicity. This is the same pattern of results as described in the first secondary analyses and will be explored following a discussion of hypothesis 4.

Hypothesis 4 compared children exposed to chronic interpersonal traumas that began at an early age to those exposed chronic interpersonal traumas that began at a later age. This hypothesis was also mostly supported. Caregivers reported more generalized behavioral and trauma-related symptoms for children who were exposed to chronic interpersonal trauma that began at an early age. Thus, the age of onset contributes to the level of caregiver-reported difficulties, indicating that this feature of the traumatic event should be included in the conceptualization of complex trauma. Children's reports, again, were non-significant, indicating that those exposed to a chronic interpersonal traumas reported similar levels of trauma-related symptoms, regardless of age of onset. This pattern of results is the same as the second secondary analysis and hypothesis 3.

The results of hypotheses 2, 3, and 4 are important for two reasons. First, they provide support for a dimensional conceptualization of traumatic events. Ford and

Courtois (2009) proposed conceptualizing trauma dimensionally, but to date this has not been empirically examined. The study proposed, and found merit for, a spectrum of traumatic events with an acute noninterpersonal trauma residing on one end of the spectrum with a NCTSN complex trauma event on the other. Increasingly more severe traumatic events were generally linked with increasing levels of children's difficulties, as reported by their caregivers. An acute noninterpersonal trauma was found to have lower levels of trauma-related symptoms than an acute interpersonal trauma, which in turn, resulted in lower levels of caregiver-reported symptoms than a chronic interpersonal trauma, which had lower levels of caregiver-reported symptoms than a chronic interpersonal trauma that began early in life. In contrast to conceptualizing the impact of trauma into two categorical "trauma bins," PTSD or complex trauma, a dimensional conceptualization of trauma more accurately captures important nuances of traumatic events. Second, the results of these hypotheses support the inclusion of each of the characteristics of a NCTSN complex trauma event in the definition of complex trauma. This had not been done previously. The nature of the traumatic event, interpersonal or noninterpersonal, the chronicity of the trauma, and the age of onset of the traumatic event were all found to be related to differences in the level of caregiver-reported symptoms; thus, these three features are important in defining what constitutes a complex trauma event.

Child's Report of Trauma Symptoms. In the present study, caregivers of children with various trauma ecologies reported significant differences in levels of symptoms, while children typically reported experiencing similar levels of trauma-related difficulties, irrespective of their traumatic exposure. Only when children exposed to the most severe of traumas, complex trauma, were compared to the least severe of traumas,

an acute noninterpersonal traumatic event, did children report having significantly more symptoms. These findings indicate that children are failing to make distinctions in their internal experiences, even when their caregivers are able to. There are a few reasons for children's failure to accurately report their level of difficulties. First, accurate reporting necessitates introspection and self-awareness, such that a child is able to recognize that they are experiencing a particular difficulty. Children exposed to traumatic events struggle to accurately identify affective states (Beeghley & Cicchetti, 1994). Second, a valid assessment requires a good working relationship with the child based on trust, as the child is expected to acknowledge experiencing difficult, painful, or embarrassing symptoms to a relative stranger (Ford, 2005). This can be difficult as initial intake assessments are routinely completed, as in the present study, within the first three sessions, before the clinician has had time to establish more than a relatively superficial working relationship with the child. Moreover, this is more challenging for this sample of children who have experienced a traumatic event. Difficulty trusting others is an often observed in traumatized populations, particularly in adults exposed to complex trauma events (Pelcovitz et al., 1997). Indeed, this symptom is captured in the associated features of PTSD, which correspond to symptoms of DESNOS. More severely traumatized children may then under-report their symptoms, as they are reluctant to disclose experiencing significant levels of difficulties to an unfamiliar adult. In sum, as a child self-report measure, the TSCC may be limited it its utility to detect small to moderate differences levels of symptom presentations in children.

