

**ASSESSMENT OF THE NEEDS OF COMPLEX TRAUMA-EXPOSED
BOYS AND GIRLS IN THE CHILD WELFARE SYSTEM: SYMPTOM
PROFILE, GENDER DIFFERENCES, AND PLACEMENT DISRUPTION**

Jennifer Hopton

Thesis submitted to the
Faculty of Graduate and Postdoctoral Studies
in partial fulfillment of the requirements
for the Doctorate in Philosophy degree in Clinical Psychology

School of Psychology
Faculty of Social Sciences
University of Ottawa

© Jennifer Hopton, Ottawa, Canada, 2016

Abstract

This dissertation consists of two studies designed to broaden our understanding of the impact of complex trauma on symptom profiles and outcomes of children in the child welfare system through the lenses of gender, development, and placement permanency. Data for both were obtained using the Child and Adolescent Strengths and Needs Comprehensive Assessment tool (CANS; Lyons, Gawron, & Kisiel, 2005) for youth ages 6 -17 years involved in the child welfare system. In Study 1, I examined symptom profiles of 3,446 youth to determine the ability of gender, age, ethnicity, trauma type, and other adversity variables to predict the following CANS domains: posttraumatic stress symptoms (PTSS), emotional/ behavioral needs, risk behaviors, life domain functioning, and child strengths. Findings supported the hypothesis that males and females would exhibit a similar number and severity of PTSS subsequent to exposure to maltreatment, including complex trauma. Unique gender-specific developmental profiles of trauma exposure and symptomatology emerged. I concluded that the complex and dynamic interactions among gender, age, trauma experience, and psychosocial functioning are more complicated than can be elucidated in main effect or two-way interactions. It is therefore recommended that trauma researchers disaggregate analyses by gender in trauma research because the dynamics of trauma are different for males and females. In Study 2, I employed survival analyses to examine the ability of child characteristics, complex trauma exposure, and placement-related variables to predict placement disruption in a sample of 4,822 youth at high-risk for placement disruption. Older age, female gender, higher levels of externalizing behavior, and more prior placements increased risk for placement disruption, whereas longer time in care and type of out-of-home placement decreased risk for placement disruption in the sample. It is recommended that placement stability be directly targeted for those at higher risk through

provision of intensive support to youth and their foster caregivers. Caseworkers should receive training about those subgroups most at-risk for placement disruption. Externalizing behavior and attachment, but not PTSS, mediated the relation between complex trauma and placement disruption. Intervention for youth with a history of complex trauma should focus on both attachment and externalizing behaviors.

Statement of Co-Authorship

This thesis contains two manuscript-style articles. The first was submitted to *Child Abuse & Neglect* but rejected, and has since been substantially revised. I plan to submit both manuscripts to appropriate journals following my post-defense revisions, as first author. Both manuscripts were prepared in collaboration with my thesis supervisor, Dr. John S. Lyons, who also facilitated access to the secondary data used in both studies through his academic and professional affiliations in Illinois. He is the second author on both manuscripts. The first manuscript was also prepared in consultation with my student colleague, Wendy den Dunnen, and Dr. Cassie Kisiel, who each provided feedback on a draft of the manuscript and are the third and last authors on the first manuscript, respectively. The second manuscript was also prepared in collaboration and consultation with Dr. Ka Ho Brian Chor and Dr. Gary McClelland, who are third and fourth authors, respectively. Dr. Chor compiled data from several sources to create the core data set used in Study 2 (see the Method section in Study 2), which he used for his doctoral dissertation. Dr. McClelland was his research supervisor. In addition to sharing the data set with me and providing me with an orientation to the variables, Dr. Chor and Dr. McClelland both provided insightful feedback on a draft of the manuscript. For both manuscripts, I was responsible for conceptualizing the studies, developing the hypotheses and research questions, planning and conducting the statistical analyses, and preparing the manuscripts. Dr. Lyons provided support and guidance through this process.

Acknowledgements

A project of this scale requires a large support system. I'd like to express my gratitude to Dr. John Lyons, my thesis supervisor. His unparalleled dedication to a shared vision for the child-serving system that puts the needs of children and families first has been inspiring. His breadth of knowledge of the field, conceptual thinking, wit, and laid-back style has made it an honour and a true pleasure to work with him. A special thank you to Dr. John Hunsley, who served at times as a surrogate advisor in addition to a valued committee member. His sage comments and advice and methodological expertise greatly influenced my interpretation of the results of these studies. His genuine care and concern for students, and generosity with time have been deeply appreciated. Thank you to my committee members Drs. Elisa Romano, and Sue Bennett, whose shared passion for the subject area and clinical wisdom helped shape my ideas. I am also grateful for statistical support provided to me on many occasions by Dr. Dwayne Schindler.

Thank you to the Illinois Department of Child and Family Services (IDCFS) and researchers at Northwestern University, for permission to use the rich data in these studies.

I am grateful for the circle of support provided by my family and friends, including a small thesis-writing support group of fellow psychology residents. Thank you to my mum, for everything. My gratitude can never be adequately expressed. Thank you to my sister for always being there, and for her help during the final thesis push.

Finally, I extend my heartfelt gratitude to my partner in life, Guy, for his unwavering support through every up and down along this journey. To our daughter, Lola, thank you for the daily reminder of what is most important in life.

Statement of Originality

I hereby certify that all of the work described within this thesis is the original work of the author. Any published (or unpublished) ideas and/or techniques from the work of others are fully acknowledged in accordance with the standard referencing practices.

Jennifer Hopton

August, 2015

Table of Contents

Abstract	ii
Statement of Co-Authorship	iv
Acknowledgements	v
Statement of Originality	vi
List of Figures	x
List of Tables	xi
Introduction.....	1
The Study of Complex Trauma.....	2
Complex Trauma: Definition and Theory.....	2
Empirical Research on Complex Trauma	5
Complex Trauma in Children and Adolescents in the Child Welfare System.....	6
Gender Differences and Complex Trauma Through a Developmental Lens.....	8
Gender differences in adult PTSD symptom profiles.	8
Gender differences in posttraumatic stress in children.	9
Is Symptom Complexity Subsequent to Complex Trauma Uniform Across Gender?.....	11
The Child Welfare System.....	12
Child Maltreatment in Canada and the US	12
Foster care.....	13
Considering context: Canada and the U.S.....	14
Placement Stability: The Threat to Permanence	17
Predictors of Placement Disruption	18
Attachment as a Unifying Construct.....	20
The attachments of children in foster care.....	20
Placement Stability: The State of the Field.....	22
The Current Studies	23
References.....	25
Chapter 2 Complex Trauma Exposure, Symptom Profiles, and Gender Differences Among Youth in Child Welfare.....	36
Abstract.....	36
Introduction.....	37
Gender Differences in Symptom Profiles	38
Purpose of the Study	40

Method.....	41
Participants and Procedure.....	41
Assessment.....	41
Results.....	44
Screening and Cleaning.....	44
Overview of Analyses.....	46
Descriptives.....	47
Development of a Hierarchical Loglinear Model for Traumatic Stress Symptoms.....	47
Development of a Hierarchical Loglinear Model for Child Emotional and Behavioral Needs.....	49
Development of a Hierarchical Loglinear Model for Risk Behaviors.....	51
Development of a Hierarchical Loglinear Model for Needs Across Life Domain Functioning.....	53
Development of a Hierarchical Loglinear Model for Child Strengths.....	55
Interactions found across all models.....	57
Discussion.....	58
Age, Trauma Exposure, and Symptom Profiles.....	58
The Dynamics of Trauma: Towards a More Nuanced Understanding of Gender Differences.....	59
Limitations.....	63
Conclusion and Implications for Practice.....	64
References.....	66
Chapter 3.....	84
Complex Trauma and the Roles of Attachment, Externalizing Behavior, and Posttraumatic Stress in the Prediction of Placement Disruption for Youth in Child Welfare.....	84
Abstract.....	84
Introduction.....	85
Placement instability.....	85
Externalizing behavior.....	86
Attachment difficulties.....	86
Exposure to complex trauma.....	87
Maltreatment and placement instability: A vicious cycle.....	89
The Current Study.....	90
Method.....	91
Participants.....	91
Procedure.....	92
Measures.....	93

Results.....	96
Overview of Analyses.....	96
Sequential Cox Regression and Survival Analysis.....	98
Do Externalizing Behavior, PTSS, and Attachment Mediate the Relation Between Complex Trauma and Placement Disruption?	100
Discussion.....	101
Predicting Placement Disruption	101
From Complex Trauma to Placement Disruption: Mediational Pathways	103
Placement Disruption: A Repeating Pattern	105
Study Limitations.....	107
Conclusion	108
References.....	110
Chapter 4.....	129
Discussion.....	129
Symptom Profiles: The Intersection of Gender, Development, and Adversity	129
Symptom Breadth and Non-Specificity	130
Cumulative Trauma and Cumulative Symptomatology.....	130
The Study of Children in Child Welfare.....	133
Rationale	133
Limitations	134
Conclusion	140
Recommendations for Future Research	140
Implications for Policy and Clinical Practice.....	142
References.....	144
Appendix A.....	154
Appendix B.....	205
Appendix C.....	208

List of Figures

Figure 1. Three-way Interaction of Gender X Age X Risk.....	82
Figure 2. Three-way Interaction of Gender X Age X Complex	83
Figure 3. Survival function depicting mean survival time in days for SNC and MCC groups.....	126
Figure 4. Survival function predicting length of stay in days at the mean of covariates in the sequential Cox regression.	127
Figure 5. Mediation Model	128

List of Tables

Table 1. Frequency of trauma types rated by the CANS	74
Table 2. Summary of Final Hierarchical Loglinear Models	75
Table 3. Parameter Estimates for Hierarchical Loglinear Model of Traumatic Stress ($N = 3,420$).....	76
Table 4. Parameter Estimates for Hierarchical Loglinear Model of Needs ($N = 3,425$).....	77
Table 5. Parameter Estimates for Hierarchical Loglinear Model of Risk Behaviours ($N = 3,444$)	78
Table 6. Parameter Estimates for Hierarchical Loglinear Model of Life Domain Functioning ($N = 3,229$)	80
Table 7. Parameter Estimates for Hierarchical Loglinear Model for Child Strengths ($N = 3,444$)	81
Table 8. Characteristics of Study Two Cohort, $N = 4,822$	121
Table 9. Sequential Cox Regression Analysis Predicting Length of Survival Time for Children in Post-CAYIT Placement.....	123
Table 10 Inter-correlations Amongst Study 2 Variables.....	124

Introduction

In this dissertation I describe two studies designed to examine the needs and strengths of children who enter the child-serving system with a history of exposure to maltreatment. This research uses data from the Illinois Department of Child and Family Services (IDCFS). The first study involves an examination of gender differences in the symptom profiles of children exposed to a configuration of maltreatment experiences called *complex trauma*, using original data analyses with a large existing data set. The second study involves an analysis of the association between complex trauma and placement disruption, using original data analyses with a different existing data set of high-risk children in out-of-home care. In order to contextualize the proposed studies, I begin with an overview of pertinent areas. Literature is reviewed in order of highest quality (i.e., meta-analyses and systematic reviews first; followed by longitudinal analyses; and, where the literature is less developed, well-designed cross-sectional studies with adequate sample sizes). First, a definition and rationale for the importance of studying complex trauma is presented. Second, background information about the child welfare system in Canada and the United States is presented in order to contextualize the population of study. Next, an overview of the existing empirical literature on complex trauma and maltreatment in the child welfare setting is presented. This is followed by a review of relevant literature on several contextual factors that bear further examination in relation to complex trauma. First among these is a discussion of gender differences in symptom profiles subsequent to exposure to complex trauma. Next, critical to the intersection of complex trauma and the child welfare setting, I provide a brief review of the literature on placement stability, one of the largest threats to the child welfare system's goals of safety, permanency, and well-being. This is followed by a brief discussion of the relevance of attachment as it relates to

placement stability. This section concludes with a synopsis of the aims and research questions examined in the current studies.

The Study of Complex Trauma

Complex Trauma: Definition and Theory

Many professionals in the child trauma field have identified the need for a more comprehensive framework to understand the consequences of simultaneous or sequential exposure to multiple instances of interpersonal trauma – i.e., emotional, physical, and/or sexual abuse, and witnessing domestic violence – which typically occurs within the caregiving system (Cook, Blaustein, Spinazzola, van der Kolk, 2003; Courtois & Ford, 2009). The term *complex trauma* has become a widespread label used to describe both: 1) this type of chronic exposure to interpersonal traumas during developmentally sensitive periods; and 2) the impact of these experiences on short- and long-term outcomes. The term has led to some confusion because it has been used interchangeably to describe both the traumatic experiences and the sequelae of symptoms associated with the traumatic exposure. To reduce this confusion, I will use the term *complex trauma* to refer to the exposure to traumatic events, and the term *symptom complexity* (Cloitre et al., 2009) to describe the sequelae of symptoms subsequent to this exposure.

The concept of *complex trauma* acknowledges that early traumatic experiences become entwined with a child's development. Optimal development is fostered by a co-regulation in which the caregiver is attuned to the child and provides regulation of physical and behavioural responses through soothing and timely meeting of the child's needs. This co-regulation is a prerequisite to the child's acquisition of the capacity for global self-regulation - of affect, behaviour, cognition, and physical needs (Schoore, 2002; Siegel, 1999). When co-regulation does not take place, or when the caregiver is the source of distress, a child is unable to regulate his or her distress (i.e., physiological and emotional arousal). Typical development is further impaired by the lack of safety, predictability or controllability experienced by a

young child without a reliable, nurturing and responsive caregiver (Cicchetti & Lynch, 1995). The child must cope with threats to his or her survival in the absence of environmental resources needed for the attainment of developmentally appropriate milestones. The sequelae of complex trauma involves, at its core, “a breakdown in the capacity to regulate internal states,” (van der Kolk, 2005, p. 403), resulting in symptom complexity, characterized by disorganization and dysregulation of physiological, emotional, cognitive, attachment, and behavioural domains.

Herman described the complexity of reactions to interpersonal traumas such as abuse and neglect in her seminal book, *Trauma & Recovery* (1992). Although this book referred to childhood traumas, it was written from the perspective of providing treatment to adult survivors of such events. In 2003, the National Child Traumatic Stress Network (NCTSN)’s Complex Trauma Task Force compiled the *White Paper on Complex Trauma in Children and Adolescents*, which described the precipitating traumatic experiences, their effects, approaches to treatment, and recommendations for clinicians, researchers, and policy makers regarding work with this population (Cook et al., 2003). Following this, van der Kolk, an expert involved with the Task Force, proposed criteria for a new diagnosis for children and adolescents: *Developmental Trauma Disorder* (DTD; van der Kolk, 2005). He argued that posttraumatic stress disorder (PTSD) does not capture the multiplicity of exposures to interpersonal traumas (in addition to physical, sexual, emotional abuse, neglect, and exposure to domestic violence, experiences that may not meet Criterion A of the PTSD diagnosis; such as abandonment, betrayal, violence and familial dysfunction) that occur during developmentally critical times; and that this exposure has consistent and predictable consequences in many areas of functioning. Van der Kolk pointed out that because the diagnosis of PTSD is not developmentally sensitive and therefore does not capture the pervasive and broad effects of trauma on a number of areas of a child’s development, children are instead typically given a number of “comorbid” diagnoses (his emphasis). He notes two consequences of this: 1)

fundamental trauma-related disturbances are not captured in empirical studies, which instead rely on PTSD criteria; and 2) clinicians are at risk of providing treatments that are unhelpful or uninformed by trauma history.

By definition, the effects of complex trauma are more pervasive than symptoms captured in the diagnosis of PTSD, especially during childhood. The results of the *Diagnostic and Statistical Manual of Mental Disorders fourth edition* (DSM-IV; American Psychiatric Association, 1994) Field Trial provided empirical evidence to this effect and suggested that symptoms look more like “pure” PTSD with age (van der Kolk, Roth, Pelcovitz, Sunday, & Spinazzola, 2005). Children exposed to maltreatment and neglect meet criteria for a range of psychiatric disorders, which may include but are rarely limited to PTSD, such as: separation anxiety disorder, oppositional defiant disorder, phobic and anxiety disorders, attention-deficit hyperactivity disorder (ADHD), depression, conduct disorder, eating disorders, sleep disorders, communication disorders, and reactive attachment disorder (Ackerman, Newton, McPherson, Jones, & Dykman, 1998; Cook et al., 2003; van der Kolk, 2005). Numerous studies of maltreated children reveal problems with dysregulated aggression and impulsivity, attentional and dissociative difficulties, and relational problems with caregivers, peers, and later intimate partners (see van der Kolk, Roth, Pelcovitz, Sunday & Spinazzola, 2005; Harvey & Taylor, 2010). Moreover, a history of child maltreatment has been associated with a range of negative outcomes in adolescence and adulthood, such as substance abuse, borderline and antisocial personality disorder, as well as eating, dissociative, affective, somatoform, medical, and sexual disorders (van der Kolk, 2005; Taylor & Harvey, 2010). Summarizing the literature on complex trauma, van der Kolk (2005) postulated that its impact occurs in the domains of attachment, biology, affect regulation, dissociation, behavioural control, cognition, and self-concept.

Despite the attempts of van der Kolk and other leaders in the field, the diagnosis of DTD has not been accepted in the last two updates to the DSM. Nevertheless, its clinical utility has led to widespread

use of the terms *complex trauma* (Cook et al., 2005; Herman, 1992) or *complex developmental trauma* (van der Kolk & Courtois, 2005).

Empirical Research on Complex Trauma

Although much of the literature on complex trauma per se has been theoretical and descriptive, or focused on treatment outcome, relevant related empirical research documenting exposure to early trauma and its long-term effects is beginning to accumulate. The largest longitudinal study of the impact of exposure to multiple forms of early adversity is the Adverse Childhood Experiences (ACE) Study. The ACE Study was launched at Kaiser Permanente in San Diego in the late 1990s, and tracks the physical and emotional health status of over 17,000 participants who completed a baseline physical examination and a comprehensive survey about childhood maltreatment and family dysfunction (www.acestudy.org). Using ACE Study data, Felitti et al. (1998) found a strong dose-response relation between the breadth of exposure to adverse childhood experiences and multiple adult health risk behaviours (i.e., smoking, alcohol and drug abuse, physical inactivity, risky sexual behaviour, depressed mood, and suicide attempts) that are in turn associated with leading causes of death in adults (e.g., heart disease, cancer, lung disease, skeletal fractures, and liver disease). The authors emphasized the tendency for ACEs to co-occur: for the majority of their sample, those who indicated exposure to one category of abuse or dysfunction indicated exposure to at least one other. Subsequent studies using the ACE data have underscored the strong *cumulative* nature of risk engendered by exposure to multiple forms of abuse and household dysfunction, and associated risk for mental health difficulties (Edwards, Holden, Felitti, & Anda, 2003), including depressive disorders (Chapman et al., 2004), unexplained panic, history of hallucinations, poor anger control, and risk for perpetrating intimate partner violence (Anda et al., 2006).

Reflecting on ACE findings, Anda et al. (2006) argued for a shift in paradigm when considering the meaning of comorbid psychological difficulties for those with a history of childhood abuse. Echoing

van der Kolk (2005), they noted that comorbidity falsely implies unique disorders with distinct etiologies, and argued alternatively, several disorders (e.g., depression, PTSD, dissociative disorders, substance abuse, borderline personality disorder) have a common etiology and are modulated by genetics and cumulative exposure to stress such as occurs in childhood maltreatment. Anda and colleagues further asserted that the distinction between psychiatric and physical disorders in those with a history of abuse is an artificial one that ultimately impedes effective treatment, and presented a comprehensive summary of neurobiological findings to illustrate the effects of stress in both of these realms (see Anda et al., 2006).

To date, the ACE Study is by far the most comprehensive and rich epidemiological survey of adverse childhood experiences, their intersection, and their long-term effects. However, it is limited by the retrospective nature of adult participants' reports about their childhood experiences. Also, given the breadth of ACEs, it would be beneficial to consider the unique effects of different combined types of trauma as a next step (Kisiel et al., 2014). Complex trauma, which considers traumatic experiences of an interpersonal nature, and comprises an unfortunately widespread subset of ACEs, would be a logical focus. Research investigating children and adolescents' experiences subsequent to exposure to complex trauma has frequently occurred within the context of the child welfare setting.

Complex Trauma in Children and Adolescents in the Child Welfare System

Empirical literature on complex trauma in children and adolescents within child welfare indicates that exposure to complex trauma is common (Greeson et al., 2011; Griffin et al., 2011; Jonson-Reid, Drake, Chung, & Way, 2003), with an estimated 46 – 90% of all children in care having experienced multiple adverse and/or traumatic events (Lau et al., 2005). In a large-scale sample of youth in Illinois' child-serving system, Kisiel, Fehrenbach, Small, and Lyons (2009) found that more than a third of youth had experienced complex trauma. Thus, there is growing empirical evidence to support the theoretical construct of complex trauma.

Using the Child and Adolescent Needs and Strengths (CANS) assessment tool, Kisiel and colleagues (Kisiel, Fehrenbach, Small, & Lyons, 2009) found that youth with complex trauma exposure had more posttraumatic stress and mental health symptoms, risk behaviours, and difficulties in everyday functioning, as well as fewer strengths, and greater likelihood of placement disruptions when compared to other children in care. Similarly, Griffin et al. (2011) found that as the number of traumatic experiences increased, posttraumatic stress and other mental health symptoms increased, and strengths decreased, for youth in their Illinois-based child welfare sample. In a national sample of children in care, Greeson et al. (2011) found higher levels of posttraumatic stress, internalizing problems, and clinical diagnoses among those youth who had experienced multiple interpersonal traumas compared to their peers in care without this exposure. Kisiel and colleagues (2014) recently examined data for 16,212 children in child welfare through the lens of the proposed Developmental Trauma Disorder diagnostic criteria (van der Kolk, 2005). They found that, in addition to higher levels of posttraumatic stress symptoms, children whose histories and symptoms mapped onto the DTD proposed criteria had significantly higher levels of difficulties in the domains theorized by van der Kolk (2005) to be impacted by complex trauma: affective/physiological, attentional/behavioral, and self/relational regulation (Kisiel et al., 2014). Thus, there is growing evidence to support the proposed constellation of symptoms subsequent to complex trauma exposure (i.e., difficulties in a number of domains above and beyond the diagnostic criteria for PTSD). There is also growing evidence that these difficulties are associated with higher rates of service utilization and more placement disruptions for youth in the child welfare system (Greeson et al., 2011; Kisiel, Fehrenbach, Small, & Lyons, 2009; Kisiel et al., 2014). Further research is required to understand the unique profiles of different groups of children in care.

Gender Differences and Complex Trauma Through a Developmental Lens

Gender is integral to the discussions of PTSD and complex trauma in part due to historical, political and sociocultural circumstances. Creation of the original PTSD diagnosis relied predominantly on studies of male war veterans (for a more complete historical overview, see van der Kolk et al., 2005). Prior to this, other posttraumatic syndromes had been described, such as rape trauma syndrome (Burgess & Holstrum, 1974) and battered women's syndrome (Walker, 1984). These syndromes depicted effects not included in the early PTSD diagnosis, such as a compromised sense of safety, trust and self-worth; frequent re-victimization; and loss of a coherent sense of self (van der Kolk et al., 2005). Epidemiological research demonstrated that men were more likely to experience potentially traumatic events (PTEs) such as accidents, war, assaults, and natural disasters; whereas women are much more likely to experience childhood abuse (Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995).

Gender differences in adult PTSD symptom profiles.

In their meta-analysis of gender differences in PTSD, Tolin and Foa (2006) found that although men are exposed to PTEs at greater frequency across the lifespan than are women, women are significantly more likely than men to develop PTSD. Epidemiological studies of PTSD have consistently indicated higher rates for women than men (e.g., Breslau et al., 1997; Frans, Rimmo, Aberg, & Fredrikson, 2005; Kessler et al., 1995; Stein, Walker, & Forde, 2000). Kessler et al. (1995) noted that during their lifetimes, women are twice as likely as men to develop PTSD (i.e., 10.4% versus 5.0%, respectively).

Within this context, are females innately more vulnerable to developing PTSD than are males? Or do their higher rates of PTSD simply reflect women's greater exposure to traumatic experiences most associated with the development of PTSD (i.e., sexual assault, sexual abuse)? Some findings support the possibility that females are more vulnerable to developing PTSD in general and following childhood

sexual abuse in particular (e.g., Walker et al., 2004; Boney-McCoy & Finkelhor, 1995). However, other researchers have demonstrated that, when controlling for type of trauma, gender differences in rates of PTSD significantly reduce or disappear. In their meta-analysis, Tolin and Foa (2006) found that females were more likely to experience childhood sexual abuse than were males, but that males and females were equally likely to experience nonsexual child abuse or neglect. When taking into account the type of trauma, they failed to find gender differences in rates of PTSD for childhood sexual abuse (Tolin & Foa, 2006). In contrast, in a comprehensive paper on gender differences in PTSD, Olf, Langeland, Draijer, and Gersons (2007) reviewed a number of potential explanatory factors from a psychobiological perspective. These authors also concluded that women's elevated risk for PTSD is related to the type of trauma experienced, however they underscored several other factors that may also play a role, including: younger age at time of trauma exposure; stronger perceptions of threat and loss of control; higher level of dissociation at the time of the trauma; lack of social support resources; greater use of alcohol for post-trauma symptom management; and acute psychobiological reactions (Olf et al., 2007).

Gender differences in posttraumatic stress in children.

In contrast to research with adults, research on pediatric posttraumatic stress symptoms (PTSS) suggests that children's posttraumatic reactions do not differ by gender. Both boys and girls exhibit a similar range and degree of PTSS in response to maltreatment, including sexual abuse (e.g., Contractor et al., 2013; Maikovich, Koenen, & Jaffee, 2009; Maikovich-Fong & Jaffee, 2010). Several other researchers have also failed to detect gender differences in rates of PTSD subsequent to sexual abuse (Maikovich, Koenen & Jaffee, 2009; Ackerman et al., 1998; Merry & Andrews, 1994; Silva et al., 2000), even when applying rigorous statistical criteria (e.g., Contractor et al., 2013). A few researchers have suggested that male children experience equal or greater levels of emotional and behavioural

consequences than female children, including suicidal thoughts and behaviour (e.g., Garnefski & Diekstra, 1997), especially after sexual abuse (Maikovich, Koenen, & Jaffee, 2009).

Thus, it appears that the symptom profiles of boys and girls diverge at some point, so that by adulthood, symptoms related to early trauma are differentiated by gender (van der Kolk et al., 2005). We can infer, by the prevalence statistics cited above, that by the time they are women, females' symptoms look more like "pure PTSD" (van der Kolk, 2005) than do males'. The reason for this remains unclear.

One possible explanation for the inconsistent findings in rates of PTSD for males and females is that males may exhibit sub-clinical levels of posttraumatic reactions more frequently than do females. This possibility has gone unexamined to date in the literature. Maikovich et al. (2009) found that only 8-14% of their sample of sexually abused children met full criteria for PTSD, whereas many more exhibited PTSS, however, suggesting that this would be an important avenue of inquiry. Sub-clinical symptomology can lead to detrimental effects across the lifespan on individuals' education, social and family functioning, physical health, and work (Giaconia et al., 1995; Stein et al., 1997; Carlier & Gersons, 1995; Cuffe et al., 1998; Pfefferbaum, 1997; as cited in Maikovich, Koenen & Jaffee, 2009). Sub-clinical symptoms have been associated with substance use and abuse (Giaconia et al., 1995), and other psychopathology (e.g., Putnam, 2003) and may complicate the treatment of these problems (Maikovich, Koenen & Jaffee, 2009), especially when unrecognized. Another potential explanation is that males may exhibit a different profile of symptoms than those captured by a diagnosis of PTSD. For males, undetected trauma-related symptoms may underlie more visible "masculine" difficulties that may be misconstrued as "bad behaviour" (Watkins & Bentovim, 1992; Spataro, Moss & Wells, 2001), such as conduct problems (Maikovich, Koenen & Jaffee, 2009; Lyons, McClelland, & Jordan, 2010). Some evidence supports the latter explanation. Compared to females', in the aftermath of sexual abuse, males' presentations include more suicidal ideation and suicide attempts (Garnefsky & Arends, 1998; Martin et

al., 2004; Molnar, Buka & Kessler, 2001), criminal activity (Burgess, Hartman & McCormack, 1987; Fondacaro & Holt, 1999; Holmes, Offen, & Waller, 1997; Romano & DeLuca, 1997), and substance abuse (DeBellis, 2002; Krug, 1989; Schulte, Dinwiddie, Pribor & Yutzy, 1995). Furthermore, they commonly obtain health care services in the context of other physical or behavioural problems (Holmes, Offen & Waller, 1997; Watkins & Bentovim, 1992; Spataro, Moss & Wells, 2001).

Is Symptom Complexity Subsequent to Complex Trauma Uniform Across Gender?

We do not know whether gender differences are present in the proposed constellation of symptoms subsequent to complex trauma because the PTSD literature does not often examine symptoms beyond the diagnostic criteria, and research on complex trauma is in its infancy. This will be an important avenue of inquiry because symptom complexity subsequent to complex trauma may shed some light on the pattern of gender differences across the life span apparent in the PTSD literature. van der Kolk's observation (2005) that complex symptomatology is the norm in childhood, and that PTSD becomes more "pure" with age, parallels a consensus in the literature that gender differences in PTSD are not evident until adulthood. Are there different developmental trajectories for males and females who have experienced complex trauma? Could measuring a more comprehensive range of symptoms than that comprising the PTSD diagnosis help to explain the gender differences that become apparent in adulthood? The idea that male and female youth exhibit different constellations of symptoms in response to complex trauma exposure would be consistent with research that has identified gender-specific pathways to the development of PTSD, each hypothesized to have a unique underlying bio-behavioral system, as a factor to explain observed gender differences in PTSD (Saxe et al., 2005; Kaplow, Dodge, Amaya-Jackson, & Saxe, 2005). Studying a wider range of symptoms might reveal a different pathway for males who experience complex trauma but do not go on to develop PTSD.

The Child Welfare System

The terms *child welfare system* and *child-serving system* are used interchangeably to refer to the entirety of state or province-mandated investigative and protective services that have as their aim the protection of children, either in their homes or in out-of-home care. Children enter the child-serving system in Canada or the United States (U.S.) if investigation by provincial- or state-mandated child protective services (CPS) finds reasonable evidence that a child has been harmed or is at risk of being harmed – through physical, sexual, or emotional abuse, neglect, or exposure to domestic violence. Typically, CPS is alerted to possible maltreatment by a member of the public (including professionals mandated by law to report suspected abuse) and conducts an investigation. If credible evidence for abuse or neglect is found, a comprehensive assessment is conducted and a treatment plan is formulated. Broadly, the goals of the child welfare system are to meet the child's primary needs of safety, permanency and well-being. Efforts are made to preserve intact families through the provision of supportive services. If this is not possible, the child may be removed from the home and placed in substitute care (e.g., foster family home, group home, or institution) until improvement can be demonstrated by family members. Because substitute care is most often intended to be a temporary solution, case management efforts are aimed at permanency planning, typically through reunification with the child's biological family. For a small proportion of children this is not a feasible solution. In these cases, permanency may be sought through adoption or long-term foster care.

Child Maltreatment in Canada and the US

In this dissertation I am using American data, and hope to make generalizations to the Canadian context in which I live, study, and work. To this end, I will provide some background information about the two child welfare systems and cultural contexts. Across Canada, 235,842 child maltreatment investigations were conducted in 2008 (Trocmé et al., 2010). Of these investigations, 74% were related to

incidents of abuse or neglect that were alleged to have occurred, and 26% were related to concerns about risk of future maltreatment. Approximately 36% of investigations (85,440) were substantiated in 2008, and consisted of the following types of maltreatment: exposure to intimate partner violence (34%), neglect (34%), physical abuse (20%), emotional maltreatment (9%), and sexual abuse (3%) (Trocmé et al., 2010). Approximately one quarter of all newly investigated children were younger than 4 years, and another quarter were between the ages of 4 and 7. The incidence of all maltreatment-related investigations was nearly identical for boys and girls (Trocmé et al., 2010).

In the United States, more than 1.8 million investigations were conducted in 2009 (US Department of Health and Human Services [DHHS], 2011). Of these investigations, approximately 22% (410,397) were substantiated by CPS. The most common types of maltreatment were: neglect (78%), physical abuse (17%), sexual abuse (9.5%), and psychological maltreatment (8%). Similar to the Canadian profile, one third of all maltreated children newly identified to CPS were younger than 4 years, and one fifth were between the ages of 4 and 7. Also consistent with Canadian statistics, maltreatment was almost evenly split between boys (48%) and girls (51%).

Foster care.

Within the child-serving system, there is an emphasis on providing preventive support and assistance to families with the aim of keeping them intact. The child's removal from the home is thus a last resort, and considered only when his or her safety in the home is not assured. In those instances when a child must be removed from their home and placed into alternative care, foster care is preferable to an institution (Dozier & Rutter, 2008; Roy, Rutter, & Pickles, 2000). In Canada, about 8% (19,599) of the CPS investigations in 2008 resulted in children being placed outside of the home: 4% moved to an informal arrangement with relatives; 4% moved to foster care or kinship care (a formal arrangement with a relative); and less than 1% were placed in a group home or residential/ secure treatment (Trocmé et al.,

2010). Unfortunately, some children experience extended periods of out-of-home care. On any day of the year, over 67,000 children and youth are living in out-of-home care in Canada (Mulcahy & Trocmé, 2009). In the US, 24% of children involved in CPS investigations were placed outside the home in 2009, making a total of 423,773 children in out-of-home care that year (24% in relative homes; 48% in non-relative foster homes; 18% in institutions or group homes; DHHS, 2011).

Considering context: Canada and the U.S.

When considering these Canadian and American statistics, three differences are apparent. First, there are seven and a half times more children involved in the U.S. child welfare system (1.8 million investigations and 410,400 substantiated cases) than the Canadian system (235,842 investigations; 85,440 substantiated cases). Second, there is a large discrepancy in the percentage of children identified for neglect (78% in the U.S. and 34% in Canada). Finally, three times as many children are placed in out-of-home care in the U.S. (24%) compared to Canada (8%).

There is a well-substantiated link between poverty and child welfare involvement (Leschied, Chiodo, Whitehead, & Hurley, 2006; Pelton 1978; Sedlak et al., 2010), and especially for the association between poverty and neglect (Drake & Pandey, 1996; Slack, Holl, McDaniel, Yoo, & Bolger, 2004). Therefore, one avenue to explain differential rates within child welfare between Canada and the U.S., particularly with the high prevalence of neglect in the U.S. child welfare population, is the differential rate of poverty between the two countries. The Canadian poverty gap is about 7.1% behind that of the US (Heuveline & Weinshenker, 2008; the poverty gap is a national measure of how far from the poverty line households are). However, in general, the two countries are grouped together with other “Anglophone” countries in cross-national comparisons (e.g., Gornick & Jantti, 2011). In their cross-national comparison and discussion of the child poverty gap in developed countries, researchers have consistently found that the United States’ poor relative international standing with regard to child poverty is primarily due to

cross-national differences in social policy policies and labour market patterns rather than demographics (see review by Gornick & Jantti, 2011). The former relates to government redistribution of monies through taxes and transfers; whereas the latter relates largely to lack of labour market regulation in the U.S., which results in greater wage dispersion than elsewhere (Heuveline & Weinshenker, 2008). Gornick and Jantti (2011) note that factors that shape cross-national comparisons of child poverty do not necessarily reflect ways in which public programs shape market-based outcomes, and point to overarching institutional or structural features that influence poverty. One example of a group of such institutional features is a collection of policies meant to encourage and support strong maternal employment in Nordic countries (Gornick & Jantti, 2011), which also have relatively low rates of poverty. Relevant social infrastructure that might help to indirectly explain Canadian-American differences in the child welfare system likely include Canada's public health care system, minimum wage above \$8.25 USD across the country (five states do not have minimum wage, and those that do vary from as low as \$2.00 to \$9.47 USD; National Conference of State Legislatures, June 2015), and comparatively generous social programs, some of which directly apply to young children, who are at greatest risk for poverty (Gornick & Jantti, 2011) for example, maternity and parent leave following the birth of a child, subsidized childcare, and child tax benefits.

Another factor that affects the difference in rates of child welfare cases and neglect cases involves racial disparity. In the US, African Americans and Hispanic people are more likely to be poor than the rest of the population (USDHHS, 2010). In Canada, Aboriginal peoples, visible minority Canadians (i.e., non-Caucasian in race or non-White in colour; Employment and Social Development Canada, 2013), and new immigrants (Citizens for Public Justice, 2012), are disproportionately more likely to live in poverty. In the United States, these groups make up 25% of the population, and in Canada, those identifying as Aboriginal comprise about 4% of the population, and visible minorities represented about 19% of the

Canadian population (Statistics Canada, 2011). It is well-documented that these marginalized groups are also disproportionately represented in the child welfare system in their respective countries (Public Health Agency of Canada, 2010; Sinha et al., 2011; Jonson-Reid, Drake, & Zhou, 2013; USDHHS, 2010; Wulczyn, Gibbons, Snowdon, & Lery, 2013). For example in Canada, Aboriginal children are overrepresented in the child welfare system (Commission to Promote Sustainable Child Welfare, 2010): while they make up less than 7% of the general youth population, they account for about 22% of substantiated cases in the child welfare system. Rates of Aboriginal children in the child welfare system are particularly high in Manitoba (60%) and Saskatchewan (78%), and are projected to increase (Bounajm, Beckman, & Theriault, 2014). These differences in ethnocultural makeup should be considered when drawing generalizations across systems.

Community characteristics are another relevant factor in explaining racial inequities among the poor. For example, research from the U.S. has demonstrated that, in metropolitan areas, poor White children tend to live in non-poor neighbourhoods, in contrast to poor Black children, who tend to live in economically disadvantaged communities (Drake & Rank, 2009). This results in very different community contexts, with implications in important areas such as community support, opportunities, quality of education, and availability of resources such as positive role models (Jonson-Reid, Drake, & Zhou, 2013). Relatedly, when interpreting the results of the current studies and translating findings into the Canadian context, we must keep in mind that the U.S. is a much larger country, with many more densely-populated cities and fewer rural and remote areas than Canada. Whereas the ethnic composition of the children who are disproportionately found in the child welfare system differs by country (African-American versus Aboriginal; Courtney, Flynn, & Beaupré, 2013), their circumstances may be considered comparable, and at the same time, distinct, so that ultimately, research from U.S. samples would inform research in Canada, but not replace it.

Taken together, these factors suggest that there are certainly important demographic and socio-economic differences to consider when comparing the US and Canadian contexts, although a similar pattern exists such that the most vulnerable sectors of society, the poor and marginalized, are disproportionately represented in the child welfare system.

Placement Stability: The Threat to Permanence

In their recent meta-analysis of longitudinal studies, Goemans and colleagues reported that foster care does not appear to affect most children's developmental trajectories either negatively or positively (Goemans, van Geel, & Vedder, 2015). This is concerning, given that children enter care with histories of maltreatment, neglect, loss, and separation, with serious psychological and physical health needs (Clausen, Landsverk, Ganger, Chadwick, Litrownik, 1998; Leve, et al., 2012; Simms, Dubowitz, & Szilagyi, 2000) and with academic difficulties (Stone, 2007; Zorc, et al. 2013). These mental health and functioning needs leave children at increased risk for additional adversity, including placement disruption (Chamberlain et al., 2006).

Next to permanency in the form of reunification or adoption, long-term placement stability is the desired goal for children placed in out-of-home care. *Placement disruption* also called *placement breakdown*, is the premature, unplanned ending of a placement with a foster family, a serious problem that affects 10-50% of children in long-term foster care (Minty, 1999; Rees & Selwyn, 2009; Rushton, 2003; Ward, 2009). Numerous studies have documented that repeated placement disruptions have a detrimental impact on children's short- and long-term functioning in many domains; including emotional, behavioural, interpersonal, and academic (Leve et al., 2012; Oosterman, Schuengel, Wim Slot, Bullens, & Doreleijers, 2007; Rock, Michelson, Thomson, & Day, 2013). Thus, behavioural, health, and mental health problems have been conceptualized as both predictors and consequences (e.g., Takayama, Wolfe,

& Coulter, 1998) of placement disruption. Researchers in the field have described this as a “vicious circle of breakdown and behavioural and psychological pathology” (Oosterman et al., 2007, p. 54).

Predictors of Placement Disruption

In efforts to summarize the state of the literature, several authors have reviewed correlates associated with placement outcome (e.g., Munro & Hardy, 1989; Oosterman et al., 2007; Rock, Michelson, Thomson, & Day, 2013). With the aim of identifying risk and protective factors for placement breakdown, Oosterman and colleagues (2007) employed a series of meta-analyses. They found small to moderate effect sizes for several risk factors. Pertinent findings will be outlined briefly.

Age. Oosterman et al. (2007) found a small but significant effect for age of child at placement, such that children placed in out-of-home care at an older age were at increased risk for placement disruption. Multivariate studies, which controlled for other factors, demonstrated smaller effects for age, with one study providing evidence for interaction effects with gender, behaviour, and placement type (Oosterman et al., 2007).

Externalizing Behaviour. Behaviour problems emerged as a robust risk factor for placement breakdown. Behaviour problems had a moderately low effect size across univariate studies ($r = .22$), yet the effect was strong ($r = .51$) for multivariate studies. Summarizing the findings, Oosterman and colleagues (2007) hypothesized that the variation in outcomes among studies might be explained in part by the age of the foster child, with older age associated with smaller effect sizes for those studies that included mean age of child.

Oosterman and colleagues noted that the presence of behaviour problems was a more influential risk factor for placement breakdown than was a history of several forms of abuse or neglect measured separately. They called for research to examine the role of behaviour problems as a potential mediator of the relation between maltreatment history and placement disruption (Oosterman et al., 2007, p. 73).

Placement-related variables. Placement-related variables that increased risk of placement breakdown included a history of residential care and previous placements (Oosterman et al., 2007). Having a background in residential care left children at a moderately strong risk for placement breakdown. Children with previous foster care placements were found to be more at risk for placement breakdown, although the authors of one multivariate study (Smith, 2001) included in the meta-analysis questioned whether number of previous placements was a significant predictor independent of other variables, such as age (Oosterman et al., 2007). Children were more likely to experience the breakdown of their first placement as compared to subsequent placements (Parker, 1966). A moderate effect size was found for length of time in care, such that children had an increased risk of placement breakdown in the first six months upon entry into care, with a decline evident thereafter. Overall, the placement-related effects were attenuated in multivariate studies that took into account other factors, such as age, gender, and behaviour problems (Oosterman et al., 2007).

Child and foster parent characteristics. Pro-social behaviour and positive personal characteristics (e.g., resilience, loving nature, humour, attractiveness, and motivation to stay in the placement; Sinclair & Wilson, 2003), social adjustment, and “normal” attachment behaviour on separation (i.e., fear, sadness) were positively related to placement success. On the other hand, lower social adjustment and failure to attach in earlier placements were negatively related to placement success. Broadly, these child characteristics displayed small to medium effect sizes (Oosterman et al., 2007). The researchers noted that findings from multivariate models suggested that certain variables, such as parental behaviour, might moderate the relation between child characteristics and placement outcome.

Additional protective factors (i.e., because they reduced risk for placement disruption) included the quality of foster caregiving and other variables related to foster care. There was some evidence from a multivariate study that placements were more likely successful when caregivers were warm and child-

oriented and their interactions with children were positive ($r = -.16$; Sinclair & Wilson, 2003). The same study found that caregivers' rejection (high or low) behaviour moderated the relation between child behaviour (disturbed or pro-social) and placement breakdown. The research in this area was characterized by methodological shortcomings, including large heterogeneity of indicators and effect sizes, and inconsistent findings across univariate and multivariate studies (Oosterman et al., 2007). The authors recommended that future research use multivariate models to examine the mechanisms through which predictors lead to placement outcome.

Attachment as a Unifying Construct

In their review, Oosterman et al. (2007) included several child and foster caregiving variables that related to attachment, but did not examine attachment as a predictor of placement outcome directly. This was likely due to their exclusion criteria, which required that placement breakdown be the dependent variable of study, and that data were sufficient to calculate effect sizes. However, attachment theory has been used as a framework to understand the histories and behaviours of children in foster care, and, to a limited extent, has examined their relationships with foster caregivers (e.g., Beek & Schofield, 2004; Aldgate, 2006). Bowlby claimed, based on his attachment theory (1969/1997, 1973/1998, 1980/1998), that children could resolve the grief, anger and distress related to the loss of their attachment figures only if they are able to foster attachment relationships with their substitute caregivers (Oosterman et al. 2007). Separation of children from their caregivers has received attention from attachment researchers because attachment is used to describe a system of infant behaviours, activated by separation, that are aimed at maintaining proximity with the primary caregiver. Maltreated children and those entering the child-serving system routinely exhibit insecure attachments (Lyons-Ruth & Jacobvitz, 2008), in particular a disorganized attachment style (Dozier & Rutter, 2008).

The attachments of children in foster care.

A few cross-sectional studies have examined the attachment of children in foster care, and provide a preliminary understanding of how attachment may affect placement outcome. Cole (2006) examined the attachment of 46 infants and their kin or unrelated caregivers. She found that 28% of infants exhibited disorganized attachment. She notes that the initial attachment pattern of infants will accompany them as they move through the foster care system or into permanent homes. Cole and others note that if non-optimal caregiver-infant relationships continue or develop in new homes, problems for infants persist as they mature (Cole, 2006; Erickson, Sroufe, & Egeland, 1985; Fonagy, 1998; Green & Goldwyn, 2002). Milan and Pinderhughes (2000) examined the influence of 32 school-aged children's internal representations of self and of their maltreating biological mother on subsequent relationships with foster mothers and adjustment in foster placement. They found that the children's representations of self and biological mother at entry into foster care were significantly related to each other and to severity of maltreatment, and predicted their subsequent view of their relationship with their foster mothers. This study appears to provide support for the premise in attachment theory that a child develops internal working models of self and others in the context of his or her early caregiving relationship, that these internal working models are impacted by maltreatment, and that they influence future attachment relationships. Similarly, Marcus (1991) found that the quality of children's emotional bonds to others, especially foster mothers, played a significant role in the positive psychological adjustment and school achievement of a sample of 52 school-aged foster children.

Leathers (2006) used an adapted measure of attachment in her study examining risk of placement disruption and negative placement outcomes for 179 early adolescents in foster care. She found that a higher level of integration in the foster home was strongly predictive of placement stability, and mediated the relationship between behaviour problems and disruption. The author concluded that a young person's capacity to form relationships with a foster family is a key factor contributing to placement outcome.

The child-caregiver relationship appears to be an essential factor for a successful placement. It is likely that attachment is thus one mechanism through which a history of complex trauma exposure could affect placement outcome.

Placement Stability: The State of the Field

Limitations to the literature on placement disruption include the diversity of predictor variables studied, differences in definition of variables, and use of univariate as well as multivariate models, which further contributes to inconsistencies in results. These constraints detract from our ability to effectively organize and make sense of the extant knowledge. This state of the literature is likely due in part to the complexity of the topic, as well as the scope and complexity of the child welfare system(s). Child welfare practices are typically managed at multiple levels, spanning agency, state/province and federal; historically often resulting in a lack of standardization in data collection across jurisdictions. Another limitation to the data on placement stability arises from these bureaucratic realities, and consists of a reliance on administrative, service-level data, often related to placement history (e.g., number of placements, length of time in care), which is easier to obtain, but limited in its clinical utility. As a result, some of the most reliable findings are those related to placement history. When clinical data have been obtained, the sample size has generally been much smaller, which necessitates the use of univariate analyses, however these lack the power to examine more complex models of placement outcome.

In short, there is much that remains to be known about placement outcome. The field would benefit from the use of large-scale clinical data and sophisticated multivariate statistical analyses to examine the construct of placement disruption, especially using clinical data. Now that several reliable predictors have been identified (e.g., age, externalizing behaviour), it would be useful to account for their effects in more complex analyses; to further examine the influence of promising predictor variables such

as complex trauma and attachment; and to investigate the interrelation among predictor variables (e.g., mediation and/or moderation) to identify mechanisms involved to placement disruption.

The Current Studies

The current project was designed to deepen our understanding of the impact of complex trauma on symptom profiles and outcomes through the lenses of gender, development, and placement permanency. Previous research in the area of complex trauma is extended by assessing gender differences in symptom profiles for those with and without complex trauma. Consideration of gender differences and a cross-section of developmental periods, in symptoms above and beyond the diagnostic criteria of PTSD, extends previous research in the area of PTSD. Large samples and clinical data permitted the use of multivariate models that build on extant theoretical and empirical knowledge in the field of placement stability.

In order to achieve these objectives, two studies using large secondary data sets and sophisticated multivariate methods were undertaken. In the first study, I examined symptom profiles of PTSS and a broad range of psychosocial and functioning needs and strengths for a cross-sectional sample of children ages 6-17 with and without exposure to complex trauma. Differences in symptom profiles were assessed across gender and developmental periods. In the second study I investigated complex trauma exposure as a predictor of placement disruption above and beyond child characteristics using survival analysis methods. Externalizing behaviour, PTSS, and attachment were assessed for their roles as mediators of the relation between complex trauma and placement disruption.

It is anticipated that findings from these two studies will provide important empirical evidence regarding the utility and validity of the construct of complex trauma. In the trauma and PTSD literature, they may contribute to greater understanding of the symptom trajectories for males and females, which appear similar in childhood but diverge by adulthood. It is hoped that information garnered through use of

a large sample size, appropriate multivariate techniques, and the investigation of mechanisms to explain known pathways to placement disruption will contribute clarity to that field. Ultimately, it is my hope to inform policy and practice to the end of augmenting the safety, permanency and well-being of children in care.

References

- Ackerman, P. T., Newton, J. E. O., McPherson, W. B., Jones, J. G., & Dykman, R. A. (1998). Prevalence of posttraumatic stress disorder and other psychiatric diagnosis in three groups of abused children (sexual, physical, and both). *Child Abuse & Neglect*, *22*, 759–774. doi: 10.1016/S0145-2134(98)00062-3
- Aldgate, J. (2006). Ordinary children in extraordinary circumstances. In D. Iwaniec (Ed.) *The Child's Journey Through Care: Placement Stability, Care Planning, and Achieving Permanency*. (pp.17-39). Chichester, West Sussex, England: John Wiley & Sons, Ltd.
- Anda, R. F., Felitti, V. J., Bremner, J. D., Walker, J. D., Whitfield, C., Perry, B. D., ... Giles, W. H. (2006). The enduring effects of abuse and related adverse experiences in childhood. A convergence of evidence from neurobiology and epidemiology. *European Archives of Psychiatry and Clinical Neuroscience*, *256*(3), 174–86. doi:10.1007/s00406-005-0624-4
- American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders*. (4th ed.). Washington, DC: Author.
- Barber, J. G., & Delfabbro, P. H. (2009). The profile and progress of neglected and abused children in long-term foster care. *Child Abuse & Neglect*, *33*(7), 421–8. doi:10.1016/j.chiabu.2006.03.013
- Barth, R. P. (2002). *Institutions vs. Foster Homes: The Empirical Base for a Century of Action*. Chapel Hill, NC.

- Bick, J., & Dozier, M. (2013). The effectiveness of an attachment-based intervention in promoting foster mothers' sensitivity toward foster infants. *Infant Mental Health Journal*, 34(2), 95–103. doi:10.1002/imhj.
- Briere, J., & Elliott, D. M. (2003). Prevalence and psychological sequelae of self-reported childhood physical and sexual abuse in a general population sample of men and women. *Child Abuse & Neglect*, 27(10), 1205–1222. doi:10.1016/j.chiabu.2003.09.008
- Chapman, D. P., Whitfield, C. L., Felitti, V. J., Dube, S. R., Edwards, V. J., & Anda, R. F. (2004). Adverse childhood experiences and the risk of depressive disorders in adulthood. *Journal of Affective Disorders*, 82(2), 217–25. doi:10.1016/j.jad.2003.12.013
- Cheung, C., Goodman, D., Leckie, G., & Jenkins, J. M. (2011). Understanding contextual effects on externalizing behaviors in children in out-of-home care: Influence of workers and foster families. *Children and Youth Services Review*, 33, 2050–2060. doi:10.1016/j.childyouth.2011.05.036
- Chor, K. H. B. (2013). Overview of Out-of-Home Placements and Placement Decision-Making in Child Welfare. *Journal of Public Child Welfare*, 7(3), 298–328. doi:10.1080/15548732.2013.779357
- Chor, K. H. B., McClelland, G. M., Weiner, D. A., Jordan, N., & Lyons, J. S. (2015). Out-of-home placement decision-making and outcomes in child welfare: A longitudinal study.

Administration and Policy in Mental Health and Mental Health Services Research, 42(1), 70–86. doi:10.1007/s10488-014-0545-5

Cloitre, M., Stolbach, B. C., Herman, J. L., Pynoos, R., Wang, J., & Petkova, E. (2009). A developmental approach to complex PTSD : Childhood and adult cumulative trauma as predictors of symptom complexity. *Journal of Traumatic Stress*, 22(5), 399–408. doi:10.1002/jts.

Contractor, A. a, Layne, C. M., Steinberg, A. M., Ostrowski, S. a, Ford, J. D., & Elhai, J. D. (2013). Do gender and age moderate the symptom structure of PTSD? Findings from a national clinical sample of children and adolescents. *Psychiatry Research*, 210(3), 1056–64. doi:10.1016/j.psychres.2013.09.012

Cook, A., Blaustein, M., Spinazzola, J., van der Kolk, B. A., & (Eds). (2003). *Complex Trauma in Children and Adolescents: White Paper from the National Child Traumatic Stress Network Complex Trauma Task Force*.

Cook, A., Spinazzola, J., Ford, J., Lanktree, C., Blaustein, M., Cloitre, M., ... van der Kolk, B. (2005). Complex trauma in children & ados_Cook et al_2005.pdf. *Psychiatric Annals*, 35(5), 390–398.

Cooper, C. S., Peterson, N. L., & Meier, J. H. (1987). Variables associated with disrupted placement in a select sample of abused and neglected children. *Child Abuse & Neglect*, 11(1), 75–86. doi:10.1016/0145-2134(87)90035-4

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

De Bellis, M. D. (2001). Developmental traumatology: the psychobiological development of maltreated children and its implications for research, treatment, and policy. *Development and Psychopathology*, 13(3), 539–64. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/11523847>

Dong, M., Anda, R. F., Felitti, V. J., Dube, S. R., Williamson, D. F., Thompson, T. J., ... Giles, W. H. (2004). The interrelatedness of multiple forms of childhood abuse, neglect, and household dysfunction. *Child Abuse & Neglect*, 28(7), 771–84.
doi:10.1016/j.chiabu.2004.01.008

Dong, M., Anda, R. F., Felitti, V. J., Williamson, D. F., Dube, S. R., Brown, D. W., & Giles, W. H. (2005). Childhood Residential Mobility and Multiple Health Risks During Adolescence and Adulthood. *Archives of Pediatric Adolescent Medicine*, 159(159), 1104–1110.

Dozier, M., Higley, E., Albus, K. E., & Nutter, A. (2002). Intervening with foster infants' caregivers: Targeting three critical needs. *Infant Mental Health Journal*, 23(5), 541–554.
doi:10.1002/imhj.10032

Edwards, V. J., Holden, G. W., Felitti, V. J., & Anda, R. F. (2003). Relationship between multiple forms of childhood maltreatment and adult mental health in community respondents: results from the adverse childhood experiences study. *The American Journal*

of Psychiatry, 160(8), 1453–60. Retrieved from

<http://www.ncbi.nlm.nih.gov/pubmed/12900308>

Farrell Erickson, M., Sroufe, L. A., & Egeland, B. (1985). The relationship between quality of attachment and behavior problems in preschool in a high-risk sample. *Monographs of the Society for Research in Child Development*, 50(1/2), 147–166.

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., ... Marks, J. S. (1998). Household Dysfunction to Many of the Leading Causes of Death in Adults The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine*, 14(4), 245–258.

Gavița, O. a., David, D., Bujoreanu, S., Tiba, A., & Ionuțiu, D. R. (2012). The efficacy of a short cognitive–behavioral parent program in the treatment of externalizing behavior disorders in Romanian foster care children: Building parental emotion-regulation through unconditional self- and child-acceptance strategies. *Children and Youth Services Review*, 34(7), 1290–1297. doi:10.1016/j.chilyouth.2012.03.001

Goemans, A., van Geel, M., & Vedder, P. (2015). Over three decades of longitudinal research on the development of foster children: A meta-analysis. *Child Abuse & Neglect*, Article in, 1–11. doi:10.1016/j.jmb.2005.03.040

- Greenberg, M. T., Speltz, M. L., & Deklyen, M. (2008). The role of attachment in the early development of disruptive behavior problems. *Development and Psychopathology*, *5*(1-2), 191. doi:10.1017/S095457940000434X
- Greeson, J. K. P., Briggs, E. C., Kisiel, C. L., Layne, C. M., Ake, G. S., Ko, S. J., ... Fairbank, J. A. (2011). Complex Trauma and Mental Health in Children and Adolescents Placed in Foster Care : Findings from the National Child Traumatic Stress Network. *Child Welfare*, *90*(6), 91–109.
- Griffin, G., Martinovich, Z., Gawron, T., & Lyons, J. S. (2009). Strengths Moderate the Impact of Trauma on Risk Behaviors in Child Welfare. *Residential Treatment For Children & Youth*, *26*(2), 105–118. doi:10.1080/08865710902872994
- Griffin, G., McClelland, G., Holzberg, M., Stolbach, B., Maj, N., & Kisiel, C. (2011). Addressing the impact of trauma before diagnosing mental illness in child welfare. *Child Welfare*, *90*(6), 69–89.
- Griffin, G., McEwen, E., Samuels, B. H., Suggs, H., Redd, J. L., & McClelland, G. M. (2011). Infusing protective factors for children in foster care. *The Psychiatric Clinics of North America*, *34*(1), 185–203. doi:10.1016/j.psc.2010.11.014
- Herman, J. (1992). *Trauma and recovery*. New York, NY: Basic Books.

- Jackson, Y., Gabrielli, J., Fleming, K., Tunno, A. M., & Makanui, P. K. (2014). Untangling the relative contribution of maltreatment severity and frequency to type of behavioral outcome in foster youth. *Child Abuse and Neglect*, *38*, 1147–1159. doi:10.1016/j.chiabu.2014.01.008
- Kilpatrick, D. G., Saunders, B. E., & Ph, D. (1999). *Prevalence and Consequences of Child Victimization: Results from the National Survey of Adolescents Final Report*.
- Kisiel, C., Fehrenbach, T., Small, L., & Lyons, J. S. (2009). Assessment of Complex Trauma Exposure, Responses, and Service Needs Among Children and Adolescents in Child Welfare. *Journal of Child & Adolescent Trauma*, *2*(3), 143–160.
doi:10.1080/19361520903120467
- Kisiel, C. L., Fehrenbach, T., Torgersen, E., Stolbach, B., McClelland, G., Griffin, G., & Burkman, K. (2014). Constellations of Interpersonal Trauma and Symptoms in Child Welfare: Implications for a Developmental Trauma Framework. *Journal of Family Violence*, *29*(1), 1–14. doi:10.1007/s10896-013-9559-0
- Maikovich, A. K., Koenen, K. C., & Jaffee, S. R. (2009). Posttraumatic stress symptoms and trajectories in child sexual abuse victims: an analysis of sex differences using the national survey of child and adolescent well-being. *Journal of Abnormal Child Psychology*, *37*(5), 727–37. doi:10.1007/s10802-009-9300-x

- Maikovich-Fong, A. K., & Jaffee, S. R. (2010). Sex differences in childhood sexual abuse characteristics and victims' emotional and behavioral problems: findings from a national sample of youth. *Child Abuse & Neglect*, 34(6), 429–37. doi:10.1016/j.chiabu.2009.10.006
- Munro, E. R., & Hardy, A. (1989). Placement Stability – a review of the literature. *English Studies*, 1–30.
- Oosterman, M., Schuengel, C., Wim Slot, N., Bullens, R. a. R., & Doreleijers, T. a. H. (2007). Disruptions in foster care: A review and meta-analysis. *Children and Youth Services Review*, 29(1), 53–76. doi:10.1016/j.chilyouth.2006.07.003
- Rock, S., Michelson, D., Thomson, S., & Day, C. (2013). Understanding Foster Placement Instability for Looked After Children : A Systematic Review and Narrative Synthesis of Quantitative and Qualitative Evidence. *British Journal of Social Work*, 1–27.
- Schore, A. N. (2002). Dysregulation of the right brain: A fundamental mechanism of traumatic attachment and the psychopathogenesis of posttraumatic stress disorder. *The Australian and New Zealand Journal of Psychiatry*, 36, 9–30. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/11929435>. doi: 10.1046/j.1440-1614.2002.00996.x
- Siegel, D. (1999). *The developing mind: How relationships and the brain interact to shape who we are*. New York: Guilford Press.

- Sinclair, I., & Wilson, K. (2003). Matches and Mismatches: The Contribution of Carers and Children to the Success of Foster Placements. *British Journal of Social Work, 33*(7), 871–884. doi:10.1093/bjsw/33.7.871
- Smyke, A. T., Zeanah, C. H., Gleason, M. M., Drury, S. S., Fox, N. a, Nelson, C. a, & Guthrie, D. (2012). A randomized controlled trial comparing foster care and institutional care for children with signs of reactive attachment disorder. *American Journal Of Clinical Hypnosis, 169*(May), 508–514. doi:10.1176/appi.ajp.2011.11050748
- Stone, S. (2007). Child maltreatment, out-of-home placement and academic vulnerability: A fifteen-year review of evidence and future directions. *Children and Youth Services Review, 29*(2), 139–161. doi:10.1016/j.chilyouth.2006.05.001
- Teicher, M. H., Andersen, S. L., Polcari, A., Anderson, C. M., Navalta, C. P., & Kim, D. M. (2003). The neurobiological consequences of early stress and childhood maltreatment. *Neuroscience & Biobehavioral Reviews, 27*(1-2), 33–44. doi:10.1016/S0149-7634(03)00007-1
- Tolin, D. F., & Foa, E. B. (2006). Sex differences in trauma and posttraumatic stress disorder: a quantitative review of 25 years of research. *Psychological Bulletin, 132*, 959–992. doi:10.1037/0033-2909.132.6.959
- Van der Kolk, B. A. (2005). Developmental Trauma Disorder. *Psychiatric Annals, 35*(May), 401–409.

- Van Der Kolk, B. a., & Courtois, C. a. (2005). Editorial comments: Complex developmental trauma. *Journal of Traumatic Stress, 18*(5), 385–388. doi:10.1002/jts.20046
- 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. doi:10.1002/jts.20047
- Van Ijzendoorn, M. H., Schuengel, C., & Bakermans–Kranenburg, M. J. (1999). Disorganized attachment in early childhood: Meta-analysis of precursors, concomitants, and sequelae. *Development and Psychopathology, 11*(2), 225–250. doi:10.1017/S0954579499002035
- Walsh, James, A., & Walsh, Roberta, A. (1990). Studies of the Maintenance of Subsidized Foster Placements in The Casey Family Program. *Child Welfare, LXIX*(2), 99–115.
- Waters, E., Posada, G., Crowell, J., & Lay, K.-L. (2008). Is attachment theory ready to contribute to our understanding of disruptive behavior problems? *Development and Psychopathology, 5*(1-2), 215. doi:10.1017/S0954579400004351
- Ward, H. (2009). Patterns of instability: Moves within the care system, their reasons, contexts and consequences. *Children and Youth Services Review, 31*, 1113-1118.
- Watkins, B., & Bentovim, A. (1992). The sexual abuse of male children and adolescents: A review of current research. *Journal of Child Psychology and Psychiatry and Allied Disciplines, 33*, 197-248.

Wulczyn, F., Gibbons, R., Snowden, L., & Lery, B. (2013). Poverty, social disadvantage, and the black/white placement gap. *Children and Youth Services Review, 35*, 65-74.

Zorc, C. S., O'Reilly, A. L. R., Matone, M., Long, J., Watts, C. L., & Rubin, D. (2013). The relationship of placement experience to school absenteeism and changing schools in young, school-aged children in foster care. *Children and Youth Services Review, 35*, 826–833.

Chapter 2

Complex Trauma Exposure, Symptom Profiles, and Gender Differences Among Youth in Child Welfare

Abstract

This study focused on symptom profiles of 3,446 youth aged 6-17 years, involved in the Illinois child welfare system following maltreatment. We examined the ability of gender, age, trauma type (multiple, chronic interpersonal trauma or single non-caregiver-related), and other adversity to predict the following domains as assessed by the Child and Adolescent Strengths and Needs (CANS) Comprehensive tool: posttraumatic stress symptoms (PTSS), emotional/ behavioral needs, risk behaviors, life domain functioning, and child strengths. The findings supported our hypothesis that boys and girls would exhibit a similar number and severity of PTSS subsequent to exposure to maltreatment, including complex trauma, contributing to a growing body of empirical evidence to this effect. When we expanded our focus to include additional psychosocial functioning variables, however, unique developmental profiles of trauma exposure and symptomatology emerged for males and females. The complex and dynamic interactions among gender, age, trauma experience, and psychosocial functioning are more complicated than can be elucidated in main effect or two-way interactions. It is recommended that trauma researchers disaggregate analyses by gender as a rule in trauma research because the dynamics of trauma are different for males and females. Gender-specific findings and practice implications are discussed.

Keywords: interpersonal trauma, complex trauma, maltreatment, child welfare, sex/gender differences, CANS

Introduction

Child maltreatment and its legacy haunt our society. In 2012 in the United States, more than 3.8 million children were the subjects of at least one report to Child Protection Services [CPS; US Department of Health and Human Services (DHHS), 2013]. There is substantial evidence that youth affected by maltreatment exhibit a range of mental health symptoms, physical health symptoms, and risk behaviors, with a notable proportion developing serious psychopathology and risk behaviors (Edwards et al., 2005; Felitti et al., 1998; Kisiel, Fehrenbach, Small, & Lyons, 2009).

Maltreatment types, such as neglect, physical and sexual abuse, psychological maltreatment, and witnessing domestic violence, are broad categories that do not reflect variations in the frequency, severity, developmental timing, or chronicity of an individual's experiences, nor do they reflect meaningful characteristics of the abuse, such as the relationship of the child to his/her perpetrator. Many professionals in the child trauma field have thus identified the need for a more comprehensive framework to understand the consequences of simultaneous or sequential exposure to multiple instances of abuse that begins early in childhood and is both interpersonal and often chronic in nature (Cook, Blaustein, Spinazolla, & van der Kolk, 2003). Use of the term *complex trauma* (Herman, 1992) to describe these consequences has become widespread. Complex trauma refers to the experience of cumulative developmental trauma exposure, acknowledging both the cumulative nature of child maltreatment, and its interaction with development. We use the term *symptom complexity* (Cloitre et al., 2009) to describe the sequelae of symptoms subsequent to this exposure.

The effects of complex trauma during childhood are more pervasive than are those captured in the diagnosis of posttraumatic stress disorder (PTSD), especially for children. In a comprehensive review of the literature, van der Kolk et al. (2005) postulated that its impact occurs in the domains of attachment,

biology, affect regulation, dissociation, behavioral control, cognition, and self-concept. Cascading effects across this range of intrapersonal and interpersonal domains help to explain why children exposed to maltreatment, including neglect, meet criteria for a range of psychiatric disorders (which may include but are rarely limited to PTSD) such as: separation anxiety disorder, oppositional defiant disorder, phobic and anxiety disorders, attention-deficit hyperactivity disorder (ADHD), depression, conduct disorder, eating disorders, sleep disorders, communication disorders, and reactive attachment disorder (Ackerman, Newton, McPherson, Jones, & Dykman, 1998; Cook et al, 2003). Numerous studies of maltreated children reveal problems with dysregulated aggression and impulsivity, attentional and dissociative difficulties, and relational problems with caregivers, peers, and, later, intimate partners (see Harvey & Taylor, 2010; van der Kolk, Roth, Pelcovitz, Sunday, & Spinazzola, 2005). Moreover, a history of child maltreatment has been associated with a range of negative outcomes in adolescence and adulthood, such as substance abuse, borderline and antisocial personality disorder, as well as eating, dissociative, affective, somatoform and sexual disorders, and chronic health conditions (Harvey & Taylor, 2010; van der Kolk et al., 2005).

Gender Differences in Symptom Profiles

There is evidence that both males and females are negatively impacted by early traumatic experience. In general, research shows that both boys and girls exhibit a similar range of posttraumatic stress symptoms (PTSS; i.e., symptoms of PTSD or symptoms including but not limited to PTSD) in response to maltreatment. It appears that their symptom profiles diverge at some point, however, so that by adulthood, symptoms related to early trauma are more differentiated by sex. In their meta-analysis of gender differences in PTSD, for example, Tolin and Foa (2006) found that although men are exposed to potentially traumatic events (PTEs) at greater frequency across the lifespan than are women, women are significantly more likely than men to develop PTSD.

An important debate herein is whether females are innately more vulnerable to developing PTSD and PTSS than are males, or whether their higher rates of PTSD simply reflect women's greater exposure to traumatic experiences most associated with the development of PTSD (i.e., sexual assault, sexual abuse; Maikovich, Koenen, & Jaffee, 2009; Tolin & Foa, 2006). Evidence from the literature remains divided on this issue, and there appear several possible explanations for the inconsistent findings in rates of PTSD for males and females. First, although not a focus of our study, certain characteristics of the abuse likely impact symptomatology. Penetration and substantiation of sexual abuse, for example, are more likely to be experienced by females, and these characteristics are, in turn, associated with greater symptomatology (Maikovich-Fong & Jaffee, 2010). Second, inconsistent findings in rates of PTSD for males and females may be a matter of degree. Whereas females may be more likely to meet the full diagnostic criteria for PTSD, it is possible that males may exhibit sub-clinical levels of posttraumatic reactions more frequently than do females. This possibility has been examined only infrequently in the literature. Maikovich et al. (2009), for example, found that only 8-14% of their sample of sexually abused children met full criteria for PTSD, whereas many more exhibited PTSS, however, suggesting that this would be an important avenue of inquiry. Even sub-clinical symptomatology can lead to detrimental effects across the lifespan on individuals' education, social and family functioning, physical health, and work (Maikovich et al., 2009). Finally, males may experience qualitatively different symptoms than those comprising PTSD, and thus their post-trauma symptom sequelae may not be adequately captured by this diagnosis. Indeed, it has been suggested that undetected PTSS may underlie more visible "masculine" reactions such as conduct problems (Maikovich et al., 2009) that may be less likely to attract concern and more likely to be condemned as "bad behavior" (Watkins & Bentovim, 1992; Spataro, Moss & Wells, 2001).

Some evidence supports the latter explanation for the differential rates of PTSD. Impairments in the aftermath of sexual abuse that appear more prevalent among males include: suicidal ideation and suicide attempts (Garnefsky & Arends, 1998; Martin et al., 2004), criminal activity (Burgess, Hartman & McCormack, 1987; Fondacaro & Holt, 1999; Holmes, Offen, & Waller, 1997), and substance abuse (DeBellis, 2002; Schulte, Dinwiddie, Pribor, & Yutzy, 1995). Further, male victims of CSA often obtain health care services in the context of other physical or behavioral problems (Holmes, Offen, & Waller, 1997; Watkins & Bentovim, 1992; Spataro, et al., 2001).