Modified Definition of Complex Trauma

Another aspect of the study was to examine whether the caregiving system is an essential feature of complex trauma. Ford and Courtois (2009) have proposed that an impaired caregiving system is paramount in determining complex trauma outcomes. Hypotheses 5 and 6, therefore, examined whether an expanded complex trauma definition, which includes an impaired caregiving system, is related to symptom presentations. The impact on the caregiving system was operationalized as removal from the home following the onset of the first traumatic event. Hypothesis 5 compared children exposed to chronic interpersonal traumas and who were removed from their home to those exposed to chronic interpersonal traumas and who remained in their home, however, no significant differences were observed between groups. Hypothesis 6 compared chronic, interpersonal traumatic events that began at an early age and were removed from their home to those exposed to chronic, interpersonal traumatic events that began at an early age who remained in their home, although, again no significant differences were found between groups. Thus, removal from the home was not found to be related to level of reported symptoms.

This finding might, at first glance, suggest that an impaired caregiving system does not merit inclusion into the conceptualization of complex trauma. However, the failure to find symptom differences could be due to the way in which the impaired caregiving system was operationalized. For the purposes of this study, removal from the home was as a proxy variable for an impaired caregiving system. This was done for several reasons. First, being removed from the home is likely a serious disruption to the child. For a child to be removed from their legal guardian by Children's Division indicates that it was determined that the child's caregiver was unable to take care of that

child for some reason, generally as the caregiver was either themselves abusive or neglectful or was aware of the abuse and failed to intervene appropriately. It was assumed that this would significantly impair the attachment relationship. Second, removal from the home was previously used successfully as a proxy variable for an impacted caregiving system by one of the authors of the alternative definition of complex trauma (i.e., Ford, Connor, & Hawke, 2009). In that study, multiple out-of-home placements were related to symptom presentations. Third, there are no validated measures that formally assess the quality of the attachment relationship between children and adolescents and their caregivers that relies upon the child's report. The measure would need to be completed by the child, as offending caregivers are unlikely to accompany children to trauma-focused treatment, particularly those whose children have been removed from their care. Moreover, even if the offending caregivers presented to treatment, it would likely be very difficult to obtain an accurate report of their relationship with their child, out of possible fear of how their responses could impact their case with Children's Division.

There are several possible explanations for the failure for removal from home to be unrelated to symptom presentations. The use of this variable as a proxy for impaired caregiving system implies that children who remained in their home are securely attached. This is unlikely, as approximately 80% of children following traumatic events are insecurely attached (Cook et al., 2003) and the majority of children following a traumatic event remain in their home. Much of the sample who experienced a chronic interpersonal trauma but who remained in their home also may have been insecurely attached.

Removal from the home is also a categorical measure which is unable to account for the gradations of impact on the caregiving system that is likely present in this population. Further, children who are removed from their home may have benefited from being no longer in the care of their parents and placed into a presumably less chaotic and more supportive environment. In their new placement, they may be provided with an opportunity to stabilize and to form more secure attachment relationships with other adults, particularly in kinship placements. Despite the failure to find differences between children who were removed or remained in their homes, the extant literature highlights the importance of the attachment relationship in understanding the impact of trauma on children. Future research examining this conceptualization of complex trauma may profit by examining the attachment relationship more directly, either through the use of clinician's judgments or developing an assessment tool.

Limitations and Future Directions

There were several limitations of this study, the most significant being that this study utilized a treatment-seeking sample. Generally, caregivers initiate treatment for their children due to difficulties. For this study in particular, this is problematic, as children who were exposed to a traumatic event, who are not exhibiting trauma-related symptoms, were not included. The level of difficulties following trauma may, therefore, be over-estimated. It is likely that children exposed a noninterpersonal event are least likely to present to treatment due to minimal level of difficulties, which may have be partially responsible for the lack of significant findings for caregiver-reported generalized behavior problems when comparing acute interpersonal trauma to acute noninterpersonal trauma.

Further, the study was limited by the assessment of traumatic exposure. A validated caregiver-report trauma screener administered by the clinician was not used; instead the caregiver reported the child's exposure to various traumatic events on an unvalidated measure that was not administered by the clinician. This has several potential implications. Caregivers may endorse that a child experienced a traumatic event; however, it is unknown whether the traumatic event constituted a PTSD criterion A stressor. Caregivers may also endorse, for example, that child was sexually abused based on suspicion, as opposed a verbal or behavioral disclosure from the child. Also, as traumatic exposure was not assessed by a clinician, it is not clear whether the reported difficulties are indeed the result of the traumatic event (i.e., whether a particular symptom began following, as opposed to prior to, the traumatic event). Emotional and behavioral concerns assessed by the measures used in the study are not unique to traumatic events, and thus, an assessment of the linkage between these difficulties and the traumatic event would have been beneficial to help provide a clearer picture of the level of trauma-related difficulties following a particularly type of trauma. Finally, a measure that assesses complex trauma outcomes in children and adolescents does not currently exist. One has been developed for adults (Pelcovitz et al., 1997); however, this measure is not developmentally appropriate for children. Broad domains of the impact of complex trauma in children have been identified, but specific symptoms have not been empirically identified. A validated measure of complex trauma outcomes would be of great benefit, which would allow for a more targeted examination of the proposed difficulties that children exposed to complex trauma events are hypothesized to have.