Purpose of the Study

The purpose of the present study was to assess, among youth in child welfare, a broad range of psychosocial needs and functioning, in addition to PTSS, in order to: 1) examine gender differences in PTSS; 2) examine gender differences in emotional/behavioral needs, risk behaviors, and life-domain functioning beyond PTSS; 3) examine gender differences in the symptom profiles of those with and without a history of complex trauma; 4) examine gender differences in child strengths and the relation of child strengths with trauma type; and 5) examine age differences in symptom profiles of youth. We did not predict gender differences in PTSS for younger children. We predicted that older adolescents (i.e., 16 years and older) would exhibit gender differences in PTSS given the literature documenting clear gender differences in the prevalence of PTSD in adulthood. For all age groups, we predicted that gender differences would emerge once a broader array of emotional and behavioral needs, risk behaviors, and functioning was examined. We expected youth with complex trauma exposure to exhibit a greater number and broader array of symptoms than youth without complex trauma exposure.

Method

Participants and Procedure

All children who entered into Illinois Department of Child and Family Services (IDCFS) custody between July 2005 and December 2008, 11,988 children in total, were included in the original dataset. It should be emphasized, then, that the data used in the present study were collected at the youth's *entry point* into care. In order to ensure independence of cases for statistical analyses, one child from each biological family was randomly selected to be included in analyses, and that child's siblings were omitted from all analyses, leaving 7,084 children aged 0-17 years. A separate domain of the CANS (see Appendix A, pp. 32-38) is rated for young children (0-5 years). To maintain simplicity and consistency in reporting, we analyzed the main domains of the CANS only, and therefore included only children aged six and older in the current analyses. Ethics approval for this study was obtained through the Research Ethics Board at the University of Ottawa (Appendix B).

A total of 3,446 children aged 6-17, in child welfare custody, were included in this study. This final sample consisted of 1,722 girls (50%) and 1,722 boys (50%) with a mean age of 12.4 years ($SD = 3.8$). The sample was ethnoculturally diverse, with 1,633 children (47.4%) identified by IDCFS workers as Non-Hispanic White; 1,568 children (45.5%) identified as African American; 156 (4.5%) as Hispanic; 18 (.5%) Asian, and 3 (0.1%) as Native American. Ethnicity was not reported for 68 children (2.0%).

Assessment

IDCFS Child and Adolescent Needs and Strengths (CANS) Comprehensive. The IDCFS CANS Comprehensive (Lyons, Gawron, & Kisiel, 2005; Lyons, 2009) is a clinician-rated tool that forms the central mental health component of Illinois' Integrated Assessment process. The IDCFS-CANS provides information about child and caregiver mental health needs and strengths in a variety of domains often impacted by exposure to complex trauma. It contains 105 items in the following domains (please see

Appendix A): Trauma Experiences (13 items, e.g., Sexual Abuse, Physical Abuse, Neglect, School Violence), Traumatic Stress Symptoms (5 items, e.g., Re-experiencing, Avoidance), Child Strengths (10 items, e.g., Family, Talents/Interests, Spiritual/Religious), Life Domain Functioning (13 items, e.g., Living Situation, Developmental, School Achievement), Acculturation (4 items, e.g., Language, Identity; this domain was not included in analyses), Child Behavioral/Emotional needs (13 items, e.g., Attention/Impulse, Depression, Substance Use), Child Risk Behaviors (11 items, e.g., Suicide Risk, Self Mutilation, Runaway), and Caregiver Needs and Strengths (14 items, e.g., Mental Health, Substance Use, Resources, Residential Stability; this domain was not included in analyses). The child's lifetime exposure to traumatic events is rated in the traumatic experiences domain; child and caregiver are rated on level of need and functioning over the last 30 days for the remaining domains. The CANS is completed within 45 days of the child's entry into the system, and our data comprises that collected at this initial CANS assessment point.

The CANS is an information integration tool that permits incorporation of data from multiple sources (e.g., child, caregivers and teacher reports; observation; review of case records) by a clinician. The scoring system is based on both the degree of strength or impairment and the degree of urgency for intervention. The measure is structured to provide information at four levels of treatment/care planning *need*: 0 (no evidence, no need for action); 1 (watchful waiting, prevention); 2 (action); and 3 (immediate or intensive action); as well as four levels of child strength: 0 (centerpiece strength; no need for action plan); 1 (a useful strength; monitor to determine whether action is required); 2 (potential strength; plan for action/ intervention); and 3 (not yet identified strength; plan for immediate/ intensive action). In addition to item level scores, the CANS may be scored at the domain level. It is not intended to offer an overall summary score.

The reliability and validity of the CANS data is well established (e.g., Anderson, et al., 2003; Lyons, 2004; Dilley, 2003). In order to be certified in the use of the CANS, trainees must achieve a reliability of at least 0.70 on a test case vignette using an intraclass correlation coefficient, and annual recertification is required to ensure ongoing reliability. The CANS demonstrates adequate validity when compared with similar measures of functional status such as the Child and Adolescent Functional Assessment Scale and the Child Behavior Checklist (Dilley, 2003; Lyons, 2004). Reliability at the item level has been established, permitting use of individual items alone in data analyses (Anderson, Lyons, Giles, Price, & Estes, 2002).

Complex trauma. Complex trauma was defined as the presence of two or more out of the following five caregiver-related interpersonal trauma experiences in the moderate to severe range (i.e., CANS ratings of 2 or 3): sexual abuse, physical abuse, emotional abuse, neglect, or family violence. This definition, distinguished from the more general term ‘maltreatment,’ is consistent with a recent study examining complex trauma and service needs of children in the Illinois child-serving system (Kisiel et al., 2009), has been adopted in other studies of complex trauma in child welfare settings (e.g., Greeson et al., 2011), and was chosen on the basis of the definition of complex trauma in the literature as including chronic trauma experiences *typically involving a child’s caregiver* (Cook et al., 2005; van der Kolk et al., 2005). Children with complex trauma exposure will be described as being in the *multiple and chronic caregiver trauma group* (MCC or complex). Children with either: a) one interpersonal caregiver-based trauma; or b) more than one interpersonal trauma, with none rated at the ‘actionable’ or significant level (i.e., 2 or 3 on the CANS items), such as a suspected trauma, will comprise the *single or non-complex group* (SNC). These groups are mutually exclusive.

Other adversity. A covariate, *other adversity* (OA), was created to control for the effects of exposure to other traumatic experiences in our sample. It comprised one or more non-caregiver-based

trauma experiences rated at an actionable level (i.e., ratings of 2 or 3/ moderate to severe level), including: medical trauma, community violence, school violence, natural or manmade disasters, exposure to war, exposure to terrorism, or witness/victim to criminal activity. Initially a continuous variable, it was coded as dichotomous for the loglinear analyses.

Traumatic Stress Symptoms. Nine items were combined to create the Traumatic Stress Symptoms (TSS) variable: five that form the TSS domain of the CANS (Adjustment to Trauma, Re-experiencing, Avoidance, Numbing, and Dissociation), and an additional four items from other domains: Traumatic Grief/ Separation, Affect Dysregulation, Behavioral Regression, and Somaticization. The reliability of these nine items was assessed using Cronbach's alpha. Together the nine items had a Cronbach's alpha of .80, indicating measurement of a similar construct.

Results

Multiway Frequency Analysis (MFA, and its extension, loglinear analysis) is a statistical modeling method that describes associations among three or more discrete (categorical, qualitative) variables (Tabachnick & Fidell, 2007). It is preferable over logistic regression when both the response and explanatory variables are categorical or qualitative (Trochim, 2006) and when categorical response variables have more than two categories (Ebrahim, 2003). MFA is used to fit a model that includes those associations necessary to reproduce the observed frequencies (Tabachnick & Fidell, 2007, p. 859).

Screening and Cleaning

Prior to analysis, the data were screened for accuracy of data entry, missing values, and violation of assumptions of MFA. Initially, missing data was systematically related to age, with missing data most prevalent for the 0-5 year age group, likely due to difficulty rating young children on a number of the CANS items. Once this group was excluded from the dataset, only two variables, *Job Functioning* (from the LDF domain) and *Vocational Strength* (from the Child Strengths domain), had large amounts of

missing data (80% and 70%, respectively). These items were omitted from analyses. The remaining variables had acceptably low rates of missing data (i.e., less than 3%). For *cases* missing less than 20% of data, missing data was imputed for these CANS Needs items, such that a “0” (no need identified) was substituted for the missing value. For several CANS Strengths items with similar amounts of missing data (Well-being Strength, Optimism, Talents/ Interests, Spiritual/Religious, Community Life), a “3” (no strength identified) was imputed for the missing value. This means of missing data imputation is standard for CANS data, as a “0” indicates absence of evidence for the item in question, whether it reflects a need or a strength. Attempts to transform the continuous TSS variable, which was quite positively skewed, were not effective, and so a categorical TSS variable was created for analyses.

MFA is a nonparametric statistical technique, and thereby free of assumptions about population distributions (Tabachnick & Fidell, 2007). The only requirements for MFA are independence, adequate sample size, and the size of the expected frequency in each cell. For independence, the frequency in each cell must be independent of the frequencies in all other cells. This was ensured by verifying that the total N was equal to the number of cases (Tabachnick & Fidell, 2007, p. 861). A sound ratio of cases to variables is at least five times the number of cases as cells in the design (Tabachnick & Fidell, p. 862). In this design, complex trauma exposure had two levels, other adversity had two levels, gender had two levels, age had three levels, and each domain variable had three levels, so $2 \times 2 \times 2 \times 3 \times 3 \times 5$, or 360 cases per model were required. Given that 3,446 children were included in the analyses, the ratio of cases to variables was considered adequate. Finally, to meet the requirement that expected frequencies were large enough, expected cell frequencies for all two-way associations were examined for each loglinear model to ensure that: 1) all were greater than one; and 2) no more than 20% are less than five (Tabachnick & Fidell, 2007, p. 862). This requirement was not initially met for two of the loglinear models: Traumatic Stress Symptoms and Emotional/Behavioral Needs, because at least one cell had a frequency of zero. To

guarantee adequate power, which can be drastically reduced when expected frequencies for two-way associations drop below five in some cells (Milligan, 1980), steps were taken to increase expected cell frequencies, as recommended by Tabachnick and Fidell (2007; p. 862). Age categories were adjusted to the following: 6-10 years, 11-14 years, and 15-17 years for analyses. These steps successfully corrected for low expected frequencies in the TSS and Needs models.

Overview of Analyses

A series of MFAs were computed to develop log-linear models for the associations among gender, age, nature of trauma exposure (MCC vs. SNC), OA, and: 1) traumatic stress symptoms (TSS); 2) emotional/ behavioral needs (Needs); 3) risk behaviors (Risk); 4) life domain functioning (LDF); and 5) Child Strengths. Interpretation of the MFA will proceed in a hierarchical fashion. The preliminary screening analysis will produce an overall model, much like an omnibus test. This model includes highest order statistically significant associations and all their component parts. Convention holds that effects found to be non-significant during the screening process are omitted from the final model. Thus, a final model including statistically significant variables will be run. The optimal model is evaluated in terms of both the goodness of fit to the overall data and the amount of deviation from fit within each cell (Tabachnick & Fidell, 2007, p. 873). This is done by examining the likelihood ratio statistic G^2 , which is *non-significant* in cases where the estimated frequencies are similar enough to the observed frequencies (i.e., a good fit). Because the study was exploratory, alpha level for the number of analyses was not adjusted; however alpha level was adjusted with a Bonferroni correction for each partial effect within each MFA. Next, interpretation of the model proceeded with examination of tests of individual effects: both chi-square tests of partial effects and z-tests for parameter estimates. Effect sizes, including odds ratios and Cramer's V , are reported. Cramer's statistic describes the magnitude of association between categorical variables when the number of rows and/or columns in a contingency table is greater than two,

and its lies between 0 (i.e., complete independence) and 1.0 (i.e., complete dependence or association) (Warmbrod, 2001). Since the chi-square value is a function of the sample size, it is necessary to obtain a measure of effect that removes the influence of the total sample size (i.e., N). We interpreted Cramer's V in a manner consistent with standards proposed by Rea and Parker (1992; p. 203), and further endeavoured to contextualize the effects based on our knowledge of the study variables and the empirical literature. SPSS v. 22 and v. 23 were used for analyses.

Descriptives

See Table 1 for an overview of trauma types measured by the CANS. In this sample, 54% ($n = 1,851$) of youth had experienced SNC trauma and 46% ($n = 1,576$) had experienced complex trauma (MCC). The odds that females had experienced MCC were slightly greater (53.5%; $OR = 0.77$; 95% CI [0.68, 0.88]) than the odds that males had experienced MCC (46.5%). One quarter of the youth in this sample ($n = 858$) had experienced OA. OA exposure did not differ significantly by gender ($OR = 1.06$; CI : 0.91, 1.24). Twenty-six percent of the sample had zero or low TSS, 31% had medium TSS, and 48% had high levels of TSS.

Development of a Hierarchical Loglinear Model for Traumatic Stress Symptoms

A five-way exploratory MFA was performed to develop a hierarchical log-linear model of the ability of gender, age, complex trauma (i.e., SNC or MCC group), and OA experiences to predict TSS. Following the preliminary model screening described above, stepwise selection by simple deletion of effects using SPSS HILOGLINEAR produced a final model with good fit between observed and expected frequencies. The optimal model should have a non-significant G^2 and should not be significantly worse than the next more complicated model (Tabachnick & Fidell, 2007, p. 893), and our model fit both of these criteria (see Table 2). Parameter estimates provide information about the relative strength of effects, however for interpretation of the direction of effects, the marginal tables of observed frequencies for each

effect in the model are more useful (Tabachnick & Fidell, 2007, p.902). See Table 3 for a summary of log-linear parameter estimates in raw and standardized form. Those parameter estimates with z -values more extreme than the ± 1.96 criterion were considered significant (i.e., at the $p < 0.05$ level of significance). The strongest predictors of cell size were the partial effects with the largest z values (i.e., OA, $z = 27.60$; complex X TSS interaction, $z = 11.99$; and TSS, $z = -11.66$), and the weakest predictor of cell size were those with the smallest z values (i.e., gender, $z = 0.14$; age X complex interaction, $z = 0.24$). At the bottom of Table 3, we see that, with the exception of gender ($z = 0.14$), the main effects had significant z values ranging from -1.83 (age) to 27.60 (OA).

These main effects are best understood in the context of the model's significant two-way and three-way interactions. For each of these interaction effects, the marginal tables of observed frequencies (i.e., contingency tables) were examined. There were significant associations between age and TSS; complex trauma and TSS; and OA and TSS. Age interacted with TSS such that the youngest cohort (6-10 years) had a significantly greater proportion of low and medium needs than high needs. Significantly fewer youth in the 11-14 year old group had TSS in the low range, whereas significantly more youth this age had TSS in the high range. There was a similar pattern for youth 15 years and older. Significantly more of these youth had high TSS, and significantly fewer had TSS in the low or medium range. Overall, there was a weak effect for the **Age X TSS** interaction, $\chi^2(4) = 136.43, p < .001; V = .141, p < .001$.

The **Complex X TSS** interaction indicated that extent of TSS varied by type of trauma, and this was a moderate effect, $\chi^2(2) = 328.74, p < .001, V = .310, p < .001$. This effect indicates that almost one third of the variance of complex trauma exposure and PTSS was shared. The SNC group had significantly more symptoms in the zero or low TSS range, and significantly fewer symptoms in the medium and high needs range. This pattern was reversed for the MCC group, who had significantly more TSS in the medium and high range and significantly fewer in the zero or low TSS range. Consistent with this pattern,

the **OA X TSS** interaction also provided evidence that increased trauma exposure was related to increased symptomatology. Specifically, those with exposure to OA had significantly more TSS in the high range, and significantly fewer TSS in the low or medium range. Conversely, those without the experience of OA had significantly more TSS in the low and medium range, and significantly fewer TSS in the high range. Two additional interactions, **Complex X OA**, and **Gender X Age X Complex** were found across all models, and are discussed below.

Development of a Hierarchical Loglinear Model for Child Emotional and Behavioral Needs

A five-way exploratory MFA was performed to develop a hierarchical log-linear model of the ability for gender, age, complex trauma, and OA experiences to predict child emotional and behavioral needs. Following the preliminary model screening described above, stepwise selection by simple deletion of effects using SPSS HILOGLINEAR produced a final model with good fit between observed and expected frequencies. The optimal model has a non-significant G^2 and is not significantly worse than the next more complicated model (Tabachnick & Fidell, 2007, p. 893), and our model fit both of these criteria (see Table 2). Parameter estimates provide information about the relative strength of effects, however for interpretation of the direction of effects, the marginal tables of observed frequencies for each effect in the model are more useful (Tabachnick & Fidell, 2007, p.902). See Table 4 for a summary of log-linear parameter estimates in raw and standardized form. Those parameter estimates with z -values more extreme than the ± 1.96 criterion were considered significant (i.e., at the $p < 0.05$ level of significance). The strongest predictors of cell size are the partial effects with the largest z values (i.e., OA, $z = 23.62$; needs, $z = -19.61$; age X needs interaction, $z = 12.69$), and the weakest predictor of cell size was that with the smallest z value (complex X needs interaction, $z = -0.15$). At the bottom of Table 4, we see that each of the main effects had significant z values ranging from 4.72 (gender) to 23.62 (OA).

These main effects are best understood in the context of the model's significant two-way and three-way interactions. For each of these interaction effects, the marginal tables of observed frequencies (i.e., contingency tables) were examined. The needs variable interacted with each of the following variables in our final model: gender, OA, age, and complex. The **Gender X Needs** interaction revealed that the proportions of females with low and medium levels of needs were significantly greater than the proportions of males with low and medium needs. On the other hand, the proportion of males with a high level of needs was significantly more than the proportion of females with a high level of needs. Overall, the effect of this interaction was weak, $\chi^2 (2) = 71.29, p < .001, V = .144, p < .001$.

The **Age X Needs** interaction had a moderate effect, with a pattern of needs that increased as a function of age, $\chi^2 (4) = 553.00, p < .001, V = .284, p < .001$. Overall, the youngest age cohort, 6 – 10 years ($n = 1,200$; 35% of sample), was associated with the lowest level of needs, with a significantly higher proportion of these children in the low need category, and significantly lower proportions in both the medium and high needs categories compared to the other age groups. The 11-14 years ($n = 1,108$; 32% of sample) and 15 years and older ($n = 1,119$; 33%) cohorts had the converse pattern of needs, such that significantly higher proportions of these young people exhibited high needs, and significantly lower proportions of these youth exhibited either low or medium levels of needs.

The **Complex X Needs** interaction demonstrated a moderate positive association between complexity of trauma experience and child needs, $\chi^2 (2) = 155.96, p < .001, V = .214, p < .001$. Those in the SNC group had significantly greater proportions of youth in the low and medium needs categories and significantly smaller proportions of youth in the high needs category. Conversely, those in the MCC group had smaller proportions of youth exhibiting low and medium levels of needs, and higher proportions of youth exhibiting high needs. Finally, the **OA X Needs** interaction revealed that OA exposure was associated with more needs, and that conversely, not having experienced OA was

associated with fewer needs, $\chi^2(2) = 55.26, p < .001, V = .127, p < .001$. Two interactions, **Complex X OA**, and **Gender X Age X Complex** were found across all models, and are discussed below.

Development of a Hierarchical Loglinear Model for Risk Behaviors

A five-way exploratory MFA was performed to develop a hierarchical log-linear model of the ability for gender, age, complex trauma, and OA experiences to predict child risk behaviors (risk). Following the preliminary model screening described above, stepwise selection by simple deletion of effects using SPSS HILOGLINEAR produced a final model with good fit between observed and expected frequencies, as demonstrated by a non-significant G^2 and evidence that it was not significantly worse than the next more complicated model (see final model in Table 2). See Table 5 for a summary of log-linear parameter estimates in raw and standardized form, which provide information about the relative strength of effects. In this table, the strongest predictors of cell size are the partial effects with the largest z values (i.e., OA, $z = 25.61$; first parameter in the age X risk interaction, $z = 21.23$), and the weakest predictors of cell size were those with the smallest z values (i.e., second parameter in OA X risk, $z = -0.36$ and second parameter in age X complex, $z = -0.75$). At the bottom of Table 5, we see that the main effects of OA ($z = 25.61$), risk ($z = -3.17$; $z = -11.80$), and the first parameter of age ($z = 4.08$) had significant z values (i.e., more extreme than the ± 1.96 criterion at the $p < 0.05$ level of significance), whereas the main effects of gender ($z = 1.50$), complex ($z = 1.02$), and the second parameter of age ($z = 0.91$) were not significant.

These main effects are best understood in the context of the model's significant two-way and three-way interactions. For interpretation of the direction of each of these interaction effects, the marginal tables of observed frequencies (i.e., contingency tables) were examined. The risk variable had significant two-way interactions with complex trauma and with OA. The **Complex X Risk** interaction illustrated that a significantly greater proportion of those with SNC had risk behaviors in the low range, and that a significantly smaller proportion of those with SNC had risk behaviors in the high risk range (with no

significant findings for the medium risk category), $\chi^2 (2) = 98.21, p < .001, V = .169, p < .001$. Although the effect of this association is weak in size, the complex trauma and risk behaviour variables share one fifth of the variance in our final model. This has critical implications because risk behaviours are a group of serious symptoms (e.g., suicidal attempts, self-mutilation, etc.) that in turn put youth at increased risk for harm. Similarly, the **OA X Risk** interaction had a small significant effect, such that greater proportions of those without OA exposure had low risk behaviors, and a smaller proportion of those without OA had risk behaviors in the high range. The converse was true for those with OA exposure, for whom a greater proportion had risk behaviors in the high range, and a smaller proportion had risk behaviors in the low range, $\chi^2 (2) = 67.23, p < .001, V = .140, p < .001$. The **Complex X OA** interaction, described below, also emerged as a significant contributor to the risk model, $\chi^2 (1) = 95.91, p < .001; V = .166, p < .001$.

In a complex model, the main and two-way interactions must be considered in light of the higher-level interactions. In this case, two three-way interactions emerged in the full model predicting risk behaviors. The first, **Gender X Age X Complex**, will be described below. The second, **Gender X Age X Risk** (see Figure 1), depicted moderate to strong effects for gender, $\chi^2 (2) = 997.30, p < .001, V = .381, p < .001$, and a wide range of negligible to moderate effects for age, $\chi^2 (2) = 46.17, p < .001; V = .116, p < .001$, including moderate effects for the 6-10 year old cohort, $V = .200, p < .001$, and the 11-14 year old cohort, $V = .210, p < .001$; and a negligible effect for the oldest cohort, $V = .064, p < .001$.

To further understand this three-way association, chi-square tests on the age and risk variables were performed separately for males [$\chi^2 (4) = 449.68, p < .001, V = .361, p < .001$] and females [$\chi^2 (4) = 596.52, p < .001, V = .416, p < .001$], revealing separate moderate and strong effects, respectively. For the youngest group, significantly greater proportions of boys and girls than expected had low risk behavior. A significantly greater proportion than expected of boys 6-10 years were in the medium risk category (this

category was not significant for girls). The pattern differed by gender in the 11-14 years age group only. For this group, significantly fewer youth than expected, both males and females, were found in the low risk category. A significantly greater proportion of females was found in the medium risk category, whereas significantly fewer boys were found in the medium category than expected. Significantly greater proportions of both males and females were in the high range of risk behaviors. This effect was stronger for males. In the 15 years and older cohort, significantly fewer males and females had low or medium risk behaviors, and significantly more males and females had risk behaviors in the high range. This effect was stronger for females. Therefore, the analysis seems to reveal a general trend that risk behaviors increase with age for both genders, and that this trend begins earlier for boys (see Figure 2). Boys demonstrated more risk behaviors at ages 6-10 years, and already had high levels of risk behaviors by ages 11-14 years. In contrast, for girls, the shift towards an increase in risk behaviors appeared to occur during the 11-14 year age period. By the age of 15 and older, males and females both exhibited equally high levels of risk behaviors.

Development of a Hierarchical Loglinear Model for Needs Across Life Domain Functioning

A five-way exploratory MFA was performed to develop a hierarchical log-linear model of the ability for gender, age, complex trauma, and OA experiences to predict life domain functioning (LDF). Following the preliminary model screening described above, stepwise selection by simple deletion of effects using SPSS HILOGLINEAR produced a final model with good fit between observed and expected frequencies, as demonstrated by a non-significant G^2 and evidence that it was not significantly worse than the next more complicated model (see final model in Table 2). See Table 6 for a summary of log-linear parameter estimates in raw and standardized form, which provide information about the relative strength of effects. In this table, the strongest predictors of cell size were the partial effects with the largest z values (i.e., OA, $z = 23.18$; LDF, $z = -18.00$), and the weakest predictors of cell size were those with the

smallest z values (i.e., first parameter in age X complex, $z = -0.21$ and second parameter of LDF, $z = -0.31$). At the bottom of Table 6, we see that for the most part, the main effects had significant z values, with two exceptions: the second parameter of age ($z = -0.62$) and the second parameter of LDF ($z = -0.31$).

A striking finding was that a majority of the sample (61%) had multiple serious and/or more than two urgent difficulties in important areas of life functioning; more than a quarter (26%) of the total sample had a medium level (1-3 actionable or several watch and wait) of difficulties in life functioning domains; and only 13% of the sample had no or one watchful waiting rating. Several two-way interactions were included in the final model, including the **Complex X OA** interaction, described below.

The LDF variable had significant two-way interactions with gender, age, complex trauma, and OA. The **Gender X LDF** interaction revealed that there was a weak gender difference in LDF needs, $\chi^2(2) = 45.97, p < .001, V = .119, p < .001$, such that males had more extreme LDF difficulties than did females. Specifically, males had significantly fewer proportions than expected in the small (11% of males) and medium (23%) LDF needs categories, and a greater proportion than expected in the high (66%) LDF need category. Females, on the other hand, had significantly greater proportions than expected in the low (16% of females) and medium (29%) LDF needs categories, and a significantly smaller proportion in the high (45%) LDF needs category. In a pattern similar to the loglinear models already discussed, the **Age X LDF** interaction revealed a significant moderate effect, such that greater than expected proportions of youth in the youngest cohort (ages 6-10 years) had LDF needs in the small and medium categories, and a smaller proportion of this age group had LDF needs in the high category. This pattern was reversed for both of the older age groups, who had significantly fewer needs in the low LDF category, and significantly more in the medium and high LDF need categories, $\chi^2(2) = 467.80, p < .001, V = .269, p < .001$.

Trauma experience also predicted LDF, as demonstrated by the weak but significant effects found for the **Complex X LDF** [$\chi^2(2) = 109.12, p < .001, V = .184, p < .001$] and **OA X LDF** [$\chi^2(2) = 64.74, p < .001, V = .142, p < .001$] interactions. Those in the SNC group had significantly more LDF needs in the low and medium categories, and significantly fewer LDF needs in the high category. Conversely, those in the MCC group had fewer in the low and medium LDF needs categories, and more in the high LDF category. Similarly, those without OA exposure had higher proportions than expected in the low and medium LDF needs categories, and relatively fewer in the high LDF needs category. Conversely, smaller proportions of those with a history of OA exposure had low or medium LDF needs, whereas a greater proportion than expected had high LDF needs. Therefore, overall, those young people with more trauma experience consistently had higher levels of LDF needs than did those with less trauma experience.

Finally, in a complex model, the main and two-way interactions must be considered in light of the higher-level interactions. The **Gender X Age X Complex** interaction, described below, also significantly predicted LDF.

Development of a Hierarchical Loglinear Model for Child Strengths

A five-way exploratory MFA was performed to develop a hierarchical log-linear model of the ability for gender, age, complex trauma, and OA experiences to predict child strengths (strengths). Following the preliminary model screening described above, stepwise selection by simple deletion of effects using SPSS HILOGLINEAR produced a final model with good fit between observed and expected frequencies, as demonstrated by a non-significant G^2 and evidence that it was not significantly worse than the next more complicated model (see final model in Table 2). See Table 7 for a summary of log-linear parameter estimates in raw and standardized form. In this table, the strongest predictors of cell size were the partial effects with the largest z values (i.e., OA, $z = 24.60$; second parameter of strengths, $z = 20.75$), and the weakest predictors of cell size were those with the smallest z values (i.e., first parameter of age, z

= -0.07 and the first parameter of strengths, $z = -0.51$). For the most part, the main effects were not significant in this model, with the exceptions of OA and the second parameter of strengths.

The marginal tables of observed frequencies (i.e., contingency tables) were examined to understand each of the model's significant two-way and three-way interactions. Just as in each of the other models, the **Complex X OA** interaction significantly predicted strengths, and will be described below. The strengths variable also had significant two-way interactions with complex trauma, OA, age, and gender. Overall, the two-way associations were weak, possibly because about half of the sample (regardless of group) fell into the medium strengths category, i.e., "strengths-building required," which meant that variability occurred in the low and high strength categories (no/few strengths and centerpiece strengths) only. The most marked two-way interaction was found for the **Complex X Strengths** interaction, $\chi^2(2) = 102.81, p < .001, V = .173, p < .001$. Here, the largest difference between trauma groups was in relation to a high number of strengths: 42% of the SNC group fell into this category, whereas only 26% of the MCC group did. There was less difference between the trauma groups across the medium and low strengths categories. A fifth of those with a history of complex trauma were identified as having "no or few strengths identified," whereas this was less frequent among those in the SNC group (i.e., only 13%).

The **OA X Strengths** interaction produced a weak but significant effect, $\chi^2(2) = 63.16, p < .001, V = .135, p < .001$. The pattern was consistent with that found for complex trauma and strengths, such that those without OA exposure had a significantly greater proportion of youth with high strengths (38%), and significantly smaller proportions of youth with medium (48%) or low (14%) strengths. This pattern was reversed for those with a history of OA exposure, fewer of whom were identified as having high levels of strengths (24%), and more of whom had medium (55%) or low (21%) strengths.

The **Age X Strengths** interaction revealed a weak but significant effect, such that younger children had the most strengths identified, and the oldest youth had the fewest strengths identified, $\chi^2 (4) = 143.01, p < .001, V = .144, p < .001$. Specifically, the youngest cohort had significantly greater proportions than expected in the high (48%) and medium strengths (42%) categories, and a significantly smaller proportion than expected in the “no or few strengths identified” (11%) category. The 11-14 year old cohort had significantly fewer high-level strengths than expected (30%), significantly more medium-range strengths (i.e., “strengths building required”; 54%), and no significant findings in the zero to low strengths category (17%). The 15 years and older cohort had significantly smaller proportions of youth than expected in the high strength category (26%), and significantly greater proportions than expected in the medium (53%) and zero to low strengths (21%) categories.

The **Gender X Strengths** interaction produced a significant but negligible effect, $\chi^2 (2) = 17.85, p < .001, V = .072, p < .001$. Females had a significantly greater proportion of high level strengths (19%) and significantly fewer than expected in the low strengths category (7%). Males, on the other hand, had significantly fewer than expected in the high strengths category (16%), and significantly more than expected in the low strengths category (9%). Both genders exhibited equal levels of medium-level strengths (25%), and this category did not attain statistical significance.

Interactions found across all models

The **Complex X OA** interaction was significant across models, and demonstrated a weak positive association among trauma experiences of different types, $\chi^2 (1) = 95.91, p < .001; V = .166, p < .001$. Those with a history of OA were more often in the MCC group than in the SNC group; and those without a history of OA were more often found in the SNC group than the MCC group. This two-way interaction was found across each log-linear model.

The above main and two-way effects must be considered in light of the three-way interaction of **Gender X Age X Complex**. This three-way interaction was found across each log-linear model, and was therefore a robust finding. To further understand this interaction, chi-square tests on the complex and age variables were performed separately for males and females. As Figure 2 illustrates, this interaction revealed a significant weak effect for age and complex trauma group for females only, $\chi^2 (2) = 37.27, p < .001, V = .147, p < .001$. Specifically, a greater proportion of girls aged 6-10 years was found in the SNC group than the MCC group. Thereafter, females aged 11-14 years and 15 years and older were found in significantly greater proportions in the MCC group than the SNC group.

Discussion

The results of this study support a growing perspective that there is a complex dynamic interaction among gender, age, and trauma in the lives of our children. For children in the child welfare system, the impact of the interaction among these factors is experienced in a complex range of symptomatology, including post-traumatic stress symptoms, emotional and behavioral needs, risk behaviors, reduced functioning across life domains, and reduced strengths. The dynamic interaction among gender, age, and trauma experience is suggestive of a differential developmental process for males and females in relation to the experience of trauma, further discussed below.

Age, Trauma Exposure, and Symptom Profiles

Trauma exposure was more prevalent for the older youth in our sample. This makes sense given that younger children who come into care may avoid further trauma experiences by virtue of their removal from harmful environments. Alternatively, older kids coming into care are more verbal and potentially more able to report what happens to them (Kisiel, et al., 2009). We also know that early victimization leaves children vulnerable to future victimization (Finkelhor, Ormrod, & Turner, 2009) and PTSD symptomatology (Boney-McCoy & Finkelhor, 1995). Indeed, in our sample, older children and

adolescents entering care were more likely to have experienced cumulative trauma, as indicated by higher rates of both MCC and OA. These findings are consistent with Kisiel et al.'s (2009) results using IDCFS data. These researchers found that youth entering child welfare in middle and late adolescence were more likely than their younger counterparts to have experienced MCC.

With regards to symptomatology, in our study, PTSS, as well as other emotional and behavioral symptoms, risk behaviors, and life domain functioning needs were all more elevated for the older age groups. This is consistent with research to date in child welfare settings (Kisiel et al., 2009; Griffin et al., 2011; Maikovich-Fong & Jaffee, 2010). As age of entry into care increased, identification of strengths decreased. It is troubling that a quarter of youth over 15 years of age had no or few identifiable strengths. These data, along with the findings related to symptomatology and strengths (discussed below), underscore the importance of intervention efforts that target both trauma symptoms and build on or support protective factors such as strengths for youth of all ages in the child welfare system.

The Dynamics of Trauma: Towards a More Nuanced Understanding of Gender Differences

This study is one of the first to assess gender differences in complex trauma exposure and complex symptomatology. The results demonstrated that the dynamic interaction among gender, age, and trauma experience is much more complicated than can be elucidated in main effects or simple two-way interactions. The log-linear models illustrated that gender effects must be understood in the context of these other factors. For example, significantly more girls aged 6-10 years had experienced SNC than MCC. Thereafter (i.e., when entering care during pre-adolescence and adolescence, 11 years and up), females had experienced MCC in significantly greater proportions. It is unclear whether this is because their trauma experiences tend to occur when they are older (i.e., close to the time they entered care), whether their symptoms are less visible or understood as trauma-related (and therefore they enter care later, with more trauma experience), or whether their trauma experience interacts in some way with

biological and developmental factors. For example, girls may be more vulnerable to certain forms of abuse as they enter puberty and adolescence, and/or these developmental changes may exacerbate the insidious effects of pre-existing trauma exposure.

In terms of trauma symptomatology, the findings supported our hypothesis that boys and girls would exhibit a similar number and severity of PTSS. This adds to a growing body of empirical evidence demonstrating that males and females do not differ in their symptoms of PTSS subsequent to maltreatment and adverse childhood experiences (Contractor et al., 2013; Maikovich & Jaffee, 2010; Maikovich et al., 2009; Dube et al., 2005). Contrary to our hypothesis that gender differences in PTSS would emerge for older adolescents, there were no significant gender effects on PTSS at any age. This is likely a function of the sample, a child welfare sample with high rates of trauma. It is possible that: 1) community-based PTSD prevalence studies do not apply to this population; and 2) with a certain amount of trauma, both males and females will exhibit uniformly high levels of symptomatology.

Our hypothesis that gender differences would emerge once a greater array of emotional needs and risk behaviors were taken into account was supported. We found that males exhibited significantly higher levels of emotional and behavioral needs. We also found small effects by gender in the domain of LDF needs, such that compared to females, males had higher levels of needs in these domains. However, more importantly, we found that these differences occurred in the context of more complex interactions that took developmental period into account (i.e., age). In our sample, higher levels of risk behavior were evident for males 6-10 years, whereas this shift from zero or low levels of risk behaviors to a high level of risk behaviors only emerged for females in the 11-14 year old cohort. By 15 years and older, both genders exhibited uniformly high levels of risk behaviors. This illustrates a differential pattern in the emergence of high-risk behaviors for male and females, with males' risk behavior beginning during latency age and

remaining at uniformly high levels over pre-adolescence and adolescence, and females' risk behavior appearing to begin later, in pre-adolescence, and to peak in adolescence.