Despite these limitations, the findings of the present study are a step forward in the field of complex trauma. Previous research has demonstrated empirical support for

complex trauma in adults, but no studies to date have investigated the empirical support for the NCTSN definition of complex trauma in children and adolescents. The present study provided initial support for the NCTSN definition of complex trauma, as these children indeed presented to treatment with more severe and complicated symptoms than those not exposed to a complex trauma event. These symptoms, however, were not restricted to the confines of PTSD. Instead, children exposed to complex trauma presented to treatment with widespread trauma and behavioral difficulties, not more PTSD symptoms. This suggests that complex trauma events do not simply result in anxiety symptoms, but impair development and the ability to regulate oneself, which is consistent with previous conceptions of complex trauma and with DTD. However, there is much to be done in this area. The present study provides empirical support for the NCTSN definition of complex trauma in children and adolescents and the utility of this concept, which will hopefully result in much needed research. With clearer demarcations of what constitutes a complex trauma event, researchers may now turn their attention to the other side of the complex trauma equation, that is, what more specifically constitutes a complex trauma outcome. This research would hopefully result in the inclusion of a diagnostic construct that accurately describes this most vulnerable of populations.

References

Abram, K. M., Teplin, L. A., Charles, D. R., Longworth, S. L., McClelland, G. M. & Dulcan, M. K. (2004). Posttraumatic stress disorder and trauma in youth in juvenile detention. *Archives of General Psychiatry*, *61*, 403-410.

Achenbach, T. M., & Rescorla, L. A. (2001). *Manual for the ASEBA school-age forms & profiles.* Burlington: University of Vermont, Research Center for Children,Youth, and Families.

Ackerman, P. T., Newton, J. E. O., McPherson, W. B., Jones, J. G., & Dykman, R. A. (1998). Prevalence of post traumatic stress disorder and other psychiatric diagnoses in three groups of abused children (sexual, physical, and both). *Child Abuse & Neglect*, 22(*8*), 759-774.

American Psychiatric Association. (2000). *Diagnostic and Statistical Manual of mental disorders* (4th ed., rev). Washington, DC: Author.

Anda, R. F., Felitti, V. J., Bremner, J. D., Waker, J. D., Whitfield, C., Perry, B. D., Dube, S. R., W. H. Giles. (2006). The enduring effects of abuse and related adverse experiences in childhood: A convergence from neurobiology and epidemiology. *European Archives of Psychiatry Clinical Neuroscience*, *256*, 174-186.

Aspelmeier, J. E., Elliott, A. N., & Smith, C. H. (2007). Childhood sexual abuse, attachment, and trauma symptoms in college females: The moderating role of attachment. *Child Abuse & Neglect*, *31*, 549-566.

Banyard, V. L., Williams, L. M., Siegel, J. A. (2003). The impact of complex trauma and depression on parenting: An exploration of mediating risk and protective factors. *Child Maltreatment*, *8*(4), 334-349.

Beeghly, M. & Cicchetti, D. (1994). Child maltreatment, attachment, and the self system:

Emergence of an internal state lexicon in toddlers at high social risk. *Development and Psychopathology*, 6, 5-30.

Blaauw, E., Winkel, F. W., Arensman, E., Sheridan, L, & Freeve, A. (2002). The toll of stalking: The relationship between features of stalking and psychopathology of victims. *Journal of Interpersonal Violence, 17*(1), 50-63.

Bowlby, J. (1980). *Attachment and loss, Vol. 3*. New York, NY: Basic Books.

Breslau, N. Davis, G. C., Andreski, P., Peterson, E. L., & Schultz, L. R. (1997). Sex differences in posttraumtatic stress disorder. *Archives of General Psychiatry, 54*(11), 1044-1048.