The findings related to risk behavior are consistent with a convincing body of evidence supporting a link between child abuse/ harsh parenting and antisocial behavior for both genders in adolescence and into adulthood (see Lee, Herrenkohl, Jung, Skinner, & Klika, 2015). Our finding of a significant moderate effect for the three-way interaction of Gender X Age X Risk behavior supports the “delayed-onset pathway” for females first proposed by Silverthorn and Frick (1999), and subsequently supported by others (Lee et al., 2015; Topitzes et al. 200; Widom et al., 2006), whereby antisocial behavior begins later for girls. Lee et al. (2015) found that exposure to sexual abuse appeared to be a critical trauma experience for girls in particular, one that predicted entry into a life course pathway of antisocial behavior. Given that we examined cumulative forms of trauma, it is unclear whether the driving force for the delayed-onset pattern of girls' risk behavior in our sample was the experience of sexual abuse. An important contrasting viewpoint to the “delayed-onset pathway” hypothesis is the argument that gender differences in developmental trajectories of antisocial and disruptive behavior have been overestimated (see Bierman, Bruschi, Domitrovich, Fang, & Miller-Johnson, 2004). Bierman and colleagues (2004) argued that girls do exhibit earlier indices of disruptive behavior, but that these dysregulated and hostile behaviors, such as relational aggression, may go undetected because they are not included in research definitions of overt aggression. In our study, it is also likely that the increase in risk behaviors for girls in the 11-14 year age group is at least partially reflective of the increase in girls' trauma exposure also identified during this window (discussed above). It should also be noted that the risk behaviors captured in the CANS domain are more broadly defined than the disruptive and aggressive behavior characteristic of antisocial behavior, and this could also contribute to the differing gender profiles. For example, serious suicide risk and self-injury are behaviors that are more common among

adolescents than school-aged children. Indeed, onset of self-injurious behavior is associated with early adolescence for females and begins later for males (Hamza, Stewart, & Willoughby, 2012). Further research that undertakes a more in-depth examination of gender profiles of risk behaviors is recommended.

The finding regarding risk behavior appears to be somewhat consistent with trauma researchers' depiction of boys' "bad behavior," as misconstrued trauma-related symptomatology commonly seen in males' presentations (Watkins & Bentovim, 1992; Spataro et al., 2001). However, we argue that the association between trauma experience and this "bad behavior" by males and later, females, is likely poorly understood for both genders. It is the historically widespread underestimation of boys' experiences of abuse (cf Goldman & Padayachi, 2000) that has led to the more widespread misinterpretation of their behavior, coupled with the under-recognition of their trauma-related emotional and behavioral needs, life domain functioning, and reduced strengths (Watkins & Bentovim, 1992; Spataro et al., 2001). Studying post-trauma symptom trajectories that include emotional and behavioral needs from a developmental perspective, beyond the traditional scope of PTSD criteria, is certainly warranted if we are to understand the mechanisms underlying these developmental and gender differences.

The results of the current study also identified a trend for males to have fewer strengths than females, although the effect size of this interaction was negligible. This trend is suggestive of an additional possible explanation for the sex difference in risk behaviors. Previous studies have found CANS-identified strengths to moderate the positive correlation between traumatic experience and risk behaviors (Griffin, et al., 2009; 2011). Griffin et al. (2009) found that high strength children showed few risk behaviors, regardless of the number of their trauma experiences, whereas low-strength children had more risk behaviors and these were "increasing at an accelerating rate" (Griffin, et al., 2011, p. 189). Level of child strengths moderates risk behaviors in our study, such that the higher strengths identified for

females (particularly in the 6-10 year age range) play a protective role in reducing girls' rates of risk behaviors and accounts, at least in part, for the gender differences seen in this domain. However, Griffin et al. (2011) speculated that child strength ratings by workers may serve as a proxy for hope (on the part of the child's worker). It could be that males' lower strengths reflect their workers' decreased hope in response to their risk behavior, rather than being an accurate assessment of their strengths. Further investigation into the role of strengths as a protective factor and/or a proxy for workers' hope and potential gender differences related to these variables is warranted if we are to better understand the relations among them.

There are two major implications for the findings of this study related to gender. First, the results illustrate a gender-specific developmental impact of trauma exposure and symptomatology. Second, rather than speaking about "gender differences", it must be recognized that the dynamics of trauma are different for males and females, and, importantly, that they occur in the context of interactions with other variables. Thus, it is not sufficient to study gender via main effects and two-way interactions. More complex models are required if we are to capture and understand the subtly differing dynamics of trauma in males and females. We therefore recommend that future studies analyze data and report findings separately for males and females.

Limitations

Several limitations to our study can be noted. First, there may be limits to the generalizability of our findings. Children entering the child welfare system have typically unfortunately been exposed to more traumatic experiences than is the case for the average child in the community. On the other hand, the use of this service data does provide an opportunity to investigate the impact of these unfortunate experiences on youth functioning. Population-based studies may have low incidence rates for

maltreatment types, making it difficult to distinguish associations among trauma and symptom variables due to low power.

Second, although the CANS has many benefits as an integrated assessment tool, (see Lyons, 2009) it necessarily summarizes a great deal of information into a relatively small number of categories. This can be a limitation for the study of trauma experiences because more specific characteristics of the maltreatment type (e.g., age of onset of abuse, number of instances of abuse, etc.) are rolled into one item-level rating, possibly obscuring the effects of within-group characteristics of abuse, some of which are known to influence symptom outcome.

Our study captures a cross-sectional snapshot of these youth. In future, to more thoroughly examine gender differences through childhood into adulthood (where prevalence of PTSD is known to be differentiated by gender), it would be important to use longitudinal data in order to examine symptom trajectories over time.

Conclusion and Implications for Practice

The present study provides new quantitative data on complex trauma, gender differences, and age, and the ways that these variables predict PTSS and a range of emotional/ behavioral symptoms, risk behaviors, life functioning domains, and child strengths. Several factors contribute to the novelty and importance of this study, including: the large sample size spanning childhood and adolescence; the quantitative investigation of complex developmental trauma, including investigation of a wide range of symptoms rather than PTSS alone; examination of gender differences within complex trauma; and the inclusion of child strengths.

Our findings suggest that maltreatment exerts a differential developmental impact on boys and girls. We recommend that work in the area of trauma therefore be approached in a gender-specific way. Researchers must analyze data for boys and girls separately, because the associations among variables are

different, and more complicated than can be elucidated in main effects or two-way interactions. More simplistic analyses will only continue to confuse the picture, and potentially result in misleading conclusions. Clinically, the results of this study underscore the idea that working in a trauma-informed way necessarily means working in a gender-informed way. It is imperative that policy-makers and clinicians are trained to understand the differential profiles of trauma exposure/ identification and post-trauma symptomatology for boys and girls at different ages, and that interventions are implemented with these unique profiles in mind. For example, clinicians providing trauma interventions for boys 6-10 years of age may need to undertake special efforts to reduce needs and risk behaviors, including a focus on increasing strengths, and on reducing physiological hyperarousal, which appear to moderate these symptoms (Olf, Langeland, Draijer, & Gersons, 2007). Similarly, child protection workers must recognize that girls are vulnerable to an increase in risk behaviors during the window of pre-adolescence (i.e., 11-14 years), and therefore take steps to prevent and to target these emerging symptoms in their trauma interventions. Although research is needed to replicate these findings and to further understand the mechanisms responsible for these differences, we believe that this study takes us one step closer to an understanding of the gender-specific effects of trauma, and towards greater knowledge and accuracy in the provision of trauma- and gender-informed services for maltreated children.

References

- Ackerman, P. T., Newton, J. E. O., McPherson, W. B., Jones, J. G., & Dykman, R. A. (1998). Prevalence of posttraumatic stress disorder and other psychiatric diagnosis in three groups of abused children (sexual, physical, and both). *Child Abuse & Neglect, 22*, 759–774. doi: 10.1016/S0145-2134(98)00062-3
- Anderson, R.L., Lyons, J.S., Giles, D.M., Price, J.A., & Estes, G. (2002). Examining the reliability of the Child and Adolescent Needs and Strengths-Mental Health (CANS-MH) Scale from two perspectives: A comparison of clinician and researcher ratings. *Journal of Child and Family Studies, 12*, 279-289. doi: 10.1023/A:1023935726541
- Bierman, K.L., Bruschi, C., Domitrovich, C., Fang, G.Y., Miller-Johnson, S. (2004). Early disruptive behaviors associated with emerging antisocial behavior among girls. In K.A. Dodge & M. Putallaz (Eds.), *Aggression, antisocial behavior, and violence among girls: A developmental perspective* (137-161). New York: The Guilford Press.
- Boney-McCoy, S., Finkelhor, D. (1995) Prior victimization: A risk factor for child sexual abuse and for PTSD-related symptomatology among sexually abused youth. *Child Abuse & Neglect, 19*, 1401–1421.
- Burgess, A. W., Hartman, C. R., & McCormack, A. (1987). Abused to abuser: Antecedents of socially deviant behaviors. *The American Journal of Psychiatry, 144*, 1431-1436.

- Cloitre, M., Stolbach, B. C., Herman, J. L., Pynoos, R., Wang, J., & Petkova, E. (2009). A Developmental Approach to Complex PTSD : Childhood and Adult Cumulative Trauma as Predictors of Symptom Complexity, *22*, 399–408. doi:10.1002/jts.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). New Jersey: Lawrence Erlbaum.
- Contractor, A. A., Layne, C. M., Steinberg, A. M., Ostrowski, S. a, Ford, J. D., & Elhai, J. D. (2013). Do gender and age moderate the symptom structure of PTSD? Findings from a national clinical sample of children and adolescents. *Psychiatry Research*, *210*, 1056–1064. doi:10.1016/j.psychres.2013.09.012
- Cook, A., Blaustein, M., Spinazzola, J., & van der Kolk, B. (2003). *Complex trauma in children and adolescents: White paper from the National Child Traumatic Stress Network Complex Trauma Task Force*. Retrieved from NCTSN website:
http://www.nctsn.org/nctsn_assets/pdfs/edu_materials/ComplexTrauma_All.pdf
- De Bellis, M. D. (2002). Developmental traumatology: A contributory mechanism for alcohol and substance use disorders. *Psychoneuroendocrinology*, *27*, 155-170. doi: 10.1016/S0306-4530%2801%2900042-7
- Dilley, J.B., Weiner, D.A., Lyons, J.S., & Martinovich, Z. (2003). The validity of the Child and Adolescent Needs and Strengths Assessment. Poster presented at the meeting of the American Psychological Association, Toronto, ON.

- Dube, S. R., Anda, R. F., Whitfield, C. L., Brown, D. W., Felitti, V. J., Dong, M., & Giles, W. H. (2005). Long-term consequences of childhood sexual abuse by gender of victim. *American Journal of Preventive Medicine*, 28, 430–438. doi:10.1016/j.amepre.2005.01.015
- Edwards, V.J., Anda, R.F., Dube, S.R., Dong, M., Chapman, D.R., Felitti, V.J. (2005). The wide-ranging health consequences of adverse childhood experiences. In K. Kendall-Tackett and S. Giacomoni (Eds.), *Child victimization: Maltreatment, bullying and dating violence, prevention and intervention* (ch.8). Kingston, NJ: Civic Research Institute.
- Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., ... Marks, J. S. (1998). 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., Ormrod, R. K., & Turner, H. a. (2009). Lifetime assessment of poly-victimization in a national sample of children and youth. *Child Abuse & Neglect*, 33, 403–411. doi:10.1016/j.chiabu.2008.09.012
- Fondacaro, K. M., Holt, J. C., & Powell, T. A. (1999). Psychological impact of childhood sexual abuse on male inmates: The importance of perception. *Child Abuse & Neglect*, 23, 361-369. doi: 10.1016/S0145-2134%2899%2900004-6

- Garnefski, N., & Arends, E. (1998). Sexual abuse and adolescent maladjustment: Differences between male and female victims. *Journal of Adolescence*, *21*, 99-107. doi: 10.1006/jado.1997.0132
- Goldman, J. D. G., & Padayachi, U. K. (2000). Some methodological problems in estimating incidence and prevalence in child sexual abuse research. *Journal of Sex Research*, *37*, 305–314. doi: 10.1080/00224490009552052
- Greeson, J. K. P., Briggs, E. C., Kiesel, C. L., Layne, C. M., Ake, G. S., Ko, S. J., ... Fairbank, J. A. (2011). Complex Trauma and Mental Health in Children and Adolescents Placed in Foster Care : Findings from the National Child Traumatic Stress Network. *Child Welfare*, *90*, 91–109.
- Griffin, G., Martinovich, Z., Gawron, T., & Lyons, J. S. (2009). Strengths moderate the impact of trauma on risk behaviors in child welfare. *Residential Treatment For Children & Youth*, *26*, 105–118. doi:10.1080/08865710902872994
- Griffin, G., McClelland, G., Holzberg, M., Stolbach, B., Maj, N., & Kiesel, C. (2011). Addressing the impact of trauma before diagnosing mental illness in child welfare. *Child Welfare*, *90*(6), 69–89.
- Hamza, C. A., Stewart, S. L., & Willoughby, T. (2012). Examining the link between nonsuicidal self-injury and suicidal behavior: A review of the literature and an integrated model. *Clinical Psychology Review*, *32*, 482–495. doi:10.1016/j.cpr.2012.05.003

- Harvey, S. T., & Taylor, J. E. (2010). A meta-analysis of the effects of psychotherapy with sexually abused children and adolescents. *Clinical Psychology Review, 30*, 517–35.
doi:10.1016/j.cpr.2010.03.006
- Herman, J. (1992). *Trauma and recovery*. New York, NY: Basic Books.
- Holmes, G. R., Offen, L., & Waller, G. (1997). See no evil, hear no evil, speak no evil: Why do relatively few male victims of childhood sexual abuse receive help for abuse-related issues in adulthood? *Clinical Psychology Review, 17*, 69-88. doi:10.1016/S0272-7358(96)2900047-5
- Kisiel, C., Fehrenbach, T., Small, L. & Lyons, J.S. (2009). Assessment of complex trauma exposure, responses, and service needs among children and adolescents in child welfare. *Journal of Child & Adolescent Trauma, 2*, 143-160. doi:10.1080/19361520903120467
- Lee, J. O., Herrenkohl, T. I., Jung, H., Skinner, M. L., & Klika, J. B. (2015). Longitudinal examination of peer and partner influences on gender-specific pathways from child abuse to adult crime. *Child Abuse & Neglect* (article in press). doi:10.1016/j.chiabu.2015.07.012
- Lyons, J. S. (2004). *Redressing the emperor: Improving the children's public mental health system*. Westport, CT: Praeger.
- Lyons, J.S. (2009). *Communitrics: A communication theory of measurement in human service settings*. New York, NY: Springer.

- Lyons, J., Gawron, T., & Kisiel, C. (2005). *Child and Adolescent Needs and Strengths: Comprehensive assessment for Illinois Department of Children and Family Services manual*. Winnetka, IL: The Buddin-Praed Foundation.
- Maikovich, A. K., Koenen, K. C., & Jaffee, S. R. (2009). Posttraumatic stress symptoms and trajectories in child sexual abuse victims: An analysis of sex differences using the national survey of child and adolescent well-being. *Journal of Abnormal Child Psychology*, *37*, 727-737. doi:10.1007/s10802-009-9300-x
- Maikovich-Fong, A. K., & Jaffee, S. R. (2010). Sex differences in childhood sexual abuse characteristics and victims' emotional and behavioral problems: findings from a national sample of youth. *Child Abuse & Neglect*, *34*, 429–437. doi:10.1016/j.chiabu.2009.10.006
- Martin, G., Bergen, H. A., Richardson, A. S., Roeger, L., & Allison, S. (2004). Sexual abuse and suicidality: Gender differences in a large community sample of adolescents. *Child Abuse & Neglect*, *28*, 491–503. doi:10.1016/j.chiabu.2003.08.006
- Olf, M., Langeland, W., Draijer, N., & Gersons, B. P. R. (2007). Gender differences in posttraumatic stress disorder. *Psychological Bulletin*, *133*, 183–204. doi:10.1037/0033-2909.133.2.183
- Rea, L. M., & Parker, R. A. (1992). *Designing and conducting survey research*. San Francisco: Jossey-Boss.

- Schulte, J. G., Dinwiddie, S. H., Pribor, E. F., & Yutzy, S. H. (1995). Psychiatric diagnoses of adult male victims of childhood sexual abuse. *Journal of Nervous and Mental Disease*, *183*, 111-113. doi: 10.1097/00005053-199502000-00010
- Silverthorn, P., & Frick, P. J. (1999). Developmental pathways to antisocial behavior: The delayed-onset pathway in girls. *Development and Psychopathology*, *11*, 101–126. doi: 10.1017/s0954579499001972
- Spataro, J., Moss, S. A., & Wells, D. L. (2001). Child sexual abuse: A reality for both sexes. *Australian Psychologist*, *36*, 177-183.
- Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics* (5th ed.). Boston, MA: Pearson Education Inc.
- Tolin, D. F., & Foa, E. B. (2006). Sex differences in trauma and posttraumatic stress disorder: a quantitative review of 25 years of research. *Psychological Bulletin*, *132*, 959–992. doi:10.1037/0033-2909.132.6.959
- Topitzes, J., Mersky, J. P., & Reynolds, A. J. (2011). Child maltreatment and offending behavior: Gender-specific effects and pathways. *Criminal Justice and Behavior*, *38*, 492–510. doi: 10.1177/0093854811398578
- U.S. Department of Health and Human Services, Administration for Children and Families, Administration on Children, Youth and Families, Children’s Bureau. (2013). Child

- maltreatment 2012. Available from <http://www.acf.hhs.gov/programs/cb/research-data-technology/statistics-research/child-maltreatment>.
- 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*, 389-399.
- Watkins, B., & Bentovim, A. (1992). The sexual abuse of male children and adolescents: A review of current research. *Journal of Child Psychology and Psychiatry and Allied Disciplines, 33*, 197-248. doi: 10.1111/j.1469-7610.1992.tb00862.x
- Widom, C. S., Schuck, A. M., & White, H. R. (2006). An examination of pathways from childhood victimization to violence: The role of early aggression and problematic alcohol use. *Violence and Victims, 21*, 675–690. doi: 10.1891/0886-6708.21.6.675
- Zona, K., & Milan, S. (2011). Gender differences in the longitudinal impact of exposure to violence on mental health in urban youth. *Journal of Youth and Adolescence, 40*, 1674–90. doi:10.1007/s10964-011-9649-3

Table 1. Frequency of trauma types rated by the CANS

Trauma type	Number of children with actionable scores	%
Neglect	1,618	47.0
Traumatic grief/ separation	1,240	36.0
Family violence	1,190	34.5
Physical abuse	1,037	30.1
Emotional abuse	883	25.6
Sexual abuse	688	19.9
Witness to criminal activity	508	14.8
Community violence	219	6.3
Medical trauma	207	6.0
School violence	129	3.7
Natural disaster	28	0.8
War affected	6	0.1
Terrorism affected	3	0.1

Note. Total N = 3,446. Actionable scores denote those items scored as “2” (Action required) or “3”

(Immediate action required) on the CANS.

Table 2. Summary of Final Hierarchical Loglinear Models

	Interactions	G^2 (df)	p	95% CI for G^2	
				LL	UL
Model 1: TSS	GAC, AT, CT, OT, CO G, A, C, O, T	54.99 (48)	.227	47	77
Model 2: Needs	GAC, GN, ON, AN, CN, CO, G, A, C, O, N	58.21 (46)	.107	45	81
Model 3: Risk bx	GAC, GAR CR, OR, CO G, A, C, O, R	56.94 (42)	.062	41	80
Model 4: Life Domain Functioning	GAC, GL, AL, CL, OL, CO G, A, C, O, L	40.43 (46)	.712	45	58
Model 5: Strengths	GAC, GS, AS, CS, OS, CO G, A, C, O, S	50.85 (46)	.288	45	70

Note. G = Gender; A = Age; C = Complex; O = Other Adversity; T = Traumatic Stress Symptoms; N =

Needs; R = Risk Behaviors; L = Life Domain Functioning; S = Strengths

Table 3. Parameter Estimates for Hierarchical Loglinear Model of Traumatic Stress (N = 3,420)

Parameter (Interaction term)	Unstandardized estimate (<i>Lambda</i>)	Standard error	Standardized estimate (z-value)	95% CI	
				LL	UL
Gender*Age*Complex					
1	0.11	0.02	4.66	0.07	0.16
2	-0.08	0.03	-3.30	-0.13	-0.03
Gender*Age					
3	-0.01	0.02	-0.52	-0.06	0.04
4	-0.08	0.03	-3.16	-0.13	-0.03
Gender*Complex					
5	-0.07	0.02	-3.86	-0.10	-0.03
Age*Complex					
6	0.01	0.03	0.24	-0.05	0.06
7	-0.03	0.03	-1.03	-0.08	0.03
Age*TSS					
8	0.28	0.04	7.51	0.20	0.35
9	0.10	0.04	2.87	0.03	0.17
10	-0.12	0.04	-2.95	-0.20	-0.04
11	-0.03	0.04	-0.77	-0.10	0.04
Complex*TSS					
12	0.36	0.03	11.99	0.30	0.41
13	0.03	0.03	1.29	-0.02	0.09
OA*TSS					
14	0.23	0.04	6.24	0.16	0.30
15	0.03	0.03	1.03	-0.03	0.10
Complex*OA					
16	0.13	0.02	6.33	0.09	0.18
Gender					
17	0.00	0.02	0.14	-0.03	0.04
Age					
18	0.10	0.03	3.94	0.05	0.15
19	-0.05	0.03	-1.83	-0.10	0.00
Complex					
20	0.09	0.02	4.00	0.05	0.13
OA					
21	0.63	0.02	27.60	0.58	0.67
TSS					
22	-0.45	0.04	-11.66	-0.52	-0.37
23	-0.01	0.03	-0.38	-0.08	0.05

Table 4. Parameter Estimates for Hierarchical Loglinear Model of Needs (N = 3,425)

Parameter (Interaction term)	Unstandardized estimate (Lambda)	Standard error	Standardized estimate (z-value)	95% CI	
				LL	UL
Gender*Age*Complex					
1	0.11	0.02	4.41	0.06	0.15
2	-0.09	0.02	-3.47	-0.13	-0.04
Gender*Needs					
3	0.17	0.04	4.75	0.10	0.24
4	0.11	0.03	4.03	0.06	0.16
OA*Needs					
5	0.14	0.05	3.02	0.05	0.23
6	0.03	0.03	0.91	-0.04	0.10
Age*Needs					
7	0.63	0.05	12.69	0.54	0.73
8	0.23	0.04	6.08	0.16	0.30
9	-0.16	0.06	-2.75	-0.28	-0.05
10	-0.07	0.04	-1.54	-0.15	0.02
Complex*Needs					
11	0.34	0.04	8.51	0.26	0.42
12	-0.00	0.03	-0.15	-0.06	0.05
Complex*OA					
13	0.17	0.02	8.33	0.13	0.21
Gender*Age					
14	-0.12	0.03	-4.47	-0.17	-0.07
15	-0.05	0.03	-1.87	-0.10	0.00
Gender*Complex					
16	-0.11	0.02	-5.86	-0.14	-0.07
Age*Complex					
17	-0.04	0.03	-1.39	-0.09	0.02
18	-0.03	0.03	-1.02	-0.08	0.02
Gender					
19	0.10	0.02	4.72	0.06	0.15
Age					
20	0.31	0.03	10.15	0.25	0.36
21	-0.05	0.03	-1.31	-0.11	0.02
Complex					
22	0.14	0.03	5.50	0.09	0.19
OA					
23	0.63	0.03	23.62	0.58	0.68
Needs					
24	-1.07	0.06	-19.61	-1.18	-0.97
25	0.22	0.04	5.80	0.15	0.30

Table 5. Parameter Estimates for Hierarchical Loglinear Model of Risk Behaviours (*N* = 3,444)

Parameter (Interaction term)	Unstandardized estimate (Lambda)	Standard error	Standardized estimate (z-value)	95% CI	
				LL	UL
Gender*Age*Complex					
1	0.10	0.03	4.15	0.05	0.15
2	-0.09	0.03	-3.53	-0.14	-0.04
Gender*Age*Risk					
3	0.15	0.04	3.53	0.06	0.22
4	-0.09	0.05	-2.05	-0.18	-0.00
5	-0.04	0.04	-0.94	-0.13	0.05
6	0.13	0.05	2.60	0.03	0.22
Complex*Risk					
7	0.23	0.03	7.87	0.18	0.29
8	-0.04	0.03	-1.24	-0.10	0.02
OA*Risk					
9	0.17	0.03	5.13	0.10	0.23
10	-0.01	0.04	-0.37	-0.09	0.06
Complex*OA					
11	0.17	0.02	8.52	0.13	0.21
Gender*Age					
12	-0.17	0.03	-5.57	-0.23	-0.11
13	0.04	0.03	1.29	-0.02	0.10
Gender*Complex					
14	-0.09	0.02	-5.26	-0.13	-0.06
Age*Complex					
15	-0.06	0.03	-1.93	-0.11	0.00
16	-0.02	0.03	-0.75	-0.07	0.03
Gender*Risk					
17	0.12	0.03	3.91	0.06	0.19
18	0.12	0.03	3.61	0.06	0.19
Age*Risk					
19	0.85	0.04	21.23	0.77	0.93
20	0.23	0.05	5.17	0.15	0.32
21	-0.19	0.04	-4.25	-0.27	-0.10
22	-0.14	0.05	-2.94	-0.24	-0.05
Gender					
23	0.03	0.02	1.50	-0.01	0.08
Age					
24	0.13	0.03	4.08	0.07	0.19
25	0.03	0.03	0.91	-0.03	0.09
Complex					
26					

OA					
27	0.59	0.02	25.61	0.55	0.64
Risk					
28	-0.12	0.04	-3.17	-0.19	-0.05
29	-0.48	0.04	-11.80	-0.56	-0.39

Table 6. Parameter Estimates for Hierarchical Loglinear Model of Life Domain Functioning (N = 3,229)

Parameter (Interaction term)	Unstandardized estimate (Lambda)	Standard error	Standardized estimate	95% CI	
				LL	UL
Gender*Age*Complex					
1	0.12	0.03	4.64	0.07	0.17
2	-0.09	0.03	-3.64	-0.14	-0.04
Gender*Age					
3	-0.09	0.03	-3.15	-0.14	-0.03
4	-0.06	0.03	-2.13	-0.10	-0.00
Gender*Complex					
5	-0.09	0.02	-4.94	-0.13	-0.06
Age*Complex					
6	-0.01	0.03	-0.21	-0.06	0.05
7	-0.04	0.03	-1.49	-0.09	0.01
Gender*LDF					
8	0.17	0.04	4.68	0.10	0.25
9	0.05	0.03	1.79	-0.01	0.11
Age*LDF					
10	0.57	0.05	11.32	0.47	0.67
11	0.21	0.04	5.12	0.13	0.29
12	-0.13	0.06	-2.09	-0.24	-0.01
13	-0.07	0.05	-1.43	-0.16	0.02
Complex* LDF					
14	0.30	0.04	7.43	0.22	0.38
15	-0.04	0.03	-1.27	-0.10	0.02
OA*LDF					
16	0.11	0.05	2.26	0.01	0.20
17	0.10	0.04	2.52	0.02	0.17
Complex*OA					
18	0.17	0.02	8.07	0.13	0.21
Gender					
19	0.10	0.02	4.46	0.06	0.15
Age					
20	0.29	0.03	9.23	0.23	0.35
21	-0.02	0.03	-0.62	-0.09	0.05
Complex					
22	0.12	0.03	4.67	0.07	0.18
OA					
23	0.65	0.03	23.18	0.59	0.70
LDF					
24	-0.98	0.06	-18.00	-1.09	-0.88
25	-0.01	0.04	-0.31	-0.09	0.07

Table 7. Parameter Estimates for Hierarchical Loglinear Model for Child Strengths ($N = 3,444$)

Parameter (Interaction term)	Unstandardized estimate (Lambda)	Standard error	Standardized estimate	95% CI	
				LL	UL
Gender*Age*Complex					
1	0.11	0.02	4.63	0.06	0.16
2	-0.08	0.03	-3.28	-0.13	-0.03
Gender*Age					
3	-0.03	0.03	-1.38	-0.08	0.01
4	-0.07	0.03	-2.97	-0.12	-0.03
Gender*Complex					
5	-0.08	0.02	-4.63	-0.12	-0.05
Age*Complex					
6	0.05	0.03	1.86	-0.00	0.10
7	-0.05	0.03	-2.09	-0.10	-0.00
Gender*Strengths					
8	0.13	0.03	4.81	0.08	0.18
9	0.02	0.02	0.84	-0.03	0.07
Age*Strengths					
10	0.40	0.04	10.86	0.33	0.47
11	-0.10	0.04	-2.91	-0.17	-0.03
12	-0.10	0.04	-2.67	-0.17	-0.03
13	0.07	0.03	2.00	0.00	0.13
Complex*Strengths					
14	0.24	0.03	8.72	0.18	0.29
15	-0.06	0.02	-2.29	-0.10	-0.01
OA*Strengths					
16	0.20	0.03	6.45	0.14	0.27
17	-0.04	0.03	-1.54	-0.10	0.01
Complex* OA					
18	0.17	0.02	8.53	0.13	0.21
Gender					
19	-0.03	0.02	-1.51	-0.07	0.01
Age					
20	-0.00	0.03	-0.07	-0.06	0.05
21	-0.02	0.03	-0.84	-0.08	0.03
Complex					
22	-0.03	0.02	-1.39	-0.07	0.01
OA					
23	0.54	0.02	24.60	0.50	0.59
Strengths					
24	-0.02	0.03	-0.51	-0.08	0.05
25	0.57	0.03	20.75	0.52	0.63

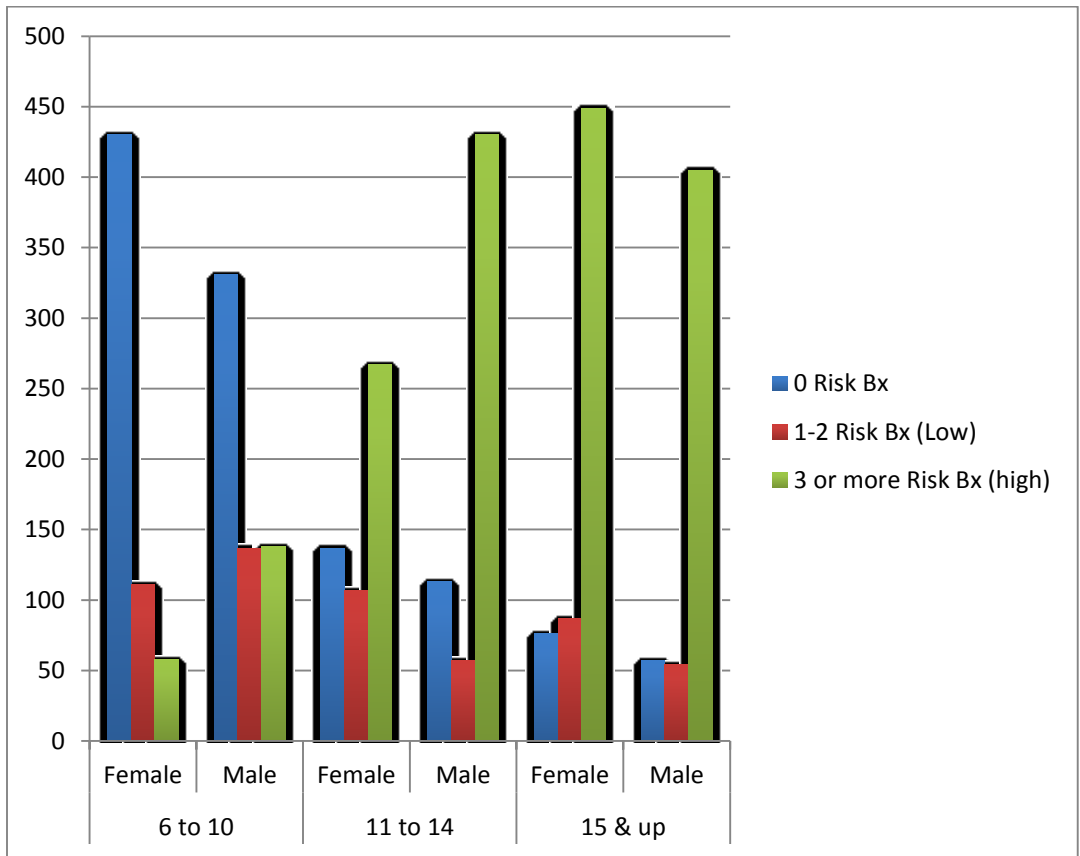


Figure 1. Three-way Interaction of Gender X Age X Risk

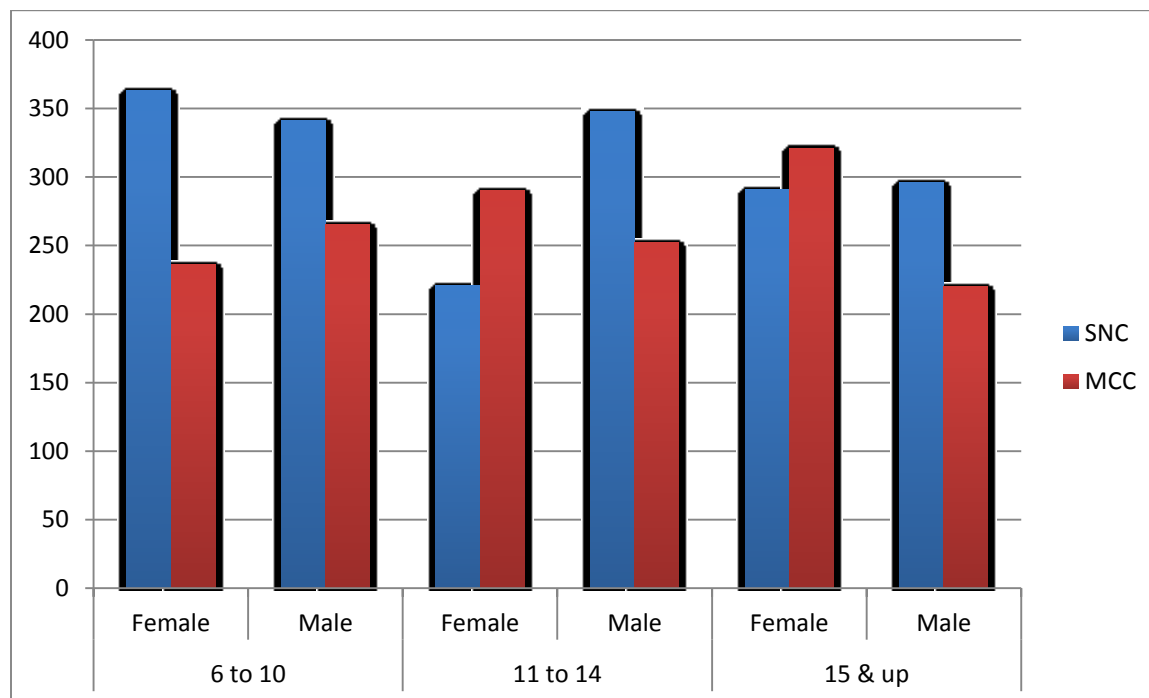


Figure 2. Three-way Interaction of Gender X Age X Complex

SNC = single, non-complex trauma; MCC = multiple, chronic, caregiver-related (complex trauma).

Chapter 3

Complex Trauma and the Roles of Attachment, Externalizing Behavior, and Posttraumatic Stress in the Prediction of Placement Disruption for Youth in Child Welfare

Abstract

To understand out-of-home placement disruption in a state child welfare system, we evaluated the contribution of several child characteristics, complex trauma exposure, and placement-related variables on length of time to placement disruption using survival analysis methods, including sequential Cox regression. Child characteristics, including externalizing behavior, age, and gender, provided a modest prediction of placement disruption. Complex trauma exposure did not significantly predict placement disruption beyond these child characteristics. Placement-related variables including length of time in care, prior number of placements, and type of placement provided a relatively stronger prediction of subsequent placement disruption when entered in the last step of the model. In a separate analysis, which used a dichotomous status outcome variable (i.e., censored or disrupted) for placement disruption, attachment and externalizing behavior emerged as significant mediators of the relation between complex trauma and placement disruption. Based on these results, we stress the importance of implementing intervention strategies that prioritize placement stability (i.e., reduce further placement disruption) above all, while also addressing externalizing behavior and attachment issues.

Introduction

Foster care is considered preferable to institutional care when children's safety cannot be guaranteed in their own home (Barth, 2002; Smyke et al., 2012). Although children can benefit from such an environment, it is well-documented that children entering foster care are at risk for many maladaptive outcomes, including emotional and behavioral problems and increased rates of psychiatric disorders (Burns, et al, 2004; Clausen, Landsverk, Ganger, Chadwick, & Litrownik, 1998; Leslie, et al., 2004), poor academic outcomes (Stone, 2007), and health problems (Takayama, Wolfe & Coulter, 1998). In part, this risk appears to be the product of negative experiences of children prior to entry into the foster care system. There is evidence, however, that certain experiences in the foster care system can exacerbate these pre-existing risks. A major factor is placement disruption, usually defined as a planned stay with a foster family ending prematurely (Minty, 1999). In the current study we investigated whether exposure to complex trauma, a specific form of pre-existing risk for young people in care, increased their risk of placement disruption. We also examined the roles of externalizing behavior, post-traumatic stress symptoms, and attachment as hypothesized mediators of the relation between complex trauma and placement disruption.

Placement instability

Placement disruption is a major concern for children in care, affecting an estimated 20% to 50% of children in long-term foster care (Minty, 1999). Multiple placement disruptions, resulting in a pattern of placement instability, are associated with many deleterious short- and long-term effects, such as increased anxiety, feelings of loss, depression (Berrick, Needell, Barth, & Johnson-Reid, 1998; Perry, 2006; Unrau, Seita, & Putney, 2010), disrupted social and emotional development (Stubenbort, Cohen, & Trybalski, 2010), and interpersonal difficulties

including impaired ability to trust and form new relationships (Rubin et al., 2004). Frequent moves may cause disruption in services, and have been associated with short-term disruptions in school attendance and decreases in test scores (Conger & Rebeck, 2001; Stone, 2007), which, in turn, contribute to increased academic risk (Pecora et al., 2006; Stone, 2007). The experience of having multiple placements has been linked to an increase in externalizing symptoms, including oppositional behavior, fighting, and stealing (Barber & Delfabbro, 2005; Kurtz, Gaudin, Howing, & Wodarski, 1993; Newton, Litrownik, & Landsverk, 2000; Pardeck, 1984, 1985; Pardeck, Murphy, & Fitzwater, 1985; Walsh & Walsh, 1990). Relatedly, placement instability appears to be associated with unfavorable outcomes later in life, including adult criminality (DeGue & Widom, 2009; Widom, 1991).

Externalizing behavior

In their meta-analysis, Oosterman and colleagues found that externalizing behavior was a robust predictor of placement disruption (Oosterman, Schuengel, Slot, Bullens, & Doreleijers, 2007). Barber and Delfabbro (2005) found that early disruptive behavior by children in care appears to lead to a pattern of protracted placement instability that they termed “serial eviction” – i.e., the child is evicted on the basis of their behavior rather than for reasons related to the treatment plan - essentially rendering the child “homeless in foster care” (p. 171).

Attachment difficulties

Placement instability is alleged to impact children’s attachment to primary caregivers (Fahlberg, 1991; Lieberman, 1987; Provence, 1989; Stovall & Dozier, 1998, 2000), an early relational template that has long-reaching influence on one’s self-concept and on one’s ability to form attachments to significant others throughout the lifespan. In their meta-analysis, Oosterman et al. (2007) found that the child’s inability to attach to the caregiver in earlier placements was the

child characteristic most strongly related to placement disruption. Placement instability involves multiple caregiver separations, which compound the attachment difficulties that many maltreated children already face and the separation from biological parents that they have experienced upon entry into the foster system. This is a problem that appears to have a snowball effect, in that past difficulty attaching and related placement disruption appears to be self-perpetuating. For example, Barber and Delfabbro (2003) have shown that children who do not achieve placement stability in foster care within eight months are at increased risk for subsequent placement disruptions, and suggest that a child's ability to connect with their foster parents and integrate into the foster home may be compromised thereafter. The child-caregiver relationship appears to be an essential factor for a successful placement, and attachment is one mechanism through which a history of complex trauma exposure could affect placement instability.

Exposure to complex trauma

Researchers have identified the need for a comprehensive framework to understand the consequences of simultaneous or sequential exposure to multiple instances of abuse – emotional, physical, and/or sexual abuse, and witnessing domestic violence – which begins early in childhood and is chronic in nature (Cook, Blaustein, Spinazzola, & van der Kolk, 2003). Complex trauma refers to this type of chronic exposure to traumatic events and the impact of this experience on short- and long-term outcomes (Cook et al, 2003). Some confusion surrounds the term *complex trauma*, because it has been used to refer to both exposure to a traumatic environment in the context of development, and to the after-effects of such exposure, that is, the symptoms resulting from traumatic experiences. Here, the term complex trauma will refer to the constellation of traumatic events to which the child has been exposed. The concept of complex trauma, then, acknowledges that early traumatic experience is entwined with a child's

development. The child experiencing complex trauma simultaneously copes with threats to survival (physical and/or psychological) and the lack of environmental resources needed for the attainment of developmentally appropriate milestones. Typical development is impaired by the lack of safety, predictability or controllability experienced by a young child without a reliable, nurturing and responsive caregiver (Cicchetti & Lynch, 1995).

The experience of complex trauma is associated with a more pervasive array of symptoms than those captured in the diagnosis of post-traumatic stress disorder (PTSD), especially for children (Kisiel et al., 2009). In a comprehensive review of the literature on complex trauma, van der Kolk et al. (2005) postulated that its impact occurs in the domains of attachment, biology, affect regulation, dissociation, behavioral control, cognition, and self-concept. Consistent with this depiction of complex trauma, children exposed to maltreatment and neglect often meet criteria for a range of psychiatric disorders. These may include, but are rarely limited to, PTSD, and appear to span the domains summarized by van der Kolk and colleagues (van der Kolk, Roth, Pelcovitz, Sunday, & Spinazzola, 2005), including separation anxiety disorder, oppositional defiant disorder, phobic and anxiety disorders, attention-deficit hyperactivity disorder (ADHD), depression, conduct disorder, eating disorders, sleep disorders, communication disorders, and reactive attachment disorder (Ackerman, Newton, McPherson, Jones, & Dykman, 1998; Cook et al., 2003). Numerous studies of maltreated children reveal problems with dysregulated aggression and impulsivity, attentional and dissociative difficulties, and relational problems with caregivers, peers, and later intimate partners (see Harvey & Taylor, 2010; van der Kolk, et al., 2005). Moreover, a history of child maltreatment has been associated with a range of negative outcomes in adolescence and adulthood, such as substance abuse,

borderline and antisocial personality disorder, as well as eating, dissociative, affective, somatoform, medical, and sexual disorders (Harvey & Taylor, 2010; van der Kolk et al., 2005).

Maltreatment and placement instability: A vicious cycle

To our knowledge, there is no research examining the effect of complex trauma on placement stability. Researchers have consistently found, however, that a history of maltreatment (i.e., neglect, physical, emotional, and/or sexual abuse, and exposure to family violence) is associated with increased risk of placement instability (Oosterman et al., 2007). Research demonstrates that children who enter substitute care have experienced a number of adversities, including parental dysfunction (e.g., substance abuse and mental health problems), poverty, and maltreatment such as abuse and neglect (Barth, Wildfire, & Green, 2006; Child Welfare League of America, 2001; Reams, 1999). Maltreatment is a significant risk factor for psychopathology (Briere & Elliott, 2003; Edwards et al., 2003), and is related to a range of emotional and behavioral difficulties, including attachment problems (Van Ijzendoorn, Schuengel, & Bakermans-Kranenburg, 1999) and externalizing behaviors (Kilpatrick & Saunders, 1999). Attachment problems and externalizing behaviors have been positively correlated in previous research (Farrell Erickson, Sroufe, & Egeland, 1985; Greenberg, Speltz, & Deklyen, 2008; Van Ijzendoorn et al., 1999). Maltreated children are in a vicious cycle: they enter foster care with a pre-existing risk for just the emotional and behavioral problems that are associated with placement disruption.

Through the provision of a safe and caring environment for the child, foster care offers the potential to address the deficits associated with exposure to maltreatment. Unfortunately, there is evidence suggesting that foster care may further exacerbate the difficulties already present for maltreated children. A study examining the relation between maltreatment and

adolescent deviance found that, although maltreatment poses a risk for later deviance, the risk is even higher for youth who have experienced more transitions in living arrangements (Herrenkohl, Herrenkohl, & Egolf, 2003). In fact, the researchers found that the deleterious effect of caretaker transitions on several child outcome measures (e.g., alcohol use, drug use, and criminal behavior) was equal or greater than the effect of socioeconomic status or maltreatment. Raviv, Taussig, Culhane, and Garrido (2010) also found evidence of a link between cumulative risk and mental health symptoms for maltreated children in out-of-home care. Two out of seven factors included in their model of cumulative risk were directly related to placement instability: number of caregiver transitions and number of school transitions. Although these findings suggest that placement instability is a risk factor above and beyond maltreatment in the lives of children in care, more research is needed to understand the relation between maltreatment and placement instability.

The Current Study

The present study extended the existing literature on placement disruption by examining complex trauma as a predictor of placement disruption in a sample of children in out-of-home care in Illinois. Complex trauma exposure was chosen because it is associated with dysregulation of emotion and behavior, characteristic of externalizing problems, and because it is likely to impair a child's attachment to primary caregivers (cf. Cook et al., 2005, van der Kolk, 2005). Complex trauma is a useful construct for conceptualizing the maltreatment experiences of youth in the care of child protection services because it accounts for both the interpersonal nature of the abuse experienced by youth at the hands of their caregivers and the overlap among types of abuse experiences that is the norm in this population. We investigated the influence of several child characteristics on placement disruption, including externalizing behavior, attachment, and

posttraumatic stress symptoms (PTSS). We also examined the roles of these three child characteristics as potential mediators of the hypothesized association between complex trauma experience and placement disruption. Finally, we included in our model child demographic characteristics such as age, gender, and ethnicity, and placement-related service-level variables, such as length of time in care, number of previous placements, and type of placement, that have been shown to predict placement disruption (Oosterman et al., 2007).

We hypothesized that: 1) complex trauma exposure would increase the risk for placement disruption; 2) child characteristics, including externalizing problems, PTSS, and attachment problems, would also increase risk of placement disruption; and 3) externalizing problems, attachment problems, and PTSS would mediate the relation between complex trauma exposure and placement disruption. Age, gender, ethnicity and placement-related variables were included in the mediation analyses as covariates.

Method

Participants

We examined a sample of 4,822 children and youth aged 6-17, with a mean age of 14.8 years ($SD = 3.5$ years), in child welfare in Illinois State between July 1, 2005 and May 3, 2010. Sixty-seven cases were excluded from the Cox regression because of missing values (ethnicity was unknown for 66 youth), leaving a total of 4,755 cases. See Table 8 for descriptive characteristics of the final sample. These youth had been identified as “high need” with regard to placement stability, and had therefore been the subject of a Child and Youth Investment Team (CAYIT) meeting arranged due to concern regarding imminent risk of placement disruption. They were more likely to have had a history of placement disruption than the average youth in care. On average, the youth had spent about 5.4 years ($SD = 4.8$ years) in child protection at the

time of the CAYIT assessment. They had a mean of 5.8 prior placements ($SD = 4.8$), and a median of 5.0 prior placements, including the placement they were in at the time of the CAYIT meeting.

A caseworker or foster parent may initiate the CAYIT process. Prior to the CAYIT meeting, the child's worker completed a Child and Adolescent Needs and Strengths (CANS) assessment (see below) for the child in question. The team then meets in order to discuss the most suitable placement for the child, with consideration of a recommendation based on CANS algorithm and a consensus recommendation taken by the team. An implementation assistant then ensures the timely implementation of the placement decision. Some children are allocated new placements, and a subset remains in their placement.

Only a child's first CAYIT was included in these analyses. We focused on the initial effect of the CAYIT rather than an additive effect (i.e., of placements and/or CAYIT meetings that may have followed a first post-CAYIT disruption). Thus, we tested a longitudinal prediction of the first placement breakdown from the time of baseline data collection, i.e., the child's first ever CAYIT.

Procedure

Secondary data used in these analyses were acquired from the Illinois Department of Child and Family Services (IDCFS) and have previously been used to examine trajectories of placement disruption (Chor, McClelland, Weiner, Jordan, & Lyons, 2015; Chor, 2013). Chor (2011) compiled data from several data sources, with the child's unique IDCFS identification number serving as the primary key linking these data sources. These sources included:

- 1) The IDCFS Child and Youth Central Information System (CYCIS), which contains information about the status and placement of children and youth in

IDCFS, in addition to demographic information. Placement information includes type, duration, and provider of each living arrangement.

- 2) The CAYIT Databases (July 1, 2005 – April 29, 2010)
 - a. Original CAYIT Database Maintained by Northwestern University (July 1, 2005 – April 30, 2008), which contained 7,041 completed CAYIT assessments.
 - b. IDCFS CAYIT CANS Database (May 1, 2008 – April 30, 2010), an online database that contained 4,949 of the completed CAYIT assessments used in this study.
- 3) The IDCFS CANS Warehouse, which contains all CANS assessments in the IDCFS online data system, including all CAYIT CANS assessments.

The CANS assessment tool was completed by the caseworker prior to the CAYIT meeting and provided the clinical data for the study (see details below). Ethics approval through the Research Ethics Board at the University of Ottawa was obtained to use these data for the current study (see Appendix C).

Measures

CANS. The IDCFS *Child and Adolescent Needs and Strengths – Comprehensive* (CANS; Lyons, Gawron, & Kisiel, 2005; see Appendix A) is a clinician-rated tool that forms the central mental health component of the integrated assessment of children in the Illinois child-serving system. The CANS was designed to assist continuous service and placement planning. The 104 items are organized into eight domains: trauma experiences, traumatic stress symptoms, strengths, life domain functioning, acculturation, behavioral/ emotional needs, risk behaviors, and caregiver

needs and strengths. Each item has four anchored ratings: “0” (no evidence/ no need for action), “1” (need for watchful waiting), “2” (need for action), and “3” (need for immediate action). The CANS has demonstrated robust field reliability, audit reliability, and concurrent validity with established measures such as the Child Behavior Checklist and the Child and Adolescent Functional Assessment Scale (Anderson, Lyons, Giles, Price, & Estes, 2002; Dilley, Weiner, Lyons, & Martinovich, 2003; Lyons & Weiner, 2009). Importantly, the CANS has also demonstrated item-level reliability (Anderson, et al., 2002).

Attachment. Attachment was measured by the CANS Attachment item (see Appendix A). Caseworkers assign a rating for attachment ranging from 0 (no evidence of attachment problems), to 3 (severe problems with attachment, warranting a diagnosis of Reactive Attachment Disorder). For the Cox regression analysis, a dichotomous variable was created for analyses, where 1 was coded for a lack of need or “watch and wait” preventive score on attachment (“0” or “1”), and 2 was coded for an attachment problem where action is required (i.e., 2 – “action required” or 3 “immediate action required”). The original item (i.e., with four possible ratings) was included in mediation analyses.

Complex trauma exposure. The following items from the CANS Trauma Experiences domain were selected in the operationalization of complex trauma exposure: sexual abuse, physical abuse, emotional abuse, neglect, and family violence. The presence of two or more out of five of these caregiver-related interpersonal traumas, rated in the actionable range (i.e., CANS ratings of 2 or 3) meets the complex trauma exposure criteria, and this group is referred to as the *multiple and chronic caregiver trauma group* (MCC). Young people with one interpersonal caregiver-based trauma, or more than one suspected or “watchful waiting” (i.e., rated a ‘1’) item,

but none rated at the actionable level (i.e., 2 or 3 on the CANS item) will comprise the *single or non-complex* (SNC) comparison group.

Externalizing problems. The following CANS items were averaged to form an externalizing problems composite variable: attention/ impulse, oppositional, conduct, substance use, anger control, other self-harm, danger to others, sexual aggression, delinquency, and social behavior. Cronbach's α was .84, indicating that the variables were related enough to combine.

Posttraumatic stress symptoms (PTSS). The following CANS items were averaged to form a PTSS composite variable: adjustment to trauma, re-experiencing, avoidance, numbing, dissociation, and affect dysregulation. Cronbach's α was .77, indicating sufficient correlation for the variables to be combined into a composite variable.

Length of time in the child-serving system. Length of time in the system was defined as the number of days from the date of entry into care to the date of the CAYIT decision.

Number of prior placements. Number of prior placements was obtained from placement date and placement change information from the CYCIS database.

Type of placement. There were three categories for type of current placement: foster care (traditional or special); residential treatment (group home or residential treatment); and independent living (transitional living program or independent living).

Length of stay at CAYIT placement/placement disruption. Length of stay at the CAYIT-recommended placement was calculated in days using the opening and closing dates of the placement. Placement disruption was considered to have occurred if the closing date ended prior to the end of our study window, May 3, 2010, such that if the child remained in the CAYIT-recommended placement at the close of this study window, placement disruption *had not occurred* for our purposes (i.e., disruption could still occur for some youth).

Results

Of the 4,755 cases included in analyses, 1,860 (39%) youth remained in the placement recommended by their CAYIT at the end of the time window studied; and 2,895 (60%) young people had experienced a disruption of their CAYIT-recommended placement. Table 8 lists the different types of trauma rated as “actionable” (i.e., for which action or immediate action is required) on the CANS for this sample. The most prevalent type of trauma experience was neglect: a striking 75% of this sample was rated as having an actionable level of neglect. Physical abuse and exposure to family violence were experienced by about 42% of the youth, and emotional abuse was identified for about 37%. Over a quarter of the sample had experienced sexual abuse. Approximately 27% were rated as having attachment difficulties at an actionable level. The majority of children and youth (3,095; 64%) had experienced complex trauma. The median survival time for the non-complex group was 458.74 days, and the median survival time for the complex group was 431.16 days (see Figure 3).

Overview of Analyses

Survival analysis is a family of statistical techniques used to model the time it takes for an event to occur (Tabachnick & Fidell, 2007). Life tables describe the survival times for cases, and a survivor function provides a graphical representation of the survival rate as a function of time. Because we were interested in predicting survival time with a set of variables, we employed the Cox proportional hazards model (Cox regression). Given that placement disruption did not occur for all children (these cases are termed *censored*), ordinary least squares regression would have produced biased inferences about factors associated with time to disruption (Tabachnick & Fidell, 2007). A Cox regression accounts for censored observations (those children for whom the

event of interest, placement disruption, has not occurred) and those that are not (those children for whom the event of interest, placement disruption, has occurred).

A logarithmic transformation reduced skewness for age and length of time in care, though it did not have the same effect on externalizing behavior and PTSS, and they were left in their original form because the transformation did not reduce skewness. Ethnicity was skewed, however, because it was a categorical variable, it was also left in its original form. In order to reduce skew and improve interpretability, the attachment variable was dichotomized in our main analysis to differentiate between actionable scores, i.e., those for which intervention is required, versus scores for which no intervention is deemed necessary at the time of assessment. The attachment variable remained in its original form (four categories) for the mediation analyses (described below) because the statistical tool used was limited to the use of continuous mediators. Given the large sample size, a conservative $\alpha = .0001$ was used for judging the Mahalanobis distance, since cases lying farther from the mean exerted less influence on the results than would be the case in a smaller sample. No multivariate outliers were identified. The proportionality of hazards assumption, which assumes that the shapes of survival functions are the same for all levels of a covariate over time, was not met for three variables: length of time in care, number of prior placements, and type of CAYIT placement. Each of these interacted significantly with time. To control for this, these three time by covariate interactions were included along with their component placement variables in the third block of our regression (Tabachnick & Fidell, 2007, p. 535-536).

A sequential Cox regression was performed using SPSS version 23 to assess the impact of three blocks of variables on length of stay. First, the following child demographic and clinical covariates were entered: age, gender, ethnicity, attachment, externalizing behavior, and PTSS;

next, complex trauma exposure was entered; and finally, the following service-level variables were entered: length of time in care, number of prior placements, and type of CAYIT placement. Consistent with our hypotheses, this order of entry was chosen to allow the child clinical variables a chance to account for variance while controlling for demographic variables, to examine the variance accounted for by complex trauma on its own, and to include service-level variables known to be predictive of placement disruption.

To evaluate our hypotheses that externalizing behavior, PTSS, and attachment would mediate the relation between complex and placement disruption, we estimated a simultaneous mediation models using Hayes' PROCESS tool (Hayes, 2012) for use in SPSS. For this analysis, the same predictor variables were used, with the exception of attachment (as described above, the original variable was used). The placement disruption outcome variable was different than that used in the Cox regression, and consisted of a dichotomous status variable indicating whether the youth's status at the close of the study window was *censored* or *disrupted*. All hypothesized mediator variables were entered simultaneously into one model, which resulted in a stringent test for mediation. Gender, age, and ethnicity were included as covariates. The PROCESS tool provides bootstrap confidence intervals using the bias-corrected and accelerated method (BCa; Efron, 1987). Bootstrap confidence intervals are preferable to the Normal theory-based Sobel test to be realistic about the shape of the sampling distribution of the indirect effect (Hayes, 2012; MacKinnon, Fairchild & Fritz, 2007).

Sequential Cox Regression and Survival Analysis

Table 9 shows coefficients, degrees of freedom, p values, and hazard ratios for each covariate in the sequential model. The overall model was significant, $G^2(13) = 460.53, p < .001, R^2 = 0.09, 95\% CI [0.08, 0.11]$, indicating that as a group, the covariates predicted survival time

fairly well. The initial block of child clinical variables provided a significant but small prediction effect of placement disruption, $\Delta G^2(6) = 31.74, p < .001, R^2 = 0.0066$ (95% CI: 0.0021, 0.0113; using R^2 CI calculator at www.danielsoper.com). In this first block, externalizing behavior and gender were significant predictors (using $\alpha = .05/8 = .008$, Bonferroni correction for family-wise error). When complex trauma was added in the second block of the model, it yielded a non-significant effect after taking into account the initial block of child clinical covariates, $\Delta G^2(1) = 3.09, p = .08, R^2 = 0.0006$, 95% CI [-0.0008, 0.002], indicating that we cannot reject the null hypothesis. In the third block, the addition of placement-related service-level covariates predicted placement disruption reasonably well as a group, $\Delta G^2(6) = 444.98, p < .001, R^2 = 0.09$, CI [0.07, 0.11]. In the resulting full model (see Table 9), gender and externalizing behavior remained significant. Each of the placement-related variables was a significant predictor of placement disruption, and with their addition to the model, age attained significance. The greatest contribution was by age: hazard ratios indicated that for every one point increase in the logarithm of age, the risk of placement disruption more than doubles. The risk of placement disruption was about 15% higher for females compared to males. For every additional prior placement in a child's history in care, the risk of disruption increased by 12%, and for every one-point increase in externalizing behavior, the risk of placement disruption increased by about 2.4%. On the other hand, for each one-year increase in the youth's length of time in care, the risk of disruption decreased by 93%, and for each one-unit increase in the type of placement, the risk of disruption decreased by 59%.

At the mean of the covariates (excluding the time-dependent interactions), the six-month survival rate is 80%, the one-year survival rate is about 58%, the 18-month survival rate is about

40%, the two-year survival rate is approximately 30%, the three-year survival rate is about 15%, and the four-year survival rate is about 7% (see Figure 4).

Do Externalizing Behavior, PTSS, and Attachment Mediate the Relation Between Complex Trauma and Placement Disruption?

See Table 10 for a full correlation matrix of all Study 2 variables. The matrix illustrates that there is a small zero order association between complex trauma and externalizing behavior, and medium-sized associations between complex trauma and PTSS, and between complex trauma and attachment. Overall, all of these child-related variables yielded small zero order correlations with the status outcome variable (status of placement disruption, i.e., censored or disrupted). A second set of analyses was run to examine our hypothesis that the association between complex trauma and placement disruption would be mediated by certain child characteristics, namely externalizing behavior, attachment, and PTSS. We found that the relation between complex trauma exposure and placement disruption was partially mediated by externalizing behavior and attachment, but not by PTSS. Figure 5 illustrates a single model wherein the standardized regression coefficient between complex trauma and externalizing behavior (path a1) was significant, as was the standardized regression coefficient between externalizing behavior and placement disruption (path b1). The standardized indirect effect for externalizing behavior was 0.05, and the significance of this effect was confirmed using bootstrapping methods to obtain confidence intervals, *BCa 95% CI* [.02, .08]. Although the standardized regression coefficient between complex trauma and PTSS (path a2) was significant, as was the standardized regression coefficient between PTSS and placement disruption (path b2), confidence intervals for the indirect effect included zero, -0.06, *BCa CI* [-0.11, 0.00], and PTSS was therefore not considered to be a significant mediator in our model. The standardized regression coefficient between

complex trauma and attachment (path a3) was significant, as was the standardized regression coefficient between attachment and placement disruption (path b3). The standardized indirect effect for attachment was 0.11, and the significance of this effect was confirmed using bootstrapping methods to obtain confidence intervals, *BCa 95% CI* [.08, .15].

Discussion

Predicting Placement Disruption

The overall placement stability for youth in out-of-home placement in the window studied was troubling (see Figure 2). For an average child in our sample, the survival rate dropped steadily for the first 24 months, bottoming out at a 7% survival rate at the four-year mark. These children are at high risk of placement disruption and, regardless of the CAYIT intervention, 93% of them experience placement disruption within the four-year period post-CAYIT. This profile of placement disruption is unfortunately not uncommon in the literature. Within the context of placement disruption, the research literature suggest that there are two problems: frequent placement moves for maltreated children in out-of-home care (Cooper, Peterson, & Meier, 1987), and a subgroup of youth ending up in out-of-home care permanently (Barber & Delfabbro, 2009).

This is the first study to our knowledge to examine *complex* trauma as a predictor of placement disruption. Contrary to our hypothesis, complex trauma did not reach significance in our Cox regression model. This was likely due, to some extent, to the stringency of our test of complex trauma. That is, complex trauma was entered into our model after child characteristics such as age, gender, and externalizing behavior, which are known to account for some of the variance in the prediction of placement disruption. The nature of the sample (i.e., high rates of previous placement disruption) and the social services context (i.e., trauma history necessarily informs caseworkers' decisions, so some of the other variables likely took into account the child's

trauma history) further contributed to the stringency of our test of complex trauma as a predictor of placement disruption in this sample. Nevertheless, this finding underscores the importance of addressing more proximal variables in a child's life, such as externalizing behavior and placement history, which are clearly predictive of placement disruption.

Our finding that higher levels of externalizing behavior and older age were predictive of placement disruption was consistent with the research to date (Oosterman et al., 2007). We also found that females were at greater risk for placement disruption than were males. Although gender does not appear to be a robust predictor of placement disruption in the literature (Oosterman et al., 2007), our findings are consistent with those of Smith, Stormshak, Chamberlain, and Whaley (2001), who found that older girls in treatment foster care were the most at-risk for placement disruption. Although their results did not explain this finding directly, the authors postulated that girls' relational aggression might play a role in their heightened risk of placement disruption, citing evidence for the damaging impact of aggression on girls' relationships (Crick, Bigbee, & Howes, 1996; as cited in Smith et al., 2001). Given evidence that the goal of close, intimate connections with others is especially salient for girls (Block, 1983), and that attachment is a relational construct that indirectly predicts placement disruption, it is plausible that girls' relational aggression may play a role in placement difficulties with caregivers and other youth in the home.

The results regarding placement-level variables were fairly consistent with previous research findings, although it should be stressed that the predictive strength of placement-related variables was robust even after entering all other variables into our model first. Our finding that number of prior placements increased the risk for current placement disruption replicated the results of Oosterman and colleagues' (2007) meta-analysis. Our finding that length of time in care

was associated with a decreased risk for placement disruption is also consistent with the meta-analytic findings by Oosterman et al. (2007), who reported that risk for disruption is highest for children during their first placement in care, and during the first six months in placement.

Interestingly, the current study revealed that type of current placement (foster, residential, or independent/ transitional) was predictive of placement disruption. Specifically, with each increase in category of placement, there was a substantial (59%) decrease in risk of disruption. This means that youth in foster care (both traditional and special) were at greatest risk for placement disruption, and that this risk decreased by 59% for those in more structured settings (residential), and again by 59% for those in independent or transition to independence settings. This is likely explained by the fact that, by definition, the latter group is generally old enough to be transitioning out of care, and so in essence, there is no placement from which to disrupt. Moreover, the nature of a residential setting (i.e., group home or residential treatment centre), which is designed with more intensive services and increased structure and resources for youth with more demanding needs/ difficulties, is by design a setting in which disruption occurs less frequently. This finding suggests that, despite the fact that almost half of the sample of youth was in foster care, foster families are the least equipped to manage the emotional and behavioral needs of children in care.

From Complex Trauma to Placement Disruption: Mediational Pathways

Oosterman and colleagues recommended that future research examine the possibility that externalizing behavior mediates the relation between maltreatment and placement disruption (Oosterman et al. 2007). Upon examination of this question, we found that externalizing behavior was a significant partial mediator of the relation between complex trauma and placement disruption. Although attachment did not directly predict placement disruption in the survival

analysis, it functioned as a partial mediator of the relation between complex trauma and placement disruption in subsequent analyses. This finding is consistent with previously reported effects of the failure of attachment on placement breakdown (Walsh & Walsh, 1990). On the other hand, the mediation analysis revealed that, although complex trauma strongly predicted PTSS, PTSS only weakly predicted placement disruption and was not a significant mediator in the association between complex trauma and placement disruption. It is likely that PTSS are easier for caregivers to manage than are attachment difficulties, which directly impact the capacity for child and caregiver to develop a strong, trusting bond, or externalizing behavior problems such as aggressive, oppositional, and disruptive behavior, which are some of the most challenging problems for parents to manage. Indeed, Utting (1999) suggested that many foster parents are unprepared to deal with the high levels of emotional and behavioral needs exhibited by children in care.

Insights about the mediating roles of externalizing behavior and attachment offer important potential avenues for intervention to address complex trauma. The Attachment and Biobehavioral Catch-up Intervention (ABC; Dozier, Higley, Albus, & Nutter, 2002), was developed specifically for foster and adoptive caregivers and has been shown to enhance children's attachment security and neuroendocrine regulation (Dozier, Bick, & Bernard, 2011), and to increase foster caregivers' responsiveness to their foster infants (Bick & Dozier, 2013). This type of intervention offers hope for children with a history of complex trauma, for whom attachment difficulties may preclude a successful placement. As parental behavior has been shown to moderate the relation between children's behavior and placement breakdown (Oosterman, et al., 2007; Sinclair & Wilson, 2003), it is likely that teaching foster caregivers to be more responsive to their foster children of all ages would not only enhance attachment, but

might also impact children's externalizing behavior. What remains to be seen is whether such an intervention: 1) impacts externalizing behavior; and 2) whether it is associated with an increase in placement stability. Another important question is whether a version of this intervention could be successfully implemented with caregivers of older children.

Interventions for externalizing behavior problems in the context of complex of trauma should also be emphasized, as externalizing behavior problems are often triggers for placement in residential care. A recently published study has documented preliminary findings for the efficacy of a cognitive-behavioral parent program developed to target externalizing behavior in Romanian foster care children (Gavița, David, Bujoreanu, Tiba, & Ionuțiu, 2012). The authors found that the program effectively reduced child externalizing behaviors and reduced both parental distress and reports of dysfunctional parenting for the treatment group. Although promising, the treatment program was not associated with change in placement stability. In discussing this finding, however, the authors point to the interaction of externalizing behavior with other factors, such as placement-related factors, in the prediction of placement disruption. Several researchers have hypothesized that quality of attachment is related to a child's externalizing behavior (Farrell Erickson et al., 1985; Greenberg et al., 2008; Waters, Posada, Crowell, & Lay, 2008), thus it may be necessary to target the attachment relationship as well as externalizing behavior and individualized factors that may have played a role in a child's previous placement breakdowns.

Placement Disruption: A Repeating Pattern

The relative strength of prediction of the placement-related service-level variables (length of time in care, prior number of placements, type of placement) was consistent with Oosterman et al.'s (2007) meta-analysis, and suggests that these more proximal variables are at play in the prediction of placement disruption. It was perhaps not surprising to find that complex trauma

exposure did not account for more variance in our model. Several aspects of our study made for an exceptionally rigorous test of complex trauma. First, as is the case for the prediction of other risk behaviors, among the strongest predictors of placement disruption is likely the previous incidence of placement disruption, and this has been indicated in previous research (Walsh & Walsh, 1990). Our sample consisted of youth at high risk of placement disruption, in part due to elevated instances of prior placement disruption, on average, 5.8 disruptions (median = 5). It is possible that after five rejections, such a pattern in itself is sufficient to predict future disruptions (e.g., in our sample, the average child with 5 prior disruptions had a 60% increased risk for placement disruption). It is arguable that, unless something dramatically different occurs to break the pattern of placement instability, that placement instability will persist (Barber & Delfabbro, 2009).

Breaking the pattern of placement disruption requires child-serving system-level interventions. Our findings support the recommendation that intervention efforts target increasing attachment-facilitating behaviors (e.g., Dozier et al., 2002) and externalizing behavior for children with a history of complex trauma, which indirectly predict placement disruption, and externalizing behavior because of its direct relation to placement disruption. They equally suggest that intervention must directly target placement success, and prevent further disruption of placements. We are reminded of the most basic needs in Maslow's hierarchy of needs, which are biological and physiological needs, including shelter, followed by safety needs, including protection from elements, security, stability, and freedom from fear (Maslow, 1943). These basic needs are clearly not being met in a scenario where one's living arrangement is unstable.

Study Limitations

The study is not without limitations. First, by focusing on the immediate placement after the CAYIT intervention, we did not capture placement moves or patterns that occur across time in out-of-home care. Nevertheless, the longitudinal nature of our design provided a very strong test of our hypotheses with respect to prediction of the first unplanned placement breakdown following a CAYIT intervention. Second, there is likely some clustering of observations due to the fact that the caseworkers may have completed CANS ratings for more than one child or adolescent on their caseload. It was not possible to account for this clustering in our data despite the fact that other studies have found that caseworker variables like education and experience may influence the placement stability of children on their caseload (Cheung, Goodman, Leckie, & Jenkins, 2011). Future research would benefit from inclusion of caseworker characteristics and the use of multilevel modeling to control for the possible influence of caseworker characteristics. Finally, maltreatment and complex trauma are complicated constructs hampered by difficulties and inconsistencies in definition and measurement (Jackson, Gabrielli, Fleming, Tunno, & Makanui, 2014). As such, our operationalization of complex trauma (i.e., distinction between SNC and MCC groups) is an imperfect attempt to capture some of the salient components of complex trauma. Specifically, the implication of including one actionable and additional suspected caregiver-related traumas (i.e., CANS rating = 1) in the SNC category is that the categories reflect a continuum of severity and frequency rather than distinct categories. Nevertheless, the same operationalization has been used effectively elsewhere (Greenson et al., 2011; Kisiel et al., 2009), and our definition does capture important theoretical components of the construct, including the cumulative aspect of interpersonal traumas (i.e., frequency; Dong et al.,

2005) and their severity, a dimension recently shown to be particularly critical to prediction of behavioral outcomes for youth in care (Jackson et al., 2014).

Conclusion

The present study contributes to the field in several ways, including: the use of clinical and placement data from a large sample of children in out-of-home care with high risk of placement disruption; the first empirical investigation of complex trauma as a predictor of placement stability; and the investigation of externalizing behavior, PTSS, and attachment as mediators in the hypothesized pathway from maltreatment to risk of placement disruption. Additionally, the longitudinal design provided a strong test of our hypotheses.