Briere, J. (1988). Long-term clinical correlates of childhood sexual victimization. *Annals of the New York Academy of Sciences, 528*, 327-334.

Briere, J. (1996). Trauma Symptom Checklist for Children (TSCC), Professional Manual. Florida: Psychological Assessment Resources.

Briere, J. & Lanktree, C. B. (1995). The Trauma Symptom Checklist for Children (TSCC): Preliminary psychometric characteristics. Unpublished manuscript, Department of Psychiatry, University of Southern California School of Medicine.

Briere, J. & Lanktree, C. B. (2011). Treating complex trauma in children and adolescents. Thousand Oaks, CA: Sage Publications,

Briere, J., Johnson, K., Bissada, A., Damon, L., Crouch, J., Gil, E., Hanson, R., & Ernst, V. (2001). The Trauma Symptom Checklist for Young Children (TSCYC): reliability and association with abuse exposure in a multi-site study. Child Abuse & Neglect, 25, 1001-1014.

Briere, J. & Jordan, C. E. (2004). Violence against women: Outcome complexity and

implications for assessment and treatment. *Journal of Interpersonal Violence, 19*(11), 1252-1276.

Briere, J., Spinazzola, J. (2005). Phenomenology and psychological assessment of complex posttraumatic stress. *Journal of Traumatic Stress, 18*(5), 401-412.

Briere, J., Kaltman, S., & Green, B. L. (2008). Accumulated Childhood Trauma and Symptom Complexity. *Journal of Traumatic Stress, 21*(2), 223-226.

Buchner, A., Erdfelder, E., Faul, F., & Lang, A. G. (1992-2006). *GPower 3.0.7: A priori, post-hoc, and compromise power analysis for MS-DOS [computer program]*. Bonn FRG: Bonn University, Department of Psychology.

Burgess, A. W., Hartman, C.R., & McCormack, A. (1987). Abused to abuser: Antecedents of socially deviant behavior. *American Journal of Psychiatry, 144*, 1431-1436.

Cicchetti, D., & Toth, S. L. (2005). Child maltreatment. *Annual Review of Clinical Psychology, 1*, 409-438.

Cicchetti, D., Toth, S., & Maughan, A. (2000). An ecological-transactional model of child maltreatment. In Sameroff, A., Lewis, M., & Miller, S. *Handbook of Developmental Psychopathology* (2nd Edition). New York: Plenum Publishers. 689-722.

Cloitre, M., Cohen, L., Han, H., & Edelman, R. (2001). Posttraumatic stress disorder and extent of trauma exposure as correlates of medical problems and perceived health among women with childhood abuse. *Women and Health, 34*, 1-17.

Cloitre, M., Koenen, K. C., Cohen, L. R., & Han, H. (2002). Skills training in affective and interpersonal regulation followed by exposure: A phase-based treatment for PTSD related to childhood abuse. *Journal of Consulting and Clinical Psychology, 70*, 1067-1074.

Cloitre, M., Scarvalone, P., & Difede, J. (1997). Posttraumatic stress disorder, self- and interpersonal dysfunction among sexually retraumatized women. *Journal of Traumatic Stress, 10*(3), 437-452.

Cloitre, M., Stovall-McClough, C., Zorbas, P., & Charuvastra, A. (2003). Attachment organization, emotional regulation, and expectations of support in a clinical sample of women with childhood abuse histories. *Journal of Traumatic Stress, 21*(3), 282-289.

Cole, P. M. & Putnam, F. W. (1992). Effect of incest on self and social functioning: A developmental psychopathology perspective. *Journal of Consulting and Clinical Psychology, 60*(2), 174-184.

Cohen, J. A., Mannarino, A. & Deblinger, E. *Treating trauma and traumatic grief in children and adolescents*. (2006). Guildford Press, New York.

Cook, A., Blaustein, M., Spinazzola, J., & Van der Kolk, B. A. (Eds.) (2003). *Complex trauma in children and adolescents.* National Child Traumatic Stress Network. http://www.NCTSNet.org.