In summary, we evaluated the contribution of several child characteristics, complex trauma exposure, and placement-related variables on length of time to placement disruption. Contrary to our hypothesis, complex trauma exposure was not a significant predictor of placement disruption after taking into account child characteristics including age, gender, ethnicity, externalizing behavior, PTSS, and attachment. Of the child characteristics, age, gender, and externalizing behavior reliably predicted placement disruption. As a set, the service-level variables provided a relatively stronger prediction of placement disruption, even after taking into account all other variables, indicating that children's placement histories (i.e., longer time in care, increased number of prior placements, and type of placement) are more strongly predictive of subsequent placement disruption than is a history of complex trauma exposure or other child characteristics. In subsequent analyses, attachment and externalizing behavior emerged as mediators of the relation between complex trauma and length of stay as we had anticipated, and this effect was significant even in the presence of the child covariates. Our findings suggest the importance of implementing intervention strategies that prioritize placement stability (i.e., impede

the experience of further placement disruption), while addressing both the direct effect of externalizing behavior on placement disruption, and the indirect (i.e., in the context of a youth's exposure to complex trauma) effects of externalizing behavior and attachment problems on placement disruption.

References

- Ackerman, P. T., Newton, J. E. O., McPherson, W. B., Jones, J. G., & Dykman, R. A. (1998). Prevalence of posttraumatic stress disorder and other psychiatric diagnosis in three groups of abused children (sexual, physical, and both). *Child Abuse & Neglect*, 22, 759–774. doi: 10.1016/S0145-2134(98)00062-3
- Anda, R. F., Felitti, V. J., Bremner, J. D., Walker, J. D., Whitfield, C., Perry, B. D., ... Giles, W. H. (2006). The enduring effects of abuse and related adverse experiences in childhood. A convergence of evidence from neurobiology and epidemiology. *European Archives of Psychiatry and Clinical Neuroscience*, 256, 174–186. doi:10.1007/s00406-005-0624-4
- Anderson, R.L., Lyons, J.S., Giles, D.M., Price, J.A., & Estes, G. (2002). Examining the reliability of the Child and Adolescent Needs and Strengths-Mental Health (CANS-MH) Scale from two perspectives: A comparison of clinician and researcher ratings. *Journal of Child and Family Studies*, 12, 279-289. doi: 10.1023/A:1023935726541
- Barber, J.G., & Delfabbro, P.H. (2003). *Children in foster care*. Florence, KY, USA: Routledge.
- Barber, J.G., & Delfabbro, P.H. (2005). Psychosocial well-being and placement stability in foster care: Implications for policy and practice. In R. Flynn, P.M. Dudding, & J.G. Barber (Eds.) *Promoting resilience in child welfare* (pp.157-172). Ottawa, Canada: University of Ottawa Press.

- Barber, J. G., & Delfabbro, P. H. (2009). The profile and progress of neglected and abused children in long-term foster care. *Child Abuse & Neglect*, *33*, 421–428. doi:10.1016/j.chiabu.2006.03.013
- Barth, R. P. (2002). *Institutions vs. foster homes: The empirical base for a century of action*. Chapel Hill, NC: University of North Carolina.
- Bick, J., & Dozier, M. (2013). The effectiveness of an attachment-based intervention in promoting foster mothers' sensitivity toward foster infants. *Infant Mental Health Journal*, *34*, 95–103. doi:10.1002/imhj.
- Block, J. H. (1983). Differential premises arising from differential socialization of the sexes: some conjectures. *Child Development*, *54*, 1335–1354. doi:10.2307/1129799
- Briere, J., & Elliott, D. M. (2003). Prevalence and psychological sequelae of self-reported childhood physical and sexual abuse in a general population sample of men and women. *Child Abuse & Neglect*, *27*, 1205–1222. doi:10.1016/j.chiabu.2003.09.008
- Chapman, D. P., Whitfield, C. L., Felitti, V. J., Dube, S. R., Edwards, V. J., & Anda, R. F. (2004). Adverse childhood experiences and the risk of depressive disorders in adulthood. *Journal of Affective Disorders*, *82*, 217–25. doi:10.1016/j.jad.2003.12.013

- Cheung, C., Goodman, D., Leckie, G., & Jenkins, J. M. (2011). Understanding contextual effects on externalizing behaviors in children in out-of-home care: Influence of workers and foster families. *Children and Youth Services Review, 33*, 2050–2060. doi:10.1016/j.chilyouth.2011.05.036
- Chor, K. H. B. (2013). Overview of out-of-home placements and placement decision-making in child welfare. *Journal of Public Child Welfare, 7*, 298–328. doi:10.1080/15548732.2013.779357
- Chor, K. H. B., McClelland, G. M., Weiner, D. A., Jordan, N., & Lyons, J. S. (2015). Out-of-home placement decision-making and outcomes in child welfare: A longitudinal study. *Administration and Policy in Mental Health and Mental Health Services Research, 42*, 70–86. doi:10.1007/s10488-014-0545-5
- Cloitre, M., Stolbach, B. C., Herman, J. L., Pynoos, R., Wang, J., & Petkova, E. (2009). A developmental approach to complex PTSD : Childhood and adult cumulative trauma as predictors of symptom complexity. *Journal of Traumatic Stress, 22*, 399–408. doi:10.1002/jts.
- Contractor, A. A., Layne, C. M., Steinberg, A. M., Ostrowski, S. a, Ford, J. D., & Elhai, J. D. (2013). Do gender and age moderate the symptom structure of PTSD? Findings from a national clinical sample of children and adolescents. *Psychiatry Research, 210*, 1056–1064. doi:10.1016/j.psychres.2013.09.012

- Cook, A., Blaustein, M., Spinazzola, J., van der Kolk, B. A., & (Eds). (2003). *Complex trauma in children and adolescents: White paper from the National Child Traumatic Stress Network Complex Trauma Task Force*.
- Cook, A., Spinazzola, J., Ford, J., Lanktree, C., Blaustein, M., Cloitre, M., ... van der Kolk, B. (2005). Complex trauma in children and adolescents. *Psychiatric Annals*, 35, 390–398.
- Cooper, C. S., Peterson, N. L., & Meier, J. H. (1987). Variables associated with disrupted placement in a select sample of abused and neglected children. *Child Abuse & Neglect*, 11, 75–86. doi:10.1016/0145-2134(87)90035-4
- De Bellis, M. D. (2001). Developmental traumatology: The psychobiological development of maltreated children and its implications for research, treatment, and policy. *Development and Psychopathology*, 13, 539–564. doi:10.1017/S0954579401003078
- Dong, M., Anda, R. F., Felitti, V. J., Dube, S. R., Williamson, D. F., Thompson, T. J., ... Giles, W. H. (2004). The interrelatedness of multiple forms of childhood abuse, neglect, and household dysfunction. *Child Abuse & Neglect*, 28, 771–84. doi:10.1016/j.chiabu.2004.01.008
- Dong, M., Anda, R. F., Felitti, V. J., Williamson, D. F., Dube, S. R., Brown, D. W., & Giles, W. H. (2005). Childhood residential mobility and multiple health risks during

adolescence and adulthood. *Archives of Pediatric Adolescent Medicine*, *159*, 1104–1110.

Dozier, M., Higley, E., Albus, K. E., & Nutter, A. (2002). Intervening with foster infants' caregivers: Targeting three critical needs. *Infant Mental Health Journal*, *23*, 541–554. doi:10.1002/imhj.10032

Edwards, V. J., Holden, G. W., Felitti, V. J., & Anda, R. F. (2003). Relationship between multiple forms of childhood maltreatment and adult mental health in community respondents: Results from the Adverse Childhood Experiences study. *The American Journal of Psychiatry*, *160*, 1453–1460. doi:10.1176/appi.ajp.160.8.1453

Farrell Erickson, M., Sroufe, L. A., & Egeland, B. (1985). The relationship between quality of attachment and behavior problems in preschool in a high-risk sample. *Monographs of the Society for Research in Child Development*, *50*, 147–166.

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., ... Marks, J. S. (1998). Household Dysfunction to Many of the Leading Causes of Death in Adults The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine*, *14*(4), 245–258.

Gavița, O. a., David, D., Bujoreanu, S., Tiba, A., & Ionuțiu, D. R. (2012). The efficacy of a short cognitive–behavioral parent program in the treatment of externalizing behavior disorders in Romanian foster care children: Building parental emotion-

- regulation through unconditional self- and child-acceptance strategies. *Children and Youth Services Review*, 34, 1290–1297. doi:10.1016/j.chilyouth.2012.03.001
- Goemans, A., van Geel, M., & Vedder, P. (2015). Over three decades of longitudinal research on the development of foster children: A meta-analysis. *Child Abuse & Neglect, Article in Press*, 1–11. doi:10.1016/j.jmb.2005.03.040
- Greenberg, M. T., Speltz, M. L., & Deklyen, M. (2008). The role of attachment in the early development of disruptive behavior problems. *Development and Psychopathology*, 5, 191-213. doi:10.1017/S095457940000434X
- Greeson, J. K. P., Briggs, E. C., Kisiel, C. L., Layne, C. M., Ake, G. S., Ko, S. J., ... Fairbank, J. A. (2011). Complex Trauma and Mental Health in Children and Adolescents Placed in Foster Care : Findings from the National Child Traumatic Stress Network. *Child Welfare*, 90(6), 91–109.
- Griffin, G., Martinovich, Z., Gawron, T., & Lyons, J. S. (2009). Strengths moderate the impact of trauma on risk behaviors in child welfare. *Residential Treatment for Children & Youth*, 26, 105–118. doi:10.1080/08865710902872994
- Griffin, G., McClelland, G., Holzberg, M., Stolbach, B., Maj, N., & Kisiel, C. (2011). Addressing the impact of trauma before diagnosing mental illness in child welfare. *Child Welfare*, 90, 69–89.

- Griffin, G., McEwen, E., Samuels, B. H., Suggs, H., Redd, J. L., & McClelland, G. M. (2011). Infusing protective factors for children in foster care. *The Psychiatric Clinics of North America*, *34*, 185–203. doi:10.1016/j.psc.2010.11.014
- Jackson, Y., Gabrielli, J., Fleming, K., Tunno, A. M., & Makanui, P. K. (2014). Untangling the relative contribution of maltreatment severity and frequency to type of behavioral outcome in foster youth. *Child Abuse and Neglect*, *38*, 1147–1159. doi:10.1016/j.chiabu.2014.01.008
- Kilpatrick, D. G., Saunders, B. E., & Ph, D. (1999). *Prevalence and Consequences of child victimization: Results from the National Survey of Adolescents final report*. Retrieved from <https://www.ncjrs.gov/pdffiles1/nij/grants/181028.pdf>.
- Kisiel, C., Fehrenbach, T., Small, L., & Lyons, J. S. (2009). Assessment of complex trauma exposure, responses, and service needs among children and adolescents in child welfare. *Journal of Child & Adolescent Trauma*, *2*, 143–160. doi:10.1080/19361520903120467
- Kisiel, C. L., Fehrenbach, T., Torgersen, E., Stolbach, B., McClelland, G., Griffin, G., & Burkman, K. (2014). Constellations of interpersonal trauma and symptoms in child welfare: Implications for a developmental trauma framework. *Journal of Family Violence*, *29*, 1–14. doi:10.1007/s10896-013-9559-0

Maikovich, A. K., Koenen, K. C., & Jaffee, S. R. (2009). Posttraumatic stress symptoms and trajectories in child sexual abuse victims: An analysis of sex differences using the national survey of child and adolescent well-being. *Journal of Abnormal Child Psychology*, *37*, 727–37. doi:10.1007/s10802-009-9300-x

Maikovich-Fong, A. K., & Jaffee, S. R. (2010). Sex differences in childhood sexual abuse characteristics and victims' emotional and behavioral problems: findings from a national sample of youth. *Child Abuse & Neglect*, *34*, 429–37. doi:10.1016/j.chiabu.2009.10.006

Munro, E. R., & Hardy, A. (1989). Placement stability: A review of the literature. Department for Education and Skills. Loughborough: Loughborough University. Retrieved from: <https://dspace.lboro.ac.uk/dspace-jspui/bitstream/2134/2919/1/placementstabilitylitreview.pdf>.

Oosterman, M., Schuengel, C., Wim Slot, N., Bullens, R. A. R., & Doreleijers, T. A. H. (2007). Disruptions in foster care: A review and meta-analysis. *Children and Youth Services Review*, *29*, 53–76. doi:10.1016/j.chilyouth.2006.07.003

Rock, S., Michelson, D., Thomson, S., & Day, C. (2015). Understanding foster placement instability for looked after children : A systematic review and narrative synthesis of quantitative and qualitative evidence. *British Journal of Social Work*, *45*, 177-203. doi: 10.1093/bjsw/bct084

- Sinclair, I., & Wilson, K. (2003). Matches and mismatches: The contribution of carers and children to the success of foster placements. *British Journal of Social Work, 33*, 871–884. doi:10.1093/bjsw/33.7.871
- Smith, D. K., Stormshak, E., Chamberlain, P., & Bridges Whaley, R. (2001). Placement disruption in treatment foster care. *Journal of Emotional and Behavioral Disorders, 9*, 200–205. doi:10.1177/106342660100900306
- Smyke, A. T., Zeanah, C. H., Gleason, M. M., Drury, S. S., Fox, N. A., Nelson, C. A., & Guthrie, D. (2012). A randomized controlled trial comparing foster care and institutional care for children with signs of reactive attachment disorder. *American Journal Of Clinical Hypnosis, 169*(May), 508–514.
doi:10.1176/appi.ajp.2011.11050748
- Stone, S. (2007). Child maltreatment, out-of-home placement and academic vulnerability: A fifteen-year review of evidence and future directions. *Children and Youth Services Review, 29*, 139–161. doi:10.1016/j.childyouth.2006.05.001
- Teicher, M. H., Andersen, S. L., Polcari, A., Anderson, C. M., Navalta, C. P., & Kim, D. M. (2003). The neurobiological consequences of early stress and childhood maltreatment. *Neuroscience & Biobehavioral Reviews, 27*(1-2), 33–44.
doi:10.1016/S0149-7634(03)00007-1

- van der Kolk, B. A. (2005). Developmental Trauma Disorder. *Psychiatric Annals*, 35(May), 401–409.
- van der Kolk, B. A., & Courtois, C. A. (2005). Editorial comments: Complex developmental trauma. *Journal of Traumatic Stress*, 18, 385–388.
doi:10.1002/jts.20046
- 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, 389–399. doi:10.1002/jts.20047
- van Ijzendoorn, M. H., Schuengel, C., & Bakermans–Kranenburg, M. J. (1999). Disorganized attachment in early childhood: Meta-analysis of precursors, concomitants, and sequelae. *Development and Psychopathology*, 11, 225–250.
doi:10.1017/S0954579499002035
- Utting, W. (1997). People like us: The report on the review of safeguards for children living away from home. London, UK: The Stationery Office.
- Walsh, James, A., & Walsh, Roberta, A. (1990). Studies of the maintenance of subsidized foster placements in The Casey Family Program. *Child Welfare*, 69, 99–115.

Waters, E., Posada, G., Crowell, J., & Lay, K.-L. (2008). Is attachment theory ready to contribute to our understanding of disruptive behavior problems? *Development and Psychopathology*, *5*, 215-224. doi:10.1017/S0954579400004351

Widom, C. (1991). The role of placement experiences in mediating the criminal consequences of early childhood victimization. *American Journal of Orthopsychiatry*, *61*, 195–209. doi: 10.1037/h0079252

Table 8. Characteristics of Study Two Cohort, N = 4,822

	<i>N</i> (%)
Gender	
Male	2,547 (52.8)
Female	2,273 (47.1)
Race/ Ethnicity	
African-American	3,194 (66.2)
White	1,309 (27.1)
Hispanic/ Other	253 (5.2)
Unknown	66 (1.4)
Age at entry ^a	
6-12	1,054 (21.9)
13-16	1,952 (40.5)
17+	1,816 (37.7)
Complex trauma	
Yes	3,095 (64.2)
No	1,727 (35.8)
Sexual abuse	
No evidence/ Watchful waiting	3,451 (71.6)
Action required/ Immediate action	1,342 (27.8)
Physical abuse	
No evidence/ Watchful waiting	2,794 (58.0)
Action required/ Immediate action	2,007 (41.6)
Neglect	
No evidence/ Watchful waiting	1,180 (24.4)
Action required/ Immediate action	3,628 (75.3)
Emotional abuse	
No evidence/ Watchful waiting	3,035 (62.9)
Action required/ Immediate action	1,770 (36.7)
Family violence	
No evidence/ Watchful waiting	2,780 (57.6)
Action required/ Immediate action	2,010 (41.7)
Attachment difficulties	
No evidence/ Watchful waiting	3,545 (73.6)
Action required/ Immediate action	1,277 (26.5)
Status on May 3, 2010	
Censored	1,880 (39.0)
Disrupted	2,942 (61.0)
Type of placement ^b	
Foster care	2,325 (48.2)
Residential (Group home or Treatment)	1,404 (29.1)

Independent (Transitional or Independent)	1,093 (22.7)
Prior number of placements ^b	
1-4	1,885 (39.1)
5-7	1,224 (25.4)
≥ 8	1,713 (35.5)
Length of time in care (years) ^b	
0-2 years	1,551 (32.2)
2-7 years	1,754 (36.4)
≥ 7 years	1,517 (31.5)

Note. ^a For all analyses, age was a continuous variable. It is broken into categories here for the purposes of providing a description of the sample.

^b These variables were continuous for the main analyses. They were subsequently broken into categories for secondary/ post-hoc analyses.

Table 9. Sequential Cox Regression Analysis Predicting Length of Survival Time for Children in Post-CAYIT Placement

Predictor	<i>B</i>	df	<i>p</i>	<i>OR</i>
Step 1				
Age (Logarithm)	0.78	1	<.001	2.19
Attachment	-0.00	1	.98	1.00
Externalizing Behavior	0.24	1	<.001	1.02
PTSS	-0.01	1	.13	0.99
Gender	-0.16	1	<.001	0.85
Ethnicity	-0.00	1	.93	1.00
Step 2				
Complex Trauma	0.05	1	.29	1.05
Step 3				
Length of time in care (Logarithm)	-2.63	1	<.001	0.07
Number of prior placements	0.11	1	<.001	1.12
Type of placement	-0.88	1	<.001	0.41
Ln (time) * length of time in care	0.42	1	<.001	1.52
Ln (time) * #prior placements	-0.02	1	<.001	0.98
Ln (time) * type of placement	0.12	1	<.001	1.12

Note. Overall all model was significant, $G^2(13) = 460.53$, $p < .001$. *B* = Beta coefficient; *OR* = odds ratio. Negative coefficients are associated with longer survival time.

Table 10 Inter-correlations Amongst Study 2 Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. Age	1.00	-	-	-	-	-	-	-	-	-	-	-
2. Gender	-.10**	1.00	-	-	-	-	-	-	-	-	-	-
3. Ethnicity	-.08**	-.01	1.00	-	-	-	-	-	-	-	-	-
4. Complex	.05**	-.05**	.10**	1.00	-	-	-	-	-	-	-	-
5. Time in care	.44**	-.00	-.22**	-.02	1.00	-	-	-	-	-	-	-
6. # Prev Pl	.32**	-.06**	-.12**	.09**	.68**	1.00	-	-	-	-	-	-
7. Type Pl	.53**	-.02	-.06**	.01	.34**	.22**	1.00	-	-	-	-	-
8. Extern Bx	.14**	.20**	-.00	.20**	.01	.08**	.14**	1.00	-	-	-	-
9. PTSS	.05**	-.03	.05**	.40**	-.03	.07**	.05**	.53**	1.00	-	-	-
10. Attach	-.08**	.01	.07**	.26**	.01	.11**	.00	.39**	.48**	1.00	-	-
11. Time to disruption	-.12**	.05**	-.02	.02	.02	-.00	.07**	.03*	.05**	.12**	1.00	-
12. Status	-.07**	-.03*	.01	.08**	-.03	.04**	-.21**	.10**	.09**	.14**	-.10**	1.00

Note. Time to disruption variable is that used in the sequential Cox Regression analysis. The Status variable, which denotes whether a case was censored (0) or disrupted (1) as of the end of the study window, was used in the mediation analysis. # Prev Pl = Number of previous placements; Type Pl = Type of placement; Extern Bx = Externalizing Behavior; PTSS = Post-traumatic Stress Symptoms; Attach = Attachment.

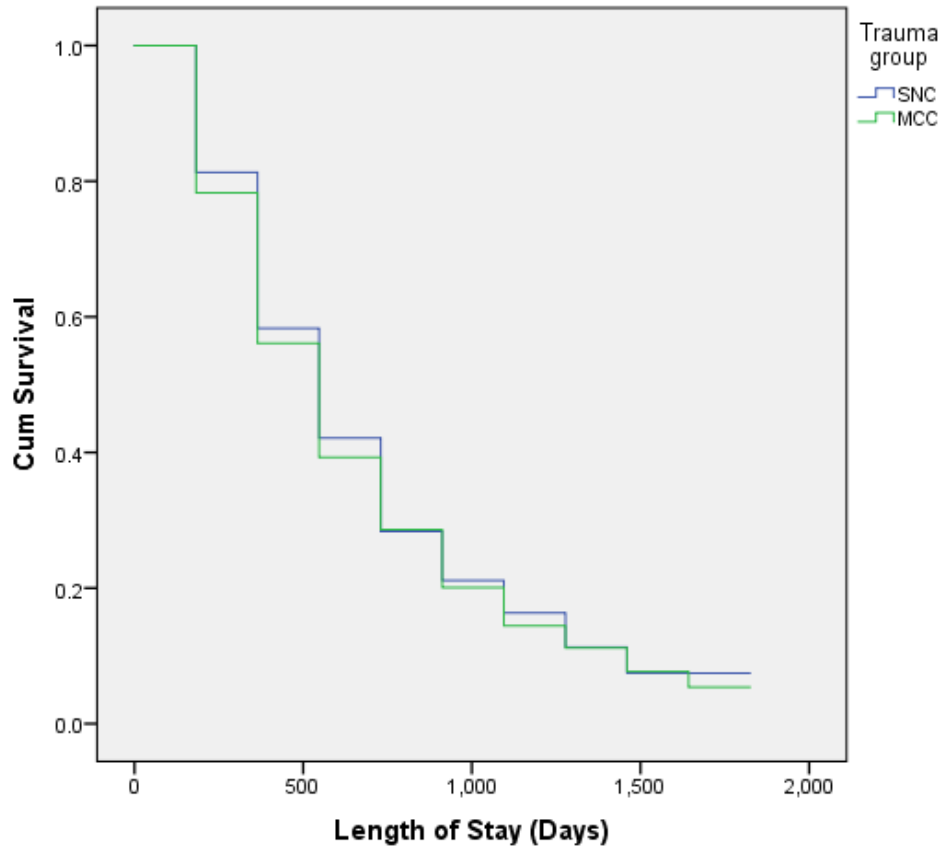


Figure 3. Survival function depicting mean survival time in days for SNC and MCC groups

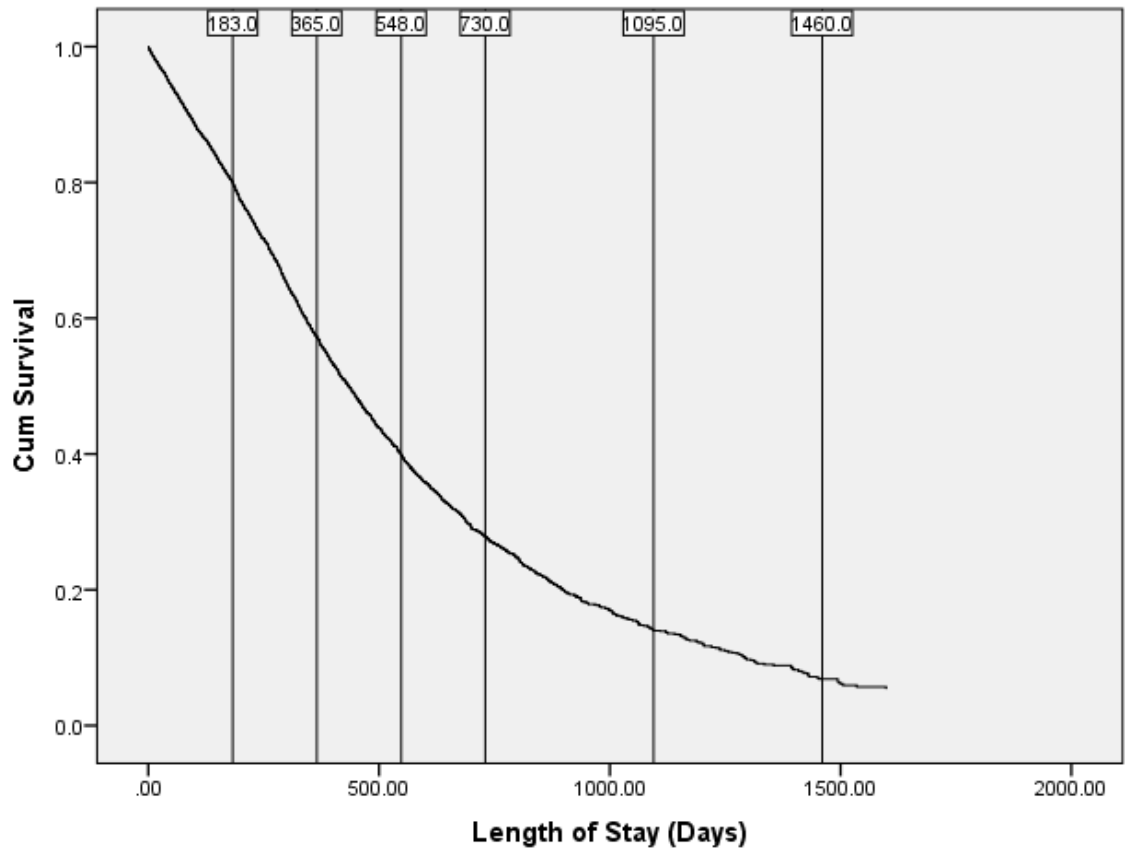


Figure 4. Survival function predicting length of stay in days at the mean of covariates in the sequential Cox regression.

Covariates include: Logarithm of age, logarithm of length of time in care, number of prior placements, attachment, externalizing behavior, PTSS, gender, ethnicity, and type of placement. Vertical lines label number of days at 6 months, 1 year, 18 months, 2 years, 3 years, and 4 years.

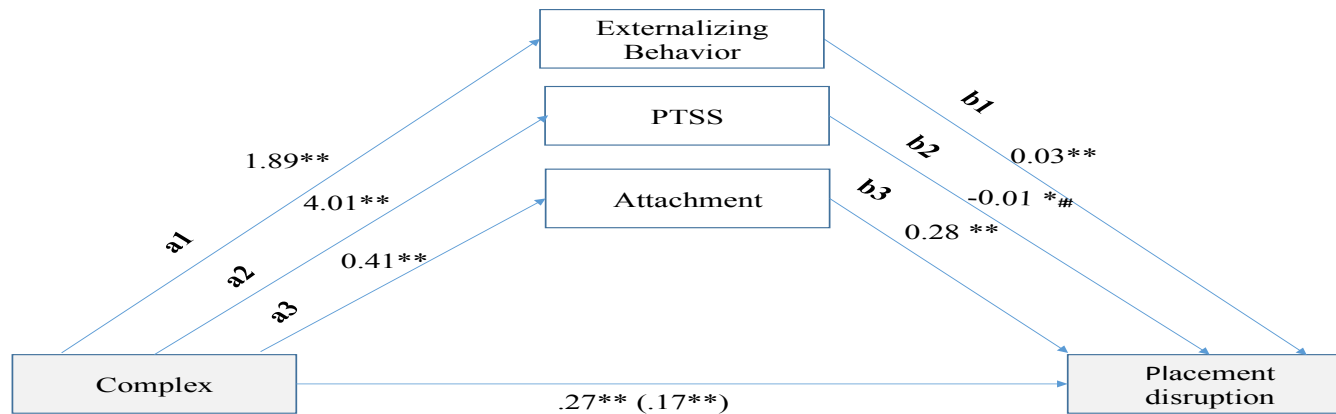


Figure 5. Mediation Model

Standardized regression coefficients for the relation between complex trauma and placement disruption as mediated by Externalizing Behavior, PTSS, and attachment. The standardized regression coefficient for the association between complex and placement disruption, controlling for the mediation variables, is in parentheses. The confidence interval for all effects are a BCa bootstrapped CI based on 1000 samples. * $p < .05$; ** $p < .001$. All mediator variables were entered simultaneously, and the following variables served as covariates: age, gender, and ethnicity.

Chapter 4

Discussion

This dissertation consists of two studies designed to broaden our understanding of the impact of complex trauma on symptom profiles and outcomes of children in the child welfare system through the lenses of gender, development, and placement permanency. Symptom profiles for boys and girls with and without exposure to complex trauma were examined, and complex trauma as a predictor of placement disruption was analyzed. In this section I provide a brief overview of the findings from both studies and situate these in the context of the research literature. Next, I present a rationale for, and discuss challenges to, research within the child welfare setting. I then consider limitations to the present studies and generalization of results from this dissertation to the Canadian context. Finally, I conclude with recommendations for future research and implications for policy and practice.

Symptom Profiles: The Intersection of Gender, Development, and Adversity

The overarching goal of this dissertation was to explore the construct of complex trauma and associated symptom complexity empirically, as discussion in the literature to date has been largely theoretical or related to treatment outcome. The current studies support a growing consensus in the field of child maltreatment that measurement of multiple types of interpersonal trauma, such as complex trauma, adds a useful dimension to the study of children with a history of maltreatment and involvement in the child welfare system (Kisiel et al., 2014).

Complex trauma exposure was implicated in two robust interactions found across all five loglinear models in Study 1, underscoring that the influence of complex trauma on subsequent symptomatology and functioning is best understood in the context of a child's gender, developmental period (as measured by age), and experiences of adversity (complex trauma, other

adversity). Together, these interactions predicted the profiles of children in each of the following domains: traumatic stress symptoms, emotional and behavioural needs, risk behaviours, life domain functioning, and child strengths.

Symptom Breadth and Non-Specificity

The breadth and non-specificity of children's needs documented in the first study is congruent with arguments made by proponents of a Developmental Trauma Disorder diagnosis subsequent to complex trauma exposure. A diagnosis that considers the intersection of development and exposure to adverse experiences with wide ranging effects would convey improved conceptual clarity, which is presently lacking in the convention of simply listing concurrent diagnoses (Anda et al., 2006; van der Kolk, 2005). The implication of complex trauma as a predictor of needs across a range of symptoms in the first study, including posttraumatic stress symptoms (PTSS), but also emotional/ behavioural needs, risk behaviours, and life domain functioning, as well as child strengths, provides further evidence in favour of such an approach. Recent research using CANS data has explicitly mapped the CANS needs onto the domains of the proposed Developmental Trauma Disorder, and represents further empirical support in this vein (Kisiel et al., 2014).

Cumulative Trauma and Cumulative Symptomatology

Exposure to trauma and subsequent symptomatology were high in our samples. In general, the youngest children (i.e., 6-10 years) had experienced less trauma, whether complex or other adversity. Thereafter, youth had experienced more complex trauma and more other adversity. The adolescents (i.e., 15 years and older) were more likely than other age groups to have experienced complex trauma and other adverse experiences. There was a positive correlation between the experience of complex trauma and PTSS, and a related pattern of increase

in PTSS with age. Those with other adversity experiences were more likely to have high PTSS. There were parallel positive correlations for complex trauma, other adversity, and both risk behaviours and life domain functioning needs. These findings are consistent with the literature on cumulative trauma, including findings from the ACE Study (Dong et al., 2004; Felitti et al., 1998), and those obtained using CANS data (e.g., Greeson et al., 2011; Griffin et al., 2011; Kisiel, Fehrenbach, Small, & Lyons, 2009), which have consistently found a positive association between amount of trauma exposure and subsequent symptom sequelae.

Child strengths. Consistent with Griffin et al. (2011), the converse was found for complex trauma exposure and child strengths, whereby those with complex trauma had fewer strengths than those without complex trauma exposure; and number and level of strengths decreased with age. This underscores the idea that even resilient children may begin to experience difficulties when exposed to a certain amount of trauma. It is also consistent with previous research demonstrating that intervening to augment children's strengths alone can positively impact the course of their development, their emotional and behavioural needs, and life functioning (Griffin, Martinovich, Gawron, & Lyons, 2009; Griffin, McEwen, et al., 2011).

Gender. Log-linear analyses in the first study indicated gender differences for the school-aged cohort (i.e., 6-10 years) only, where, compared to their older counterparts, girls were less likely to have experienced complex trauma. This suggests the possibility of differential timing of the *experience* of abuse for girls, or for a delay in symptom expression, such that it may interact with biological and developmental influences during puberty. Alternatively, girls may come to the attention of child protection at greater frequency during this developmental period. I was unable to test these alternate explanations because the dataset did not include age that the abuse occurred. This will be an important clarification to be made in future research.

The first study did not demonstrate gender differences in PTSS. When a broader array of symptoms was considered, gender differences emerged for emotional and behavioral needs, risk behaviours, and life domain functioning, with boys exhibiting greater needs in these areas. There was a trend for girls to exhibit more strengths than boys. These findings provide some preliminary support for the hypothesis that males and females exhibit different symptoms in the aftermath of trauma exposure. The gender differences in needs are fewer/less distinct than hypothesized. This may be due to the nature and extent of trauma exposure. That is, we know that more severe traumas (e.g., sexual abuse) are associated with more symptomatology and affect both genders equally (Maikovich et al., 2009; Maikovich-Fong & Jaffee, 2010). The same appears to apply to cumulative childhood trauma (i.e., complex trauma), for which subsequent symptom complexity in adulthood has been similarly observed in a sample consisting of males and females (Cloitre et al., 2009).

The findings may also point to a gender differential in child strengths, which are known to attenuate the effects of maltreatment (e.g., Griffin, Martinovich, Gawron, & Lyons, 2009). Together, these findings further underscore the importance of considering symptoms beyond PTSS, as well as child strengths, if we are to understand the experiences of youth of both genders, and if we are to obtain a full portrait of symptom complexity subsequent to complex trauma exposure.

Permanency. The results of the second study revealed that exposure to complex trauma was not predictive of unplanned placement disruption above and beyond other child characteristics. It is possible that as a more distal factor in the lives of these children, complex trauma exerted less influence than did more proximal factors, such as those related to placement history. Nevertheless, the high amount of complex trauma exposure in this subgroup of children

already identified as at high risk for placement disruption (64% of the sample in Study 2 had experienced complex traumas, compared to 46% of the sample in Study 1) may be inferred to be itself reflective of the impact of complex trauma exposure, and thus provided a rigorous test of the relation between complex trauma and placement disruption.

The second study contributes to the literature on placement stability in three important ways. First, it is the only study to date to examine the association between complex trauma and placement disruption. Second, it is the first to examine the roles of attachment, externalizing behaviour, and PTSS as mediators of the relation between complex trauma and placement outcome. The identification of attachment and externalizing behaviour as mediators is particularly salient to intervention efforts aimed at increasing placement stability. Finally, and perhaps equally important, is the evidence that, as a group, variables related to placement history (i.e., number of previous placements, length of time in care, type of placement) are the strongest predictors of unplanned placement disruption. This piece of information, one of the most consistently replicated in the field of placement stability, places the onus back on the child caring system to arrest the rate of unplanned placements and to consider length of time in care. This means doing whatever it takes to match children to appropriate placements, and supporting both children and caregivers in ways that privilege the success of the placement above all.

The Study of Children in Child Welfare

Rationale

Given such large numbers of children involved in the child-serving system due to exposure to maltreatment of different types, this system provides an opportunity for research aimed at improving our understanding of the nature of maltreatment, its intersection with a child's development, and resulting symptoms and outcomes. Studying children involved with

child welfare is indicated for several reasons. First, the mandate of the child-serving system is to intervene in situations where a child is exposed to abuse or neglect. This means that children in the system are by definition those who have experienced some form of maltreatment. Moreover, their maltreatment history is frequently interpersonal and chronic in nature. Therefore, study of this population provides an important opportunity to empirically investigate the concept of complex trauma and its sequelae. Second, a comprehensive assessment of children from the child-serving system is likely to elucidate a more complete profile of functioning across ages and over time for these children, and may highlight the need for a transdiagnostic approach, informed by etiology as well as symptomology, to intervention for children with a history of maltreatment. Thus, studying this population will inform assessment and treatment, and has the potential to inform public policy regarding children in care, a very vulnerable group. Third, the high prevalence of maltreatment experiences of children in the child welfare system provides the statistical power to find relations among trauma type and outcome variables. Population-based studies may be underpowered due to low incidence rates. Finally, the child-serving system enables us to examine maltreatment and associated consequences in relatively close proximity to their occurrence, thus avoiding the limitations presented by using the retrospective reports of adults, a major critique of adult-based studies of childhood maltreatment.

Limitations

On the other hand, studying complex trauma in the child welfare setting is limited by the inherent nature of the system. Children entering this system have been exposed to maltreatment or neglect to the extent that intervention by child protection authorities has been deemed necessary. Those in out-of-home care have also suffered the loss incurred by a separation from their caregivers, and some have experienced several different placement settings. Thus, those in

the child welfare system are a subgroup of youth who have experienced more maltreatment and/or trauma than children in the general population.

The ‘extremity’ of their experience limits the generalizability of findings from research with children in the child welfare system in several ways. Given the strong positive correlation between cumulative ACEs and negative outcomes on psychological and physical health (Felitti et al., 1998), the symptoms and outcomes of youth in care are likely more dire than they are for children in the general population. For children who have experienced a great deal of trauma and loss, it is difficult to determine how much of their symptomology is associated with maltreatment incurred before their entry into care; how much is attributed to the loss and disruption that results from separation from their biological family, home, and familiar surroundings; and how much is related to their subsequent experiences in care, e.g., multiple placements in out-of-home care. It is likely that a portion of their ongoing difficulties are related to their involvement in the child welfare system, but we can not quantify this, making it difficult to compare their experiences to those of non-child welfare involved traumatized children in the community. It would clearly not be ethical to construct a comparison group of children to determine the impact of entry into the child-serving system. Because of the high threshold of baseline maltreatment (i.e., warranting removal from the biological home for the child’s safety), another difficulty that arises when studying the population of youth in care is the relative homogeneity of the sample. That is, there is less variability within the experiences of children in child welfare, making it difficult to compare groups within care (e.g., those with less trauma exposure to those with more trauma exposure). That said, the categorization of trauma types used in the current studies appears to have discriminated between groups of children exposed to complex trauma versus single or non-complex trauma adequately.

In addition to those presented by the nature of the child welfare system itself, several limitations to the studies included in this dissertation must be noted. Two limitations pertain to the operationalization of a complicated construct like complex trauma. First, although an attempt to capture important dimensions of the construct, such as its interpersonal (i.e., caregiver-related) and cumulative (i.e., multiple types of maltreatment) nature, the MCC and SNC categories likely reflect a continuum of severity similar to the construct of cumulative trauma used in the ACEs study (e.g., Anda et al., 2006; Edwards, Holden, Felitti, & Anda, 2003), rather than mutually exclusive groups. The complex trauma or multiple and chronic caregiver-related trauma (MCC) group, consisted of those with two or more trauma experiences (physical abuse, sexual abuse, emotional abuse; neglect; and/or witness to domestic violence) with an actionable rating on the CANS (a “2,” i.e., action required; or a “3,” i.e., immediate action required). The single, non-complex group (SNC) consisted of those children with one trauma experience at the actionable level; or more than one trauma experience with none rated at the “actionable” level, such as a suspected trauma. Second, operationalizing complex trauma necessitated the categorization of children with a history of similar, although not identical, experiences. As a broad snapshot of a child’s experience, the CANS synthesizes a great deal of information into items that are essentially based on presence or absence, and relative severity, of each maltreatment type. This may be a limitation because certain characteristics of the abuse (e.g., timing of onset, disclosure by child, and response of adults to disclosure) that influence symptom outcome are rolled into one item rating, and within-group differences are obscured. Nevertheless, these categories appear to provide an acceptable way of creating comparison groups within the child welfare population, and have been used effectively in previous research (Greeson et al., 2011; Kisiel et al., 2009). More recent work mapping the CANS items onto a Developmental Trauma Disorder diagnosis

offers the promise of improving conceptual validity, and would be a useful avenue to pursue in future (Kisiel et al., 2014). Likewise, it would be helpful to be able to create an ACE rating using CANS data, to allow for comparison between research studies. Currently, this is not possible because certain ACE items are not included on the CANS (e.g., “Did a household member go to prison?”).

Another limitation related to measurement involves the clustering of findings that likely occurred because caseworkers would have completed CANS ratings for more than one child on their caseload. It was not possible to account for this influence statistically, as the data provided did not include information that would identify the worker/ rater. This is unfortunate because ratings by the same person may be more similar than those by different caseworkers, resulting in loss of independence for certain observations. Importantly, some research has found that caseworker variables such as education and experience can influence outcomes in child welfare (e.g., Cheung, Goodman, Leckie, & Jenkins, 2011). Caseworker information should be collected and controlled for in future research with CANS data.

Generalization to the Canadian Context

Generalization of the results of the current studies is possible when care is taken to understand the cultural and socio-demographic differences and similarities both in the child welfare system and the countries and state/provinces. Please see Chapter 1 for a summary of some of the differences that play a role in shaping socio-demographic profiles of the two countries.

In their overview of out-of-home care in the USA and Canada, Courtney, Flynn & Beaupré (2013, p. 171) note several similarities between the American and Canadian child welfare systems: 1) mandated reporting of child maltreatment; 2) emphasis on permanency

planning; 3) government monies as the main source of funding for child welfare services; and 4) similar aims, including recent efforts to reduce the numbers of children placed in care (with a resulting increase in kinship care and adoption), and efforts to improve success for transitions out of care. The second and fourth of these similarities deal with the vision of the system, or what is currently considered to be in the best interest of the child. A shared vision or philosophy underpinning these systems suggests that they are consonant. Illinois' definitions (Illinois Abused and Neglected Child Reporting Act, 1975) of the different categories of child maltreatment are comparable to the definitions in the Child and Family Services Act governing Ontario (Ontario Child and Family Services Act, 2011). Together, this suggests a strong shared foundation in favour of the generalizability of research findings.

Courtney, Flynn, & Beaupré (2013, p. 171) also list four differences between the child welfare system in US and Canada as most significant: 1) the lack of federal leadership in Canadian child welfare policy, which has been prominent in the US since the 1970s; 2) different intellectual influences on programming (e.g., *Looking After Children* in Canada not the U.S.); 3) the over-representation of African-American children in the US child welfare system and the over-representation of Aboriginal children in the Canadian child welfare system; and 4) a much more rigorous and widespread approach to program outcome evaluation in the US than in Canada.

The lack of a federally regulated child welfare system in Canada has meant a related lack of standardized data collection, and less advanced research programs in the area of child welfare, in this country. This has meant that we have necessarily had to rely on research from other countries to inform practice and policy in child welfare, predominantly the U.S. and the UK.

Although important given the disproportionate representation of African-American and Aboriginal youth in the U.S. and Canadian contexts respectively, a further limitation to the first study in this dissertation is that ethnicity was not included in the series of log-linear models due to the already-high level of complexity of the analyses. Future research should build on the findings of Study 1 by examining ethnicity as an independent variable to understand the intersection of gender, development, and trauma experience for individuals from different ethnocultural groups. It would be interesting to examine and compare the symptom trajectories of youth with diverse ethnocultural backgrounds, given that we already know that visible minorities disproportionately experience poverty, and have higher associated rates of neglect and involvement in the child welfare system. Differences in the proportions of African American children in the two studies (46% in Study 1, youth entering the child welfare system; 62% in Study 2, youth at high risk of placement disruption) may unfortunately reflect a more disadvantaged record of placement risk and outcome compared to White youth (47% in Study 1; 27% in Study 2).

Aboriginal children are also likely vulnerable to unplanned placement breakdowns, when we consider their circumstances, including a history of intergenerational trauma. Despite contemporary efforts to preserve Aboriginal communities and to include community members in consultations prior to making placement decisions for them (Commission to Promote Sustainable Child Welfare, 2010a), Aboriginal children are still six to eight times more likely to be placed in out-of-home care than are non-Aboriginal children (Auditor General of Canada, 2008). The prevalence of challenges such as poverty, isolation, substance use, family dysfunction and mental health problems, as well as a lack of social services in many Aboriginal communities in Canada makes placing Aboriginal children in Aboriginal homes difficult (Bounajm et al., 2014;

Commission to Promote Sustainable Child Welfare, 2012). As a result, many Aboriginal children are placed in non-Aboriginal homes, at times separated from their community (Commission to Promote Sustainable Child Welfare, 2010b). Such challenges suggest that Aboriginal children in Canada are also at a significant disadvantage when it comes to placement outcome. Despite the need for care in interpretation of the findings from this dissertation when considering them in the Canadian context, they are an important contribution, particularly given the lack of integrated data collection and program evaluation in Canada.

Conclusion

There is a strong conceptual basis and a growing empirical foundation for the construct of complex trauma, also known as cumulative developmental trauma, as encapsulated in the proposed Developmental Trauma Disorder diagnosis (van der Kolk, 2005). The first study in this dissertation has contributed to this foundation by demonstrating the intersection of development, gender, and trauma experience; and their prediction of the emotional and behavioural needs and strengths of youth ages 6-17 years. The second study in this dissertation demonstrated that although complex trauma exposure is not directly predictive of placement disruption for children in out-of-home care, it indirectly contributes to risk for placement disruption via attachment, and externalizing behaviour, which emerged as significant mediators of the relation between complex trauma and placement disruption.

Recommendations for Future Research

Together, the current studies suggest that the construct of complex trauma warrants further research. The results of the first study suggest differential timing of trauma exposure by gender and somewhat differential symptom profiles by gender. It is recommended that future research build on these findings in several ways. First, to further understand differential effects of

trauma on development, it would be ideal to take into account the age at which the trauma or adversity occurred, as evidence from neuroscience suggests that timing is more important than type of trauma in its impact on the developing brain and subsequent symptomatology (e.g., De Bellis, 2001; Teicher et al., 2003). This would make it possible to consider the unique effects of age and of gender. Second, further illuminating differential symptoms for males and females by examining longitudinal symptom trajectories of children in care would allow us to better understand the evolution of symptoms from childhood through adulthood, where gender differences in PTSD are well-documented. The first study in this dissertation provided a cross-sectional snapshot of symptom profiles. Longitudinal research could capture the trajectory of symptoms over time, ultimately helping to unpack differences in the prevalence of PTSD in adulthood, and, importantly, expanding the definition of PTSD, at least subsequent to complex trauma.

The results of the second study underscore the complexity of placement stability and raise the question of how to best ensure placement stability for children in out-of-home care in the child welfare system. Evidence for the roles of complex trauma, attachment, and externalizing behaviour suggests that treatment targeting these difficulties would have an impact on placement stability. There are a number of trauma-, attachment- and externalizing behaviour-focused programs that have demonstrated effectiveness [e.g., Trauma-Focused Cognitive Behavioral Therapy (TF-CBT; Cohen, Mannarino, & Deblinger, 2006); and Attachment, Self-Regulation, and Competency (ARC; Blaustein & Kinniburgh, 2010) for trauma; The Attachment and Biobehavioral Catch-up Intervention (ABC; Dozier, Higley, Albus, & Nutter, 2002) targeting attachment; and Triple P Parenting (Sanders, 2008; Nowak & Heinrichs, 2008) for externalizing behaviour; including those with an emphasis on helping children in child welfare, e.g., ABC

(Dozier et al., 2002), and a more recent CBT parent program targeting externalizing behavior in Romanian foster care children (Gavița, David, Bujoreanu, Tiba, & Ionuțiu, 2012)]; for a complete list of empirically supported practices, see <http://www.cebc4cw.org/>. However, it is rare for researchers to consider placement outcome as an indicator of program effectiveness. Given the predictive strength of previous placement breakdown on future placement breakdown, treatment programs need to make the prevention of placement disruption a focus, especially for those young people at particularly high risk for disruption, such as girls. If we are to get serious about reducing placement disruption, placement success is the ultimate indicator of treatment success.

Implications for Policy and Clinical Practice

Possibly the most important implication for child welfare policy is the strength of previous placement history on placement outcome. As a group, these variables offered a powerful prediction of placement disruption above and beyond either child clinical characteristics or a history of exposure to complex trauma. This warrants a restructuring of the way the child welfare system is run, such that if the decision to remove a child from their home for their safety is made, placement stability is at the forefront of all planning for that child. In Ontario, the recent emphasis on keeping families together and providing supports for families at risk [Ontario Association of Children's Aid Societies (OACAS), 2014] are important steps forward, as are recent changes in policy to support permanency (e.g., provision of financial support to adoptive parents to encourage adoption over foster care; OACAS, 2014). However, once a child is removed, attention to matching children, and providing intensive training and support services to children and their foster and/or adoptive families is paramount.

Relatedly, a placement disruption risk assessment should be developed in order to identify those children at high risk of placement breakdown. Created with the combined clinical

and statistical wisdom shown in the most sophisticated risk assessment measures in forensic psychology (e.g., Youth Level of Service/ Case Management Inventory; Hoge & Andrews, 1999), such an assessment measure would become part of routine screening in child welfare. Like the CANS, it would ideally be tied to clinical decision-making and intensity of intervention.

For the most at-risk children, a program similar to the Housing First program, which provides housing and intensive support services to homeless adults with psychiatric needs, would ideally be created to provide intensive support to foster and/or adoptive families. Housing First has shown excellent results in combating homelessness (Tsemberis & Stefancic, 2007), and a review of the literature in the area has found that programs combining permanent housing and support for mental health needs were most effective at reducing homelessness, improving mental health outcomes (Nelson, Aubry, & Lafrance, 2007). The parallel between homeless adults and young people in the child welfare system with chronic placement breakdowns has been made before, and is a tragic reality for a subgroup of children in care (Barber & Delfabbro, 2009).

In Canada, it is imperative that we implement a standardized, province- and country-wide approach to data collection and research in the area of child welfare. Data should include both clinical and service-level information, e.g., documentation of placement decisions, etc. This will allow for program evaluation and research to inform best policy and best practice.

The results of Study 1 suggest that caseworkers must be trained to recognize that both girls and boys are adversely affected by exposure to trauma. Previous research has shown differential rates of substantiation of abuse and services provided to boys and girls (Maikovich-Fong & Jaffee, 2010), likely related to complex factors, including gender stereotypes. They should also receive training on the developmental impact of exposure to complex trauma, which is multi-faceted and may go unrecognized when it does not look like traditional PTSD.

References

- Anda, R. F., Felitti, V. J., Bremner, J. D., Walker, J. D., Whitfield, C., Perry, B. D., ... Giles, W. H. (2006). The enduring effects of abuse and related adverse experiences in childhood. A convergence of evidence from neurobiology and epidemiology. *European Archives of Psychiatry and Clinical Neuroscience*, 256, 174–86. doi:10.1007/s00406-005-0624-4
- Barber, J.G., & Delfabbro, P.H. (2005). Psychosocial well-being and placement stability in foster care: Implications for policy and practice. In R. Flynn, P.M. Dudding, & J.G. Barber (Eds.) *Promoting resilience in child welfare* (pp.157-172). Ottawa, Canada: University of Ottawa Press.
- Barber, J. G., & Delfabbro, P. H. (2009). The profile and progress of neglected and abused children in long-term foster care. *Child Abuse & Neglect*, 33, 421–8. doi:10.1016/j.chiabu.2006.03.013
- Barth, R. P. (2002). *Institutions vs. foster homes: The empirical base for a century of action*. Chapel Hill, NC: University of North Carolina.
- Bick, J., & Dozier, M. (2013). The effectiveness of an attachment-based intervention in promoting foster mothers' sensitivity toward foster infants. *Infant Mental Health Journal*, 34, 95–103. doi:10.1002/imhj.

- Briere, J., & Elliott, D. M. (2003). Prevalence and psychological sequelae of self-reported childhood physical and sexual abuse in a general population sample of men and women. *Child Abuse & Neglect*, *27*, 1205–1222. doi:10.1016/j.chiabu.2003.09.008
- Chapman, D. P., Whitfield, C. L., Felitti, V. J., Dube, S. R., Edwards, V. J., & Anda, R. F. (2004). Adverse childhood experiences and the risk of depressive disorders in adulthood. *Journal of Affective Disorders*, *82*, 217–25.
doi:10.1016/j.jad.2003.12.013
- Cheung, C., Goodman, D., Leckie, G., & Jenkins, J. M. (2011). Understanding contextual effects on externalizing behaviors in children in out-of-home care: Influence of workers and foster families. *Children and Youth Services Review*, *33*, 2050–2060.
doi:10.1016/j.chilyouth.2011.05.036
- Chor, K. H. B. (2013). Overview of out-of-home placements and placement decision-making in child welfare. *Journal of Public Child Welfare*, *7*, 298–328.
doi:10.1080/15548732.2013.779357
- Chor, K. H. B., McClelland, G. M., Weiner, D. A., Jordan, N., & Lyons, J. S. (2015). Out-of-home placement decision-making and outcomes in child welfare: A longitudinal study. *Administration and Policy in Mental Health and Mental Health Services Research*, *42*, 70–86. doi:10.1007/s10488-014-0545-5

- Cloitre, M., Stolbach, B. C., Herman, J. L., Pynoos, R., Wang, J., & Petkova, E. (2009). A developmental approach to complex PTSD : Childhood and adult cumulative trauma as predictors of symptom complexity. *Journal of Traumatic Stress, 22*, 399–408. doi:10.1002/jts.
- Contractor, A. A., Layne, C. M., Steinberg, A. M., Ostrowski, S. A., Ford, J. D., & Elhai, J. D. (2013). Do gender and age moderate the symptom structure of PTSD? Findings from a national clinical sample of children and adolescents. *Psychiatry Research, 210*, 1056–1064. doi:10.1016/j.psychres.2013.09.012
- Cook, A., Blaustein, M., Spinazzola, J., van der Kolk, B. A., & (Eds). (2003). *Complex trauma in children and adolescents: White paper from the National Child Traumatic Stress Network Complex Trauma Task Force.*
- Cook, A., Spinazzola, J., Ford, J., Lanktree, C., Blaustein, M., Cloitre, M., ... van der Kolk, B. (2005). Complex trauma in children and adolescents. *Psychiatric Annals, 35*, 390–398.
- Cooper, C. S., Peterson, N. L., & Meier, J. H. (1987). Variables associated with disrupted placement in a select sample of abused and neglected children. *Child Abuse & Neglect, 11*, 75–86. doi:10.1016/0145-2134(87)90035-4
- De Bellis, M. D. (2001). Developmental traumatology: The psychobiological development of maltreated children and its implications for research, treatment, and

policy. *Development and Psychopathology*, 13, 539–564. doi:10.1017/

S0954579401003078

Dong, M., Anda, R. F., Felitti, V. J., Dube, S. R., Williamson, D. F., Thompson, T. J., ...

Giles, W. H. (2004). The interrelatedness of multiple forms of childhood abuse, neglect, and household dysfunction. *Child Abuse & Neglect*, 28, 771–84.

doi:10.1016/j.chiabu.2004.01.008

Dong, M., Anda, R. F., Felitti, V. J., Williamson, D. F., Dube, S. R., Brown, D. W., &

Giles, W. H. (2005). Childhood residential mobility and multiple health risks during adolescence and adulthood. *Archives of Pediatric Adolescent Medicine*, 159, 1104–1110.

Dozier, M., Higley, E., Albus, K. E., & Nutter, A. (2002). Intervening with foster infants'

caregivers: Targeting three critical needs. *Infant Mental Health Journal*, 23, 541–

554. doi:10.1002/imhj.10032

Edwards, V. J., Holden, G. W., Felitti, V. J., & Anda, R. F. (2003). Relationship between

multiple forms of childhood maltreatment and adult mental health in community respondents: results from the adverse childhood experiences study. *The American Journal of Psychiatry*, 160, 1453–60.

- Farrell Erickson, M., Sroufe, L. A., & Egeland, B. (1985). The relationship between quality of attachment and behavior problems in preschool in a high-risk sample. *Monographs of the Society for Research in Child Development, 50*, 147–166.
- Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., ... Marks, J. S. (1998). Relationship of household dysfunction and childhood abuse to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) study. *American Journal of Preventive Medicine, 14*, 245–258.
- Gavița, O. A., David, D., Bujoreanu, S., Tiba, A., & Ionuțiu, D. R. (2012). The efficacy of a short cognitive–behavioral parent program in the treatment of externalizing behavior disorders in Romanian foster care children: Building parental emotion-regulation through unconditional self- and child-acceptance strategies. *Children and Youth Services Review, 34*, 1290–1297. doi:10.1016/j.childyouth.2012.03.001
- Goemans, A., van Geel, M., & Vedder, P. (2015). Over three decades of longitudinal research on the development of foster children: A meta-analysis. *Child Abuse & Neglect, 1*–11. doi:10.1016/j.jmb.2005.03.040
- Greenberg, M. T., Speltz, M. L., & Deklyen, M. (2008). The role of attachment in the early development of disruptive behavior problems. *Development and Psychopathology, 5*, 191. doi:10.1017/S095457940000434X

Greeson, J. K. P., Briggs, E. C., Kisiel, C. L., Layne, C. M., Ake, G. S., Ko, S. J., ...

Fairbank, J. A. (2011). Complex trauma and mental health in children and adolescents placed in foster care : Findings from the National Child Traumatic Stress Network. *Child Welfare, 90*, 91–109.

Griffin, G., Martinovich, Z., Gawron, T., & Lyons, J. S. (2009). Strengths moderate the impact of trauma on risk behaviors in child welfare. *Residential Treatment for Children & Youth, 26*, 105–118. doi:10.1080/08865710902872994

Griffin, G., McClelland, G., Holzberg, M., Stolbach, B., Maj, N., & Kisiel, C. (2011). Addressing the impact of trauma before diagnosing mental illness in child welfare. *Child Welfare, 90*, 69–89.

Griffin, G., McEwen, E., Samuels, B. H., Suggs, H., Redd, J. L., & McClelland, G. M. (2011). Infusing protective factors for children in foster care. *The Psychiatric Clinics of North America, 34*, 185–203. doi:10.1016/j.psc.2010.11.014

Jackson, Y., Gabrielli, J., Fleming, K., Tunno, A. M., & Makanui, P. K. (2014). Untangling the relative contribution of maltreatment severity and frequency to type of behavioral outcome in foster youth. *Child Abuse and Neglect, 38*, 1147–1159. doi:10.1016/j.chiabu.2014.01.008

Kilpatrick, D. G., Saunders, B. E., & Ph, D. (1999). *Prevalence and Consequences of child victimization: Results from the National Survey of Adolescents final report*.

Retrieved from <https://www.ncjrs.gov/pdffiles1/nij/grants/181028.pdf>.

Kisiel, C., Fehrenbach, T., Small, L., & Lyons, J. S. (2009). Assessment of complex trauma exposure, responses, and service needs among children and adolescents in child welfare. *Journal of Child & Adolescent Trauma*, 2, 143–160.

doi:10.1080/19361520903120467

Kisiel, C. L., Fehrenbach, T., Torgersen, E., Stolbach, B., McClelland, G., Griffin, G., & Burkman, K. (2014). Constellations of interpersonal trauma and symptoms in child welfare: Implications for a developmental trauma framework. *Journal of Family Violence*, 29, 1–14. doi:10.1007/s10896-013-9559-0

doi:10.1007/s10896-013-9559-0

Maikovich, A. K., Koenen, K. C., & Jaffee, S. R. (2009). Posttraumatic stress symptoms and trajectories in child sexual abuse victims: an analysis of sex differences using the national survey of child and adolescent well-being. *Journal of Abnormal Child Psychology*, 37, 727–37. doi:10.1007/s10802-009-9300-x

Maikovich-Fong, A. K., & Jaffee, S. R. (2010). Sex differences in childhood sexual abuse characteristics and victims' emotional and behavioral problems: Findings from a national sample of youth. *Child Abuse & Neglect*, 34, 429–37.

doi:10.1016/j.chiabu.2009.10.006

Munro, E. R., & Hardy, A. (1989). Placement stability: A review of the literature.

Department for Education and Skills. Loughborough: Loughborough University.

Retrieved from: <https://dspace.lboro.ac.uk/dspace->

[jspui/bitstream/2134/2919/1/placementstabilitylitreview.pdf](https://dspace.lboro.ac.uk/dspace-jspui/bitstream/2134/2919/1/placementstabilitylitreview.pdf).

Nelson, G., Aubry, T., & Lafrance, A. (2007). A review of the literature on the effectiveness of housing support, Assertive Community Treatment, and intensive case management interventions for persons with mental illness who have been homeless. *American Journal of Orthopsychiatry*, 77, 350-361.

Oosterman, M., Schuengel, C., Wim Slot, N., Bullens, R. a. R., & Doreleijers, T. a. H. (2007). Disruptions in foster care: A review and meta-analysis. *Children and Youth Services Review*, 29, 53–76. doi:10.1016/j.childyouth.2006.07.003

Rock, S., Michelson, D., Thomson, S., & Day, C. (2015). Understanding foster placement instability for looked after children : A systematic review and narrative synthesis of quantitative and qualitative evidence. *British Journal of Social Work*, 45, 177-203. doi: 10.1093/bjsw/bct084

Sinclair, I., & Wilson, K. (2003). Matches and mismatches: The contribution of carers and children to the success of foster placements. *British Journal of Social Work*, 33, 871–884. doi:10.1093/bjsw/33.7.871

- Smyke, A. T., Zeanah, C. H., Gleason, M. M., Drury, S. S., Fox, N. A., Nelson, C. A., & Guthrie, D. (2012). A randomized controlled trial comparing foster care and institutional care for children with signs of reactive attachment disorder. *American Journal Of Clinical Hypnosis, 169*, 508–514. doi:10.1176/appi.ajp.2011.11050748
- Stone, S. (2007). Child maltreatment, out-of-home placement and academic vulnerability: A fifteen-year review of evidence and future directions. *Children and Youth Services Review, 29*, 139–161. doi:10.1016/j.childyouth.2006.05.001
- Teicher, M. H., Andersen, S. L., Polcari, A., Anderson, C. M., Navalta, C. P., & Kim, D. M. (2003). The neurobiological consequences of early stress and childhood maltreatment. *Neuroscience & Biobehavioral Reviews, 27*, 33–44.
doi:10.1016/S0149-7634(03)00007-1
- van der Kolk, B. A. (2005). Developmental Trauma Disorder. *Psychiatric Annals, 35*, 401–409.
- van der Kolk, B. A., & Courtois, C. A. (2005). Editorial comments: Complex developmental trauma. *Journal of Traumatic Stress, 18*, 385–388.
doi:10.1002/jts.20046
- 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*, 389–399. doi:10.1002/jts.20047

- van Ijzendoorn, M. H., Schuengel, C., & Bakermans–Kranenburg, M. J. (1999). Disorganized attachment in early childhood: Meta-analysis of precursors, concomitants, and sequelae. *Development and Psychopathology, 11*, 225–250. doi:10.1017/S0954579499002035
- Walsh, James, A., & Walsh, Roberta, A. (1990). Studies of the Maintenance of Subsidized Foster Placements in The Casey Family Program. *Child Welfare, 69*, 99–115.
- Waters, E., Posada, G., Crowell, J., & Lay, K.-L. (2008). Is attachment theory ready to contribute to our understanding of disruptive behavior problems? *Development and Psychopathology, 5*, 215. doi:10.1017/S0954579400004351

Appendix A

Child and Adolescent Needs and Strengths Comprehensive Assessment Tool

5/1/2005

**CHILD AND ADOLESCENT NEEDS AND STRENGTHS
(CANS)**

COMPREHENSIVE ASSESSMENT

For

Illinois Department of Children and Family Services

Manual

**Buddin Præd Foundation
Copyright 1999**

CHILD AND ADOLESCENT NEEDS AND STRENGTHS

A large number of individuals have collaborated in the development of the CANS-Comprehensive. Along with the CANS versions for developmental disabilities, juvenile justice, and child welfare, this information integration tool is designed to support individual case planning and the planning and evaluation of service systems. The CANS-Comprehensive is an open domain tool for use in service delivery systems that address the mental health of children, adolescents and their families. The copyright is held by the Buddin Praed Foundation to ensure that it remains free to use. For more information about alternative versions of the CANS to use please contact Melanie Lyons of the Foundation. For more information on the **CANS-Comprehensive IDCFS** assessment tool contact:

John S. Lyons, Ph.D.,
Mental Health Services and Policy Program
Northwestern University
710 N. Lakeshore Drive, Abbott 1206
Chicago, Illinois 60611
(312) 908-8972
Fax (312) 503-0425
JSL329@northwestern.edu

Tim Gawron, MS, MSW, LCSW
Statewide Administrator for Behavioral Health Services
Illinois Department of Children and Family Services
100 W. Randolph, 6-271
Chicago, IL 60601
Phone: (312) 814-1573
FAX: (312) 814-2656
Email: TGawron@idcfs.state.il.us

Melanie Buddin Lyons
558 Willow Road
Winnetka, Illinois 60093
847-501-5113
Fax (847) 501-5291
Melanie405@sbeglobal.net

CHILD AND ADOLESCENT NEEDS AND STRENGTHS

Child's Name: _____ DOB _____ Gender _____ Race/Ethnicity _____

Please check appropriate use: Initial Reassessment Transition/Discharge
 Date of this Assessment: _____

Medicaid Number: _____ DCFS ID: _____

Current Living Situation: _____

Assessor (Print Name): _____ Agency: _____

Signature of Assessor: _____ Phone: _____

KEY: 0 = no evidence or no reason to believe that the rated item requires any action.
 1 = a need for watchful waiting, monitoring or possibly preventive action.
 2 = a need for action. Some strategy is needed to address the problem/need.
 3 = a need for immediate or intensive action. This level indicates an immediate safety concern or a priority for intervention.

Trauma Experiences

	0	1	2	3		0	1	2	3
Sexual Abuse	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	School Violence	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Physical Abuse	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Natural or manmade disasters	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emotional Abuse	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Traumatic Grief/Separation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Neglect	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	War Affected	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Medical Trauma	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Terrorism Affected	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Family Violence	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Witness to Criminal Activity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community Violence	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>					

Traumatic Stress Symptoms

	0	1	2	3	NA
Adj. to Trauma	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Re-experiencing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Avoidance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Numbing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Dissociation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

CHILD STRENGTHS

0=centerpiece
 1=useful
 2=identified
 3=not yet identified

	0	1	2	3	NA		0	1	2	3	NA
Family	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Optimism	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Interpersonal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Talents/Interests	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Educational	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Spiritual/Religious	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Vocational	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Community Life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Well-being	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Relationship Permanence	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

CHILD AND ADOLESCENT NEEDS AND STRENGTHS

LIFE DOMAIN FUNCTIONING

	0	1	2	3	NA
Family	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Living Situation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Social Functioning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Developmental	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Recreational	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Job Functioning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Legal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

LIFE DOMAIN FUNCTIONING

	0	1	2	3	NA
Medical	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Physical	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Sexuality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
School Behavior	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
School Achievement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
School Attendance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

ACCULTURATION

	0	1	2	3
Language	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Identity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ritual	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cultural Stress	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

CHILD BEHAVIORAL/EMOTIONAL NEEDS

	0	1	2	3	NA
Psychosis	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Attention/Impulse	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Depression	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Anxiety	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Oppositional	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Conduct	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Substance Use	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Attachment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Eating Disturbance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Affect Dysregulation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Behavioral Regression	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Somatization	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Anger Control	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

CHILD RISK BEHAVIORS

	0	1	2	3	NA
Suicide Risk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Self Mutilation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Other Self Harm	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Danger to Others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Sexual Aggression	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Runaway	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Delinquency	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Judgment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fire Setting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Social Behavior	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sexually Reactive Behavior	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Required if child is less than 5 years old or if any of these are relevant needs regardless of age:

	0	1	2	3	NA
Motor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sensory	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Communication	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Failure to Thrive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Regulatory Problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Birth Weight	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pica	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prenatal Care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	0	1	2	3	NA
Labor & Delivery	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Substance Exposure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Parent/Sibling Problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Maternal Availability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Curiosity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Playfulness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Required if a youth is 18 years or older or if any of these are relevant needs regardless of the youth's age:

	0	1	2	3
Independent Living	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Transportation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Parenting Role	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Personality Disorder	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	0	1	2	3
Intimate Relationships	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Medication Compliance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Educational Attainment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Victimization	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

CHILD AND ADOLESCENT NEEDS AND STRENGTHS

CAREGIVER NEEDS & STRENGTHS (parents, relatives and prospective adoptive parents)
 Caregiver Name(s): _____
 Caregiver Relationship/s to child: _____

	0	1	2	3		0	1	2	3
Physical	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Organization	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mental Health	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Resources	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Substance Use	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Residential Stability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developmental	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Safety	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Supervision	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Marital/Partner Violence	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Involvement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Posttraumatic Reactions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Knowledge	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Parental Criminal Behavior	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

CAREGIVER NEEDS & STRENGTHS (parents, relatives and prospective adoptive parents)
 Caregiver Name(s): _____
 Caregiver Relationship/s to child: _____

	0	1	2	3		0	1	2	3
Physical	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Organization	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mental Health	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Resources	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Substance Use	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Residential Stability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developmental	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Safety	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Supervision	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Marital/Partner Violence	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Involvement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Posttraumatic Reactions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Knowledge	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Parental Criminal Behavior	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

CODING DEFINITIONS & GUIDELINES

TRAUMA EXPERIENCES

These ratings are made based on lifetime exposure of trauma

For **Trauma Experiences**, the following categories and action levels are used:

- 0** indicates a dimension where there is no evidence of any trauma of this type.
- 1** indicates a dimension where a single even trauma occurred or suspicion exists of trauma experiences.
- 2** indicates a dimension on which the child has experienced multiple traumas.
- 3** indicates a dimension describes repeated and severe trauma with medical and physical consequences.

SEXUAL ABUSE

This rating describes child's experience of sexual abuse or the impact of the abuse on child's functioning.

- 0** There is no evidence that child has experienced sexual abuse.
- 1** Child has experienced single incident sexual abuse with no penetration.
- 2** Child has experienced multiple incidents of sexual abuse without penetration or a single incident of penetration.
- 3** Child has experienced severe, chronic sexual abuse that could include penetration or associated physical injury.

PHYSICAL ABUSE

This rating describes the degree of severity of the child physical abuse.

- 0** There is no evidence that child has experienced physical abuse.
- 1** There is a suspicion that child has experienced physical abuse but no confirming evidence. Spanking without physical harm or intention to commit harm also qualifies.
- 2** Child has experienced a moderate level of physical abuse and/or repeated forms of physical punishment (e.g., hitting, punching).
- 3** Child has experienced severe and repeated physical abuse with intent to do harm and that causes sufficient physical harm to necessitate hospital treatment.

EMOTIONAL ABUSE

This rating describes the degree of severity of emotional abuse, including verbal and nonverbal forms.

- 0** There is no evidence that child has experienced emotional abuse.
- 1** Child has experienced mild emotional abuse. For instance, child may experience some insults or is occasionally referred to in a derogatory manner by caregivers.
- 2** Child has experienced moderate degree of emotional abuse. For instance, child may be consistently denied emotional attention from caregivers, insulted or humiliated on an ongoing basis, or intentionally isolated from others.
- 3** Child has experienced significant emotional abuse over an extended period of time (at least one year). For instance, child is completely ignored by caregivers, or threatened/terrorized by others.

NEGLECT

This rating describes the degree of severity of neglect.