Cook, A., Spinazzola, J., Ford, J., Lanktree, C., Blaustein, M., DeRosa, R., Hubbard, R., Kagan, R., Liautaud, J., Mallah, K., Olafson, E., & Van der Kolk, B. (2005). Complex Trauma in children and adolescents. *Psychiatric Annals*, 35(5), 390-398.

Copeland, W. E., Keeler, G., Angold, A., Costello, J. (2007). Traumatic Events and Posttraumatic Stress in Childhood. *Archives of General Psychiatry*, 64, 577-584**.**

Courtois, C. (2004). Complex Trauma, complex reactions: assessment and treatment. *Psychotherapy: Theory, Research, Practice, Training, 41*(4) 412-425.

Dube, S. R., Anda, R. F., Felitti, V. J., Chapman, D. P., Williamson, D. F., & Giles, W. H.

(2001). Childhood abuse, household dysfunction, and the risk of attempted suicide throughout the life span. *Journal of the American Medical Association, 286*(24), 3089-3096.

Elliott, A. N., & Carnes, C. N. (2001). Reactions of nonoffending parents to the sexual abuse of their child: A review of the literature. *Child Maltreatment, 6*, 314-331.

Feiring, C., Coates, D. L., & Taska, L. S. (2001). Ethnic status, stigmatization, support, and symptom development following sexual abuse. *Journal of Interpersonal Violence, 16*, 1307-329.

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A.M., Edwards, V., et al. (1997). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) study. *American Journal of Preventive Medicine, 14*, 245-258.

Finkelhor, D., & Kendall-Tackett, K. (1997). A developmental perspective on the childhood impact of crime, abuse and violent victimization. In D. Cicchetti & S. Toth (Eds.), *Rochester symposium on developmental psychopathology and developmental perspectives on trauma* (pp. 1-32). Rochester, NY: University of Rochester Press.

Finkelhor, D., Ormrod, R. K., Turner, H. A. (2007). Poly-victimization: A neglected component in child victimization. *Child Abuse & Neglect*, 31, 7-26.

Foa, E. B., Keane, T., & Friedman, M. J. (2000). *Effective treatments for PTSD: Practice guidelines from the International Society of Traumatic Stress Studies*. New York: Guilford Press.

Ford, J. D. (1999). Disorders of extreme stress following war-zone military trauma:

Associated features of posttraumatic stress disorder or co-morbid but distinct symptoms? *Journal of Consulting and Clinical Psychology, 67*, 3-12.

Ford, J. D. & Courtois, C. A. *Treating complex traumatic stress disorders: An evidence-based guide.* (2009). Guildford Press, New York.

Ford, J. D. & Kidd, P. (1998). Early childhood trauma and disorders of extreme stress as predictors of treatment outcome with chronic posttraumatic stress disorder. *Journal of Traumatic Stress, 11*(4), 743-761.

Ford, J. D., Courtois, C. A., Steele, K., Van der Hart, O., & Mijenhuis, E. R. S. (2005). Treatment of complex posttraumatic self-dysregulation. *Journal of Traumatic Stress, 18*(5), 437- 447.

Ford, J.D. Connor, D. F., & Hawke, J. (2009). Complex trauma among psychiatrically impaired children: A cross-sectional, chart review study. *Journal of Clinical Psychiatry, 70*(8) 1155-1163.

Ford, J. D., Fisher, P., Larson, L. (1997). Object relations as a predictor of treatment outcome with chronic posttraumatic stress disorder. *Journal of Consulting and Clinical Psychology 65*(4), 547-559.

Ford, J. D. & Smith, S. F. (2008). Complex posttraumatic stress disorder in trauma-exposed adults receiving public sector outpatient substance abuse disorder treatment. *Addiction Research and Theory*, *16*(2), 193-203. doi: 10.1080/16066350701615078

Ford, J. D., Stockton, P., Kaltman, S., & Green, B. L. (2006). Disorders of extreme stress (DESNOS) symptoms are associated with type and severity of interpersonal trauma exposure in a sample of healthy young women. *Journal of Interpersonal Violence, 21*(11), 1399-1416.

Green, B. L., Goodman, L. A., Krupnick, J. L., Corcoran, C. B., Petty, R. M., Stockton, P. & Stern, N. M. (2000). Outcomes of single versus multiple trauma exposure in a screening sample. *Journal of Traumatic Stress, 13*(2), 271-286.

Herman, J. L. (1992). Complex PTSD: A syndrome in survivors of prolonged and repeated trauma. *Journal of Traumatic Stress, 5*, 377-391.

Herman, J. L., & Van der Kolk, B. A. (1987). Traumatic antecedents of borderline personality disorder. In B. Van der Kolk (Ed.), *Psychological Trauma* (pp. 111-126). Washington, DC: American Psychiatric Press.

Janoff-Bulman, R. (1992). *Shattered assumptions: Towards a new psychology of trauma*. New York: Free Press.

Kessler, R.C., Chiu, W. T., Demler, O., Merikangas, K. R., & Walters, E. E. (2005). Prevalence, severity, and comorbidity of 12-month DSM-IV disorders in the national comorbidity survey replication. *Archives of General Psychiatry, 62*(7), 617-627.

Kendall-Tackett, K. A., Williams, L. M., & Finkelhor, D. (1993). Impact of sexual abuse on children: A review and synthesis of recent empirical studies. *Psychological Bulletin, 113*, 164-180.

Kilpatrick, D. G., Ruggeiro, K. J., Acierno, R., Saunders, B. E., Resnick, H. S., Best, C. L. (2003). Violence and risk of PTSD, major depression, substance abuse/dependence and comorbidity: Results from the National Survey of Adolescents. *Journal of Consulting and Clinical Psychology, 71*, 692-700.

Kinniburgh, K. J., Blaustein, M. Spinazzola, J., van der Kolk, B. A. (2005). Attachment, Self-Regulation, and Competency. *Psychiatric Annals, 35*(5), 424- 430.

Kliethermes, M. D. & Wamser, R. A. (2012). TF-CBT for Adolescents with Complex

Trauma. In J. A. Cohen, A. P. Mannarino, & E. Deblinger (Eds.), *Trauma Focused CBT for Children and Adolescents: Treatment Applications*. Guilford Press, New York.

Macfie, J., Cicchetti, D., & Toth, S. L. (2001). Dissociation in maltreated versus nonmaltreated preschool-aged children. *Child Abuse and Neglect, 25*, 1253-1267.

Mechanic, M. B., Uhlmansiek, M., Weaver, T. & Resick, P. (2000). The Impact of Severe Stalking Experienced by Acutely Battered Women: An Examination of Violence, Psychological Symptoms and Strategic Responding. Violence and Victims, 15(4): 443–458.

Mennen, F. E. (2004). PTSD symptoms in abused latino children. *Child and Adolescent Social Work Journal, 21*(5), 477-493.

Pelcovitz, D., Van der Kolk, B., Roth, S., Mandel, F., Kaplan, S., Resick, P. (1997). Development of a criteria set and a structured interview for disorders of extreme stress (SIDES). *Journal of Traumatic Stress, 10*, 3-16.

Putnam, F. (2003). Ten-year research update review: Child sexual abuse. *Journal of American Academy of Child and Adolescent Psychiatry, 43*, 269-278.

Putnam F. & Trickett, P. (1997). The psychobiological effects of sexual abuse: a longitudinal study. *American Academy of Science, 821*, 150–159

Pynoos, R., Rodriguez, N., Steinberg, A., Stuber, M., & Frederick, C. (1998). *UCLA PTSD Index for DSM-IV.*

Roth, S., Newman, E., Pelcovitz, D., Van der Kolk, B., & Mandel, F. S. (1997). Complex PTSD in victims exposed to sexual and physical abuse: Results from the DSM-IV

field trial for posttraumatic stress disorder. *Journal of Traumatic Stress, 10*, 539-555.

Roussos, A., Goenjian, A. K., Steinberg, A. M., Sotiropoulou, C., Kakaki, M., Kabakos, C., Karagianni, S., & Manouras, V. (2005). Posttraumatic stress and depressive reactions among children and adolescents after the 1999 earthquake in Ano Liosia, Greece. *American Journal of Psychiatry, 162*, 530-537.

Scheeringa, M. S., Zeanah, C. H., Meyers, L., & Putnam, F. W. (2003). New findings on alternative criteria for PTSD in preschool children. *Journal of American Academy of Child and Adolescent Psychiatry, 42*(5), 561-570.

Spinazzola, J., Ford, J. D., Zucker, M., Van der Kolk, B., Silva, S., Smith, S. F., & Blaustein, M. (2005). Survey evaluates complex trauma exposure, outcome, and intervention among children and adolescents. *Psychiatric Annals*, 35(5), 433-439.

Spitzer, R., Kaplan, S., & Pelcovitz, D. (1989). *Victimization disorder*. New York: New York State Psychiatric Institute.

Steiner, H., Garcia, I. G., & Matthews, Z. (1997). Posttraumatic stress disorder in incarcerated juvenile delinquents. *Journal of American Academy of Child and Adolescent Psychiatry, 36*(3), 357-365.

Stovall-McClough, K. C. & Cloitre, M. (2006). Unresolved attachment, PTSD, and dissociation in women with childhood abuse histories. *Journal of Consulting and Clinical Psychology, 74*, 219-228.

Summit, R. (1983). The child sexual abuse accommodation syndrome. *Child Abuse & Neglect, 7*(2), 177-193.

Tabachnick, B. G. & Fidell, L. S. (2007). *Using multivariate statistics*. Boston, MA. Allyn and Bacon.

Teicher, M. H., Anderson, S. L., Polcari, S., Anderson, C. M., Navalta, C. P., & Kim, D. M. (2003). The neurobiological consequences of early stress and childhood maltreatment. *Neuroscience and Biobehavioral Reviews*, *27*(1-2), 33-44.

Teplin, L. A., Abram, K. M., McClelland, G. M., Dulcan, M. K., Mericle, A. A. (2004). Psychiatric disorders in young in juvenile detention. *Archives of General Psychiatry, 59*(12), 1133-1143.

Terr, L. (1991). Childhood traumas: An outline and overview. *American Journal of Psychiatry, 148*, 10-20.

Toth, S. L., Cicchetti, D., Macfie, J., Maughan, A., & VanMeenan, K. (2000). Narrative representations of caregivers and self in maltreated preschoolers. *Attachment and Human Development, 2*, 271-305.

Ullman, S. E. & Filipas, H. H. (2005). Ethnicity and child sexual abuse experiences of female college students. *Journal of Child Sexual Abuse, 14*(3), 67-89.

Van der Kolk, B. A. (2005). Developmental trauma disorder. Psychiatric Annals 35(5), 401-408.

Van der Kolk, B. A., Pynoos, R. S., Cicchetti, D., Cloitre, M., D'Andrea, W., Ford, J. D., Lieberman, A. F., et al. (2009). Proposal to include a developmental trauma disorder diagnosis for children and adolescents in DSM-V. Retrieved online http://www.beforeyoutakethatpill.com/2009/5/DTD_NCTSN.pdf

Van der Kolk, B. A., Perry, J. C., & Herman, J. L. (1991). Childhood origins of self-destructive behavior. *American Journal of Psychiatry, 148*, 1665-1671.

Van der kolk, B. A., Roth, S., Pelcovitz, D., Sunday, S., & Spinazzola, J. (2005). Disorders of extreme Stress: The empirical foundation of a complex adaptation to trauma. *Journal of Traumatic Stress, 18*(5), 389-399.

Walsh, K., Blaustein, M., Grant, Knight, W., Spinazzola, J., Van der Kolk, B. A. (2007). Resiliency factors in the relation between child sexual abuse and adult sexual assault in college-age women. *Journal of Child Sexual Abuse, 16*, 1-17.

Whitfield, C. L., Anda, R. F., Dube, S. R., & Felitti, V. J. (2003). Violent childhood experiences and the risk of intimate partner violence in adults. *Journal of Interpersonal Violence, 18*(2), 166-185.

Wolfe, V. V. (2006). Child sexual abuse. In E. J. Mash & R. A. Barkley (Eds.), *Treatment of childhood disorders* (pp. 647-727). New York: Guilford Press.

Zlotnick, C., Zakriski, A. L., Shea, M. T., Costello, E., Begin, A., Pearlstein, T., et al. (1996). The long-term sequelae of sexual abuse: Support for a complex posttraumatic stress disorder. *Journal of Traumatic Stress*, *9*(2), 195-205.

Zucker, M., Spinazzola, J., Blaustein, M., Van der Kolk, B. A. (2006). Dissociative symptomatology in posttraumatic stress disorder and disorders of extreme stress. *Journal of Trauma & Dissociation, 7*, 19-31.