- 0** There is no evidence that child has experienced neglect.
- 1** Child has experienced minor or occasional neglect. Child may have been left at home alone with no adult supervision or there may be occasional failure to provide adequate supervision of child.
- 2** Child has experienced a moderate level of neglect. This may include occasional unintended failure to provide adequate food, shelter, or clothing with corrective action.
- 3** Child has experienced a severe level of neglect including prolonged absences by adults, without minimal supervision, and failure to provide basic necessities of life on a regular basis.

MEDICAL TRAUMA

This rating describes the degree of severity of medical trauma.

- 0** There is no evidence that child has experienced any medical trauma.
- 1** Child has experienced mild medical trauma including minor surgery (e.g. stitches, bone setting).
- 2** Child has experienced moderate medical trauma including major surgery or injuries requiring hospitalization.
- 3** Child has experienced life threatening medical trauma.

WITNESS TO FAMILY VIOLENCE

This rating describes the degree of severity of exposure to family violence.

- 0** There is no evidence that child has witnessed family violence.
- 1** Child has witnessed one episode of family violence.
- 2** Child has witnessed repeated episodes of family violence but no significant injuries (i.e. requiring emergency medical attention) have been witnessed.
- 3** Child has witnessed repeated and severe episode of family violence or has had to intervene in episodes of family violence. Significant injuries have occurred and have been witnessed by the child as a direct result of the violence.

COMMUNITY VIOLENCE

This rating describes the degree of severity of exposure to community violence.

- 0** There is no evidence that child has witnessed or experienced violence in the community.
- 1** Child has witnessed occasional fighting or other forms of violence in the community. Child has not been directly impacted by the community violence (e.g., violence not directed at self, family, or friends) and exposure has been limited.
- 2** Child has witnessed the significant injury of others in his/her community, or has had friends/family members injured as a result of violence or criminal activity in the community, or is the direct victim of violence/criminal activity that was not life threatening, or has witnessed/experienced chronic or ongoing community violence.
- 3** Child has witnessed or experienced the death of another person in his/her community as a result of violence, or is the direct victim of violence/criminal activity in the community that was life threatening, or has experienced chronic/ongoing impact as a result of community violence (e.g., family member injured and no longer able to work).

SCHOOL VIOLENCE

This rating describes the degree of severity of exposure to community violence.

- 0** There is no evidence that child has witnessed violence in the school setting.
- 1** Child has witnessed occasional fighting or other forms of violence in the school setting. Child has not been directly impacted by the violence (e.g., violence not directed at self or close friends) and exposure has been limited.
- 2** Child has witnessed the significant injury of others in his/her school setting, or has had friends injured as a result of violence or criminal activity in the school setting, or has directly experienced violence in the school setting leading to minor injury, or has witnessed ongoing/chronic violence in the school setting.
- 3** Child has witnessed the death of another person in his/her school setting, or has had friends who were seriously injured as a result of violence or criminal activity in the school setting, or has directly experienced violence in the school setting leading to significant injury or lasting impact.

NATURAL OR MANMADE DISASTERS

This rating describes the degree of severity of exposure to either natural or man-made disasters.

- 0** **There is no evidence that child has been exposed to natural or man-made disasters.**
- 1** **Child has been exposed to disasters second hand (i.e., on television, hearing others discuss disasters). This would include second hand exposure to natural disasters such as a fire or earthquake or man-made disaster, including car accident, plane crashes, or bombings.**
- 2** **Child has been directly exposed to a disaster or witnessed the impact of a disaster on a family or friend. For instance, a child may observe a caregiver who has been injured in a car accident or fire or watch his neighbor's house burn down.**
- 3** **Child has been directly exposed to a disaster that caused significant harm or death to a loved one or there is an ongoing impact or life disruption due to the disaster (e.g., house burns down, caregiver loses job).**

TRAUMATIC GRIEF/SEPARATION

This rating describes the level of traumatic grief due to death or loss or separation from significant caregivers.

- 0** **There is no evidence that child has experienced traumatic grief or separation from significant caregivers.**
- 1** **Child is experiencing some level of traumatic grief due to death or loss of a significant person or distress from caregiver separation in a manner that is appropriate given the recent nature of loss or separation.**
- 2** **Child is experiencing a moderate level of traumatic grief or difficulties with separation in a manner that impairs function in certain but not all areas. This could include withdrawal or isolation from others.**
- 3** **Child is experiencing significant traumatic grief or separation reactions. Child exhibits impaired functioning across several areas (e.g., interpersonal relationships, school) for a significant period of time following the loss or separation.**

CHILD AND ADOLESCENT NEEDS AND STRENGTHS

WAR AFFECTED

This rating describes the degree of severity of exposure to war, political violence, or torture. Violence or trauma related to Terrorism is not included here.

- 0** There is no evidence that child has been exposed to war, political violence, or torture.
- 1** Child did not live in war-affected region or refugee camp, but family was affected by war. Family members directly related to the child may have been exposed to war, political violence, or torture; family may have been forcibly displaced due to the war, or both. This does not include children who have lost one or both parents during the war.
- 2** Child has been affected by war or political violence. He or she may have witnessed others being injured in the war, may have family members who were hurt or killed in the war, and may have lived in an area where bombings or fighting took place. Child may have lost one or both parents during the war or one or both parents may be so physically or psychologically disabled from war so that they are not able to provide adequate caretaking of child. Child may have spent extended amount of time in refugee camp.
- 3** Child has experienced the direct affects of war. Child may have feared for their own life during war due to bombings, shelling, very near to them. They may have been directly injured, tortured or kidnapped. Some may have served as soldiers, guerrillas or other combatants in their home countries.

TERRORISM AFFECTED

This rating describes the degree to which a child has been affected by terrorism. Terrorism is defined as "the calculated use of violence or the threat of violence to inculcate fear, intended to coerce or to intimidate governments or societies in the pursuit of goals that are generally political, religious, or ideological." Terrorism includes attacks by individuals acting in isolation (e.g. sniper attacks).

- 0** There is no evidence that child has been affected by terrorism or terrorist activities.
- 1** Child's community has experienced an act of terrorism, but the child was not directly impacted by the violence (e.g. child lives close enough to site of terrorism that they may have visited before or child recognized the location when seen on TV, but child's family and neighborhood infrastructure was not directly affected). Exposure has been limited to pictures on television.
- 2** Child has been affected by terrorism within his/her community, but did not directly witness the attack. Child may live near the area where attack occurred and be accustomed to visiting regularly in the past, infrastructure of child's daily life may be disrupted due to attack (e.g. utilities or school), and child may see signs of the attack in neighborhood (e.g. destroyed building). Child may know people who were injured in the attack.
- 3** Child has witnessed the death of another person in a terrorist attack, or has had friends or family members seriously injured as a result of terrorism, or has directly been injured by terrorism leading to significant injury or lasting impact.

WITNESS/VICTIM TO CRIMINAL ACTIVITY

This rating describes the degree of severity of exposure to criminal activity.

- 0** There is no evidence that child has been victimized or witnessed significant criminal activity.
- 1** Child is a witness of significant criminal activity.
- 2** Child is a direct victim of criminal activity or witnessed the victimization of a family or friend.
- 3** Child is a victim of criminal activity that was life threatening or caused significant physical harm or child witnessed the death of a loved one.

TRAUMATIC STRESS SYMPTOMS

These ratings describe a range of reactions that children and adolescents may exhibit to any of a variety of traumatic experiences from child abuse and neglect to community violence to disasters.

For **Trauma Stress Symptoms**, the following categories and action levels are used:

- 0** indicates a dimension where there is no evidence of any needs.
- 1** indicates a dimension that requires monitoring, watchful waiting, or preventive activities.
- 2** indicates a dimension that requires action to ensure that this identified need or risk behavior is addressed.
- 3** indicates a dimension that requires immediate or intensive action.

ADJUSTMENT TO TRAUMA

This item covers the youth's reaction to any of a variety of traumatic experiences -- such as emotional, physical, or sexual abuse, separation from family members, witnessing violence, or the victimization or murder of family members or close friends. This dimension covers both adjustment disorders and posttraumatic stress disorder from DSM-IV.

- 0** Child has not experienced any significant trauma or has adjusted well to traumatic experiences.
- 1** Child has some mild adjustment problems to trauma. Child may have an adjustment disorder or other reaction that might ease with the passage of time. Or, child may be recovering from a more extreme reaction to a traumatic experience.
- 2** Child has marked adjustment problems associated with traumatic experiences. Child may have nightmares or other notable symptoms of adjustment difficulties.
- 3** Child has post-traumatic stress difficulties as a result of traumatic experience. Symptoms may include intrusive thoughts, hyper-vigilance, constant anxiety, and other common symptoms of Post Traumatic Stress Disorder (PTSD).

REEXPERIENCING

These symptoms consist of difficulties with intrusive memories or reminders of traumatic events, including nightmares, flashbacks, intense reliving of the events, and repetitive play with themes of specific traumatic experiences. These symptoms are part of the DSM-IV criteria for PTSD.

- 0** This rating is given to a child with no evidence of intrusive symptoms.
- 1** This rating is given to a child with some problems with intrusions, including occasional nightmares about traumatic events.
- 2** This rating is given to a child with moderate difficulties with intrusive symptoms. This child may have more recurrent frightening dreams with or without recognizable content or recurrent distressing thoughts, images, perceptions or memories of traumatic events. This child may exhibit trauma-specific reenactments through repetitive play with themes of trauma or intense physiological reactions at exposure to traumatic cues.
- 3** This rating is given to a child with severe intrusive symptoms. This child may exhibit trauma-specific reenactments that include sexually or physically traumatizing other children or sexual play with adults. This child may also exhibit persistent flashbacks, illusions or hallucinations that make it difficult for the child to function.

AVOIDANCE

These symptoms include efforts to avoid stimuli associated with traumatic experiences. These symptoms are part of the DSM-IV criteria for PTSD.

- 0** This rating is given to a child with no evidence of avoidance symptoms.
- 1** This rating is given to a child who exhibits some problems with avoidance. This child may exhibit one primary avoidant symptom, including efforts to try and avoid thoughts, feelings or conversations associated with the trauma.
- 2** This rating is given to a child with moderate symptoms of avoidance. In addition to avoiding thoughts or feelings associated with the trauma, the child may also avoid activities, places, or people that arouse recollections of the trauma.
- 3** This rating is given to a child who exhibits significant or multiple avoidant symptoms. This child may avoid thoughts and feelings as well as situations and people associated with the trauma and have an inability to recall important aspects of the trauma.

NUMBING

These symptoms include numbing responses that are part of the DSM-IV criteria for PTSD. These responses are not present before the trauma.

- 0** This rating is given to a child with no evidence of numbing responses.
- 1** This rating is given to a child who exhibits some problems with numbing. This child may have a restricted range of affect or an inability to express or experience certain emotions (e.g., anger or sadness).
- 2** This rating is given to a child with moderate difficulties with numbing responses. This child may have a blunted or flat emotional state or have difficulty experiencing intense emotions or feel consistently detached or estranged from others following the traumatic experience.
- 3** This rating is given to a child with significant numbing responses or multiple symptoms of numbing. This child may have a markedly diminished interest or participation in significant activities and a sense of a foreshortened future.

DISSOCIATION

Symptoms included in this dimension are daydreaming, spacing or blanking out, forgetfulness, emotional numbing, fragmentation, detachment, and rapid changes in personality often associated with traumatic experiences. This dimension may be used to rate dissociative disorders (e.g., Dissociative Disorder NOS, Dissociative Identity Disorder) but can also exist when other diagnoses are primary (e.g., PTSD, depression).

- 0** This rating is given to a child with no evidence of dissociation.
- 1** This rating is given to a child with minor dissociative problems, including some emotional numbing, avoidance or detachment, and some difficulty with forgetfulness, daydreaming, spacing or blanking out.
- 2** This rating is given to a child with a moderate level of dissociation. This can include amnesia for traumatic experiences or inconsistent memory for trauma (e.g., remembers in one context but not another), more persistent or perplexing difficulties with forgetfulness (e.g., loses things easily, forgets basic information), frequent daydreaming or trance-like behavior, depersonalization and/or derealization. This rating would be used for someone who meets criteria for Dissociative Disorder Not Otherwise Specified or another diagnosis that is specified “with dissociative features.”
- 3** This rating is given to a child with severe dissociative disturbance. This can include significant memory difficulties associated with trauma that also impede day to day functioning. Child is frequently forgetful or confused about things he/she should know about (e.g., no memory for activities or whereabouts of previous day or hours). Child shows rapid changes in personality or evidence of alter personalities. Child who meets criteria for Dissociative Identity Disorder or a more severe level of Dissociative Disorder NOS would be rated here.

CHILD STRENGTHS

For **Child's Strengths**, the following categories and action levels are used:

- 0 indicates a domain where strengths exist that can be used as a centerpiece for a strength-based plan
- 1 indicates a domain where strengths exist but require some strength building efforts in order for them to serve as a focus of a strength-based plan.
- 2 indicates a domain where strengths have been identified but that they require significant strength building efforts before they can be effectively utilized in as a focus of a strength-based plan.
- 3 indicates a domain in which efforts are needed in order to identify potential strengths for strength building efforts.

FAMILY

Family refers to all biological or adoptive relatives with whom the child or youth remains in contact along with other individuals in relationships with these relatives.

- 0 **Significant family strengths.** This level indicates a family with much love and mutual respect for each other. Family members are central in each other's lives. Child is fully included in family activities.
- 1 **Moderate level of family strengths.** This level indicates a loving family with generally good communication and ability to enjoy each other's company. There may be some problems between family members. Child is generally included.
- 2 **Mild level of family strengths.** Family is able to communicate and participate in each other's lives; however, family members may not be able to provide significant emotional or concrete support for each other. Child is often not included in family activities.
- 3 **This level indicates a child with no known family strengths.** Child is not included in normal family activities.

INTERPERSONAL

This rating refers to the interpersonal skills of the child or youth both with peers and adults.

- 0 **Significant interpersonal strengths.** Child is seen as well liked by others and has significant ability to form and maintain positive relationships with both peers and adults. Individual has multiple close friends and is friendly with others.
- 1 **Moderate level of interpersonal strengths.** Child has formed positive interpersonal relationships with peers and/or other non-caregivers. Child may have one friend, if that friendship is a healthy 'best friendship model.
- 2 **Mild level of interpersonal strengths.** Child has some social skills that facilitate positive relationships with peers and adults but may not have any current relationships, but has a history of making and maintaining healthy friendships with others.
- 3 **This level indicates a child with no known interpersonal strengths.** Child currently does not have any friends nor has he/she had any friends in the past. Child does not have positive relationships with adults.

CHILD AND ADOLESCENT NEEDS AND STRENGTHS

EDUCATIONAL

This rating refers to the strengths of the school system and may or may not reflect any specific educational skills possessed by the child or youth.

- 0** This level indicates a child who is in school and is involved with an educational plan that appears to exceed expectations. School works exceptionally well with family and caregivers to create a special learning environment. A child in a mainstream educational system who does not require an individual plan would be rated here.
- 1** This level indicates a child who is in school and has a plan that appears to be effective. School works fairly well with family and caregivers to ensure appropriate educational development.
- 2** This level indicates a child who is in school but has a plan that does not appear to be effective.
- 3** This level indicates a child who is either not in school or is in a school setting that does not further his/her education.

VOCATIONAL

Generally this rating is reserved for adolescents and is not applicable for children 12 years and under. Computer skills would be rated here.

- 0** This level indicates an adolescent with vocational skills who is currently working in a natural environment.
- 1** This level indicates an adolescent with pre-vocational and some vocational skills but limited work experience.
- 2** This level indicates an adolescent with some pre-vocational skills. This also may indicate a child or youth with a clear vocational preference.
- 3** This level indicates an adolescent with no known or identifiable vocational or pre-vocational skills and no expression of any future vocational preferences.

WELL-BEING

This rating should be based on the psychological strengths that the child or adolescent might have developed including both the ability to enjoy positive life experiences and manage negative life experiences. This should be rated independent of the child's current level of distress.

- 0** This level indicates a child with exceptional psychological strengths. Both coping and savoring skills are well developed.
- 1** This level indicates a child with good psychological strengths. The person has solid coping skills for managing distress or solid savoring skills for enjoying pleasurable events.
- 2** This level indicates a child with limited psychological strengths. For example, a person with very low self-esteem would be rated here.
- 3** This level indicates a child with no known or identifiable psychological strengths. This may be due to intellectual impairment or serious psychiatric disorders.

CHILD AND ADOLESCENT NEEDS AND STRENGTHS

OPTIMISM

This rating should be based on the child or adolescent's sense of him/herself in his/her own future. This is intended to rate the child's positive future orientation.

- 0** Child has a strong and stable optimistic outlook on his/her life. Child is future oriented.
- 1** Child is generally optimistic. Child is likely able to articulate some positive future vision.
- 2** Child has difficulties maintaining a positive view of him/herself and his/her life. Child may vary from overly optimistic to overly pessimistic.
- 3** Child has difficulties seeing any positives about him/herself or his/her life.

TALENT/INTERESTS

This rating should be based broadly on any talent, creative or artistic skill a child or adolescent may have including art, theatre, music, athletics, etc.

- 0** This level indicates a child with significant creative/artistic strengths. A child/youth who receives a significant amount of personal benefit from activities surrounding a talent would be rated here.
- 1** This level indicates a child with a notable talent. For example, a youth who is involved in athletics or plays a musical instrument, etc. would be rated here.
- 2** This level indicates a child who has expressed interest in developing a specific talent or talents even if they have not developed that talent to date.
- 3** This level indicates a child with no known talents, interests, or hobbies.

SPIRITUAL/RELIGIOUS

This rating should be based on the child or adolescent's and their family's involvement in spiritual or religious beliefs and activities.

- 0** This level indicates a child with strong moral and spiritual strengths. Child may be very involved in a religious community or may have strongly held spiritual or religious beliefs that can sustain or comfort him/her in difficult times.
- 1** This level indicates a child with some moral and spiritual strengths. Child may be involved in a religious community.
- 2** This level indicates a child with few spiritual or religious strengths. Child may have little contact with religious institutions.
- 3** This level indicates a child with no known spiritual or religious involvement.

CHILD AND ADOLESCENT NEEDS AND STRENGTHS

COMMUNITY LIFE

This rating should be based on the child or adolescent's level of involvement in the cultural aspects of life in his/her community.

- 0** This level indicates a child with extensive and substantial, long-term ties with the community. For example, individual may be a member of a community group (e.g. Girl or Boy Scout etc.) for more than one year, may be widely accepted by neighbors, or involved in other community activities, informal networks, etc.
- 1** This level indicates a child with significant community ties although they may be relatively short term (e.g. past year).
- 2** This level indicates a child with limited ties and/or supports from the community.
- 3** This level indicates a child with no known ties or supports from the community.

RELATIONSHIP PERMANENCE

This rating refers to the stability of significant relationships in the child or youth's life. This likely includes family members but may also include other individuals.

- 0** This level indicates a child who has very stable relationships. Family members, friends, and community have been stable for most of his/her life and are likely to remain so in the foreseeable future. Child is involved with both parents.
- 1** This level indicates a child who has had stable relationships but there is some concern about instability in the near future (one year) due to transitions, illness, or age. A child who has a stable relationship with only one parent may be rated here.
- 2** This level indicates a child who has had at least one stable relationship over his/her lifetime but has experienced other instability through factors such as divorce, moving, removal from home, and death.
- 3** This level indicates a child who does not have any stability in relationships.

LIFE DOMAIN FUNCTIONING

For **Life Functioning Domains**, the following categories and action levels are used:

- 0** indicates a life domain in which the child is excelling. This is an area of considerable strength
- 1** indicates a life domain in which the child is doing OK. This is an area of potential strength
- 2** indicates a life domain in which the child is having problems. Help is needed to improve functioning into an area of strength.
- 3** indicates a life domain in which the child is having significant problems. Intensive help is needed to improve functioning into an area of strength.

FAMILY

Family ideally should be defined by the child; however, in the absence of this knowledge consider biological relatives and their significant others with whom the child still has contact as the definition of family.

- 0** Child is doing well in relationships with family members.
- 1** Child is doing adequately in relationships with family members although some problems may exist. For example, some family members may have some problems in their relationships with child.
- 2** Child is having moderate problems with parents, siblings and/or other family members. Frequent arguing, difficulties in maintaining any positive relationship may be observed.
- 3** Child is having severe problems with parents, siblings, and/or other family members. This would include problems of domestic violence, constant arguing, etc.

LIVING SITUATION

This item refers to how the child is functioning in their current living arrangement which could be a relative, a temporary foster home, shelter, etc.

- 0** No evidence of problem with functioning in current living environment.
- 1** Mild problems with functioning in current living situation. Caregivers concerned about child's behavior in living situation.
- 2** Moderate to severe problems with functioning in current living situation. Child has difficulties maintaining his/her behavior in this setting creating significant problems for others in the residence.
- 3** Profound problems with functioning in current living situation. Child is at immediate risk of being removed from living situation due to his/her behaviors.

SOCIAL FUNCTIONING

This item refers to the child's social functioning from a developmental perspective.

- 0** Child is on a healthy social development pathway.
- 1** Child is having some minor problems with his/her social functioning.
- 2** Child is having some moderate problems with his/her social functioning.
- 3** Child is experiencing severe disruptions in his/her social functioning.

CHILD AND ADOLESCENT NEEDS AND STRENGTHS

DEVELOPMENTAL/INTELLECTUAL

This rating describes the child's development as compared to standard developmental milestones such as talking, walking, toileting, cooperative play, etc.

- 0** No evidence of developmental problems or mental retardation.
- 1** Evidence of a mild developmental delay or low IQ (70 to 85)
- 2** Evidence of a pervasive developmental disorder including Autism, Tourette's, Down's Syndrome or other significant developmental delay or child's has mild mental retardation (50 to 69).
- 3** Severe developmental disorder or IQ below 50.

RECREATIONAL

This item is intended to reflect the child access to and use of leisure time activities.

- 0** Child has and enjoys positive recreation activities on an ongoing basis.
- 1** Child is doing adequately with recreational activities although some problems may exist.
- 2** Child is having moderate problems with recreational activities. Child may experience some problems with effective use of leisure time.
- 3** Child has no access to or interest in recreational activities. Child has significant difficulties making use of leisure time.

JOB FUNCTIONING

This item is intended to describe functioning in vocational settings. If a child or youth is not working, rate a '3'.

- 0** Child is gainfully employed in a job and performing well.
- 1** Child is gainfully employed but may have some difficulties at work.
- 2** Child works intermittently for money (e.g. babysitting) or child has job history but is currently not working.
- 3** Child has no job history.
- NA** Not applicable based on child's age.

LEGAL

This item involves only the child's (not the families') involvement with the legal system.

- 0** Child has no known legal difficulties.
- 1** Child has a history of legal problems but currently is not involved with the legal system.
- 2** Child has some legal problems and is currently involved in the legal system.
- 3** Child has serious current or pending legal difficulties that place him/her at risk for a court ordered out of home placement

MEDICAL

This item refers to the child's health.

- 0** Child is healthy.
- 1** Child has some medical problems that require medical treatment.
- 2** Child has chronic illness that requires ongoing medical intervention.
- 3** Child has life threatening illness or medical condition.

PHYSICAL

This item describes any physical limitations the child may experience due to health or other factors.

- 0** Child has no physical limitations.
- 1** Child has some physical condition that places mild limitations on activities. Conditions such as impaired hearing or vision would be rated here. Rate here, treatable medical conditions that result in physical limitations (e.g. asthma).
- 2** Child has physical condition that notably impacts activities. Sensory disorders such as blindness, deafness, or significant motor difficulties would be rated here.
- 3** Child has severe physical limitations due to multiple physical conditions.

SEXUAL DEVELOPMENT

This rating describes issues around sexual development including developmentally inappropriate sexual behavior and problematic sexual behavior. Sexual orientation or gender identity issues could be rated here if they are leading to difficulties.

- 0** No evidence of any problems with sexual development.
- 1** Mild to moderate problems with sexual development. May include concerns about sexual identity or anxiety about the reactions of others.
- 2** Significant problems with sexual development. May include multiple older partners or high-risk sexual behavior.
- 3** Profound problems with sexual development. This level would include prostitution, very frequent risky sexual behavior, or sexual aggression.

SCHOOL BEHAVIOR.

This item rates the behavior of the child or youth in school or school-like settings (e.g. Head Start, pre-school). A rating of 3 would indicate a child who is still having problems after special efforts have been made, i.e., problems in a special education class.

- 0 No evidence of behavior problems at school or day care. Child is behaving well.
- 1 Mild problems with school behavioral problems. May be related to either relationships with teachers or peers. A single detention might be rated here.
- 2 Child is having moderate behavioral difficulties at school. He/she is disruptive and may receive sanctions including suspensions or multiple detentions.
- 3 Child is having severe problems with behavior in school. He/she is frequently or severely disruptive. School placement may be in jeopardy due to behavior.
- NA Not applicable for children five years and younger

SCHOOL ACHIEVEMENT

This item describes academic achievement and functioning.

- 0 Child is doing well in school.
- 1 Child is doing adequately in school, although some problem with achievement exist.
- 2 Child is having moderate problems with school achievement. He/she may be failing some subjects.
- 3 Child is having severe achievement problems. He/she may be failing most subjects or is more than one year behind same age peers in school achievement.
- NA Not applicable for children five years and younger

SCHOOL ATTENDANCE

If school is not in session, rate the last 30 days when school was in session.

- 0 No evidence of attendance problems. Child attends regularly.
- 1 Child has some problems attending school, although he/she generally goes to school. He/she may miss up to one day per week on average. Or, he/she may have had moderate to severe problems in the past six months but has been attending school regularly in the past month.
- 2 Child is having problems with school attendance. He/she is missing at least two days per week on average.
- 3 Child is generally truant or refusing to go to school.

ACCULTURATION

For **Acculturation**, the following categories and action levels are used:

- 0** indicates a dimension where there is no evidence of any needs.
- 1** indicates a dimension that requires monitoring, watchful waiting, or preventive activities.
- 2** indicates a dimension that requires action to ensure that this identified need or risk behavior is addressed.
- 3** indicates a dimension that requires immediate or intensive action.

LANGUAGE

This item includes both spoken and sign language.

- 0** **Child and family speak English well.**
- 1** **Child and family speak some English but potential communication problems exist due to limits on vocabulary or understanding of the nuances of the language.**
- 2** **Child and/or significant family members do not speak English. Translator or native language speaker is needed for successful intervention but qualified individual can be identified within natural supports.**
- 3** **Child and/or significant family members do not speak English. Translator or native language speaker is needed for successful intervention and no such individual is available from among natural supports.**

IDENTITY

Cultural identity refers to the child's view of his/herself as belonging to a specific cultural group. This cultural group may be defined by a number of factors including race, religion, ethnicity, geography or lifestyle.

- 0** **Child has clear and consistent cultural identity and is connected to others who share his/her cultural identity.**
- 1** **Child is experiencing some confusion or concern regarding cultural identity.**
- 2** **Child has significant struggles with his/her own cultural identity. Child may have cultural identity but is not connected with others who share this culture.**
- 3** **Child has no cultural identity or is experiencing significant problems due to conflict regarding his/her cultural identity.**

CHILD AND ADOLESCENT NEEDS AND STRENGTHS

RITUAL

Cultural rituals are activities and traditions that are culturally including the celebration of culturally specific holidays such as kwanza, cinco de mayo, etc. Rituals also may include daily activities that are culturally specific (e.g. praying toward Mecca at specific times, eating a specific diet, access to media)

- 0 Child and family are consistently able to practice rituals consistent with their cultural identity**
- 1 Child and family are generally able to practice rituals consistent with their cultural identity; however, they sometimes experience some obstacles to the performance of these rituals.**
- 2 Child and family experience significant barriers and are sometimes prevented from practicing rituals consistent with their cultural identity.**
- 3 Child and family are unable to practice rituals consistent with their cultural identity.**

CULTURE STRESS

Culture stress refers to experiences and feelings of discomfort and/or distress arising from friction (real or perceived) between an individual's own cultural identify and the predominant culture in which he/she lives.

- 0 No evidence of stress between individual's cultural identify and current living situation.**
- 1 Some mild or occasional stress resulting from friction between the individual's cultural identify and his/her current living situation.**
- 2 Individual is experiencing cultural stress that is causing problems of functioning in at least one life domain.**
- 3 Individual is experiencing a high level of cultural stress that is making functioning in any life domain difficult under the present circumstances.**

CHILD BEHAVIORAL/EMOTIONAL NEEDS

For **Behavioral/Emotional Needs**, the following categories and symbols are used:

- 0** indicates a dimension where there is no evidence of any needs.
- 1** indicates a dimension that requires monitoring, watchful waiting, or preventive activities.
- 2** indicates a dimension that requires action to ensure that this identified need or risk behavior is addressed.
- 3** indicates a dimension that requires immediate or intensive action.

PSYCHOSIS

This item is used to rate symptoms of psychiatric disorders with a known neurological base. DSM-IV disorders included on this dimension are Schizophrenia and Psychotic disorders (unipolar, bipolar, NOS). The common symptoms of these disorders include hallucinations, delusions, unusual thought processes, strange speech, and bizarre/idiosyncratic behavior.

- 0** This rating indicates a child with no evidence of thought disturbances. Both thought processes and content are within normal range.
- 1** This rating indicates a child with evidence of mild disruption in thought processes or content. The child may be somewhat tangential in speech or evidence somewhat illogical thinking (age inappropriate). This also includes children with a history of hallucinations but none currently. The category would be used for children who are subthreshold for one of the DSM diagnoses listed above.
- 2** This rating indicates a child with evidence of moderate disturbance in thought processes or content. The child may be somewhat delusional or have brief or intermittent hallucinations. The child's speech may be at times quite tangential or illogical. This level would be used for children who meet the diagnostic criteria for one of the disorders listed above.
- 3** This rating indicates a child with severe psychotic disorder. The child frequently is experiencing symptoms of psychosis and frequently has no reality assessment. There is evidence of ongoing delusions or hallucinations or both. Command hallucinations would be coded here. This level is used for extreme cases of the diagnoses listed above.

ATTENTION DEFICIT/IMPULSE CONTROL

Symptoms of Attention Deficit and Hyperactivity Disorder and Impulse Control Disorder would be rated here. Inattention/distractibility not related to opposition would also be rated here.

- 0** This rating is used to indicate a child with no evidence of attention/hyperactivity problems.
- 1** This rating is used to indicate a child with evidence of mild problems with attention/hyperactivity or impulse control problems. Child may have some difficulties staying on task for an age appropriate time period.
- 2** This rating is used to indicate a child with moderate symptoms attention/hyperactivity or impulse control problems. A child who meets DSM-IV diagnostic criteria for ADHD would be rated here.
- 3** This rating is used to indicate a child with severe impairment of attention or dangerous impulse control problems. Frequent impulsive behavior is observed or noted that carries considerable safety risk (e.g. running into the street, dangerous driving or bike riding). A child with profound symptoms of ADHD would be rated here.

DEPRESSION

Symptoms included in this dimension are irritable or depressed mood, social withdrawal, and anxious mood; sleep disturbances, weight/eating disturbances, and loss of motivation. This dimension can be used to rate symptoms of the following psychiatric disorders as specified in DSM-IV: Depression (unipolar, dysthymia, NOS), Bipolar,

- 0** This rating is given to a child with no emotional problems. No evidence of depression.
- 1** This rating is given to a child with mild emotional problems. Brief duration of depression, irritability, or impairment of peer, family, or academic functioning that does not lead to gross avoidance behavior.
- 2** This rating is given to a child with a moderate level of emotional disturbance. This could include major, depression, or school avoidance. Any diagnosis of depression would be coded here. This level is used to rate children who meet the criteria for an affective disorder listed above.
- 3** This rating is given to a child with a severe level of depression. This would include a child who stays at home or in bed all day due to depression or one whose emotional symptoms prevent any participation in school, friendship groups, or family life. Disabling forms of depressive diagnoses would be coded here. This level is used to indicate an extreme case of one of the disorders listed above.

ANXIETY

This item describes the child's level of fearfulness, worrying or other characteristics of anxiety.

- 0** No evidence of any anxiety or fearfulness.
- 1** History or suspicion of anxiety problems or mild to moderate anxiety associated with a recent negative life event. This level is used to rate either a mild phobia or anxiety problem or a sub-threshold level of symptoms for the other listed disorders.
- 2** Clear evidence of anxiety associated with either anxious mood or significant fearfulness. Anxiety has interfered significantly in child's ability to function in at least one life domain.
- 3** Clear evidence of debilitating level of anxiety that makes it virtually impossible for the child to function in any life domain

OPPOSITIONAL BEHAVIOR (Compliance with authority)

This item is intended to capture how the child relates to authority. Oppositional behavior is different from conduct disorder in that the emphasis of the behavior is on non-compliance to authority rather than on seriously breaking social rules, norms, and laws.

- 0** This rating indicates that the child/adolescent is generally compliant.
- 1** This rating indicates that the child/adolescent has mild problems with compliance to some rules or adult instructions. Child may occasionally talk back to teacher, parent/caregiver may be letters or calls from school.
- 2** This rating indicates that the child/adolescent has moderate problems with compliance to rules or adult instructions. A child who meets the criteria for Oppositional Defiant Disorder in DSM-IV would be rated here.
- 3** This rating indicates that the child/adolescent has severe problems with compliance to rules or adult instructions. A child rated at this level would be a severe case of Oppositional Defiant Disorder. They would be virtually always noncompliant. Child repeatedly ignores authority.

CONDUCT

These symptoms include antisocial behaviors like shoplifting, lying, vandalism, and cruelty to animals, assault. This dimension would include the symptoms of Conduct Disorder as specified in DSM-IV.

- 0** This rating indicates a child with no evidence of behavior disorder.
- 1** This rating indicates a child with a mild level of conduct problems. The child may have some difficulties in school and home behavior. Problems are recognizable but not notably deviant for age, sex, and community. This might include occasional truancy, repeated severe lying, or petty theft from family.
- 2** This rating indicates a child with a moderate level of conduct disorder. This could include episodes of planned aggressive or other anti-social behavior. A child rated at this level should meet the criteria for a diagnosis of Conduct Disorder.
- 3** This rating indicates a child with a severe Conduct Disorder. This could include frequent episodes of unprovoked, planned aggressive or other anti-social behavior.

SUBSTANCE ABUSE

These symptoms include use of alcohol and illegal drugs, the misuse of prescription medications and the inhalation of any substance for recreational purposes. This rating is consistent with DSM-IV Substance-related Disorders.

- 0** This rating is for a child who has no substance use difficulties at the present time. If the person is in recovery for greater than 1 year, they should be coded here, although this is unlikely for a child or adolescent.
- 1** This rating is for a child with mild substance use problems that might occasionally present problems of living for the person (intoxication, loss of money, reduced school performance, parental concern). This rating would be used for someone early in recovery (less than 1 year) who is currently abstinent for at least 30 days.
- 2** This rating is for a child with a moderate substance abuse problem that both requires treatment and interacts with and exacerbates the psychiatric illness. Substance abuse problems consistently interfere with the ability to function optimally but do not completely preclude functioning in an unstructured setting.
- 3** This rating is for a child with a severe substance dependence condition that presents a significant complication to the coordination of care (e.g. need for detoxification) of the individual. A substance-exposed infant who demonstrates symptoms of substance dependence would be rated here.

ATTACHMENT DIFFICULTIES

This item should be rated within the context of the child's significant parental or caregiver relationships.

- 0 No evidence of attachment problems. Caregiver-child relationship is characterized by mutual satisfaction of needs and child's development of a sense of security and trust. Caregiver appears able to respond to child cues in a consistent, appropriate manner, and child seeks age-appropriate contact with caregiver for both nurturing and safety needs.
- 1 Mild problems with attachment. There is some evidence of insecurity in the child-caregiver relationship. Caregiver may at times have difficulty accurately reading child bids for attention and nurturance; may be inconsistent in response; or may be occasionally intrusive. Child may have mild problems with separation (e.g., anxious/clingy behaviors in the absence of obvious cues of danger) or may avoid contact with caregiver in age-inappropriate way. Child may have minor difficulties with appropriate physical/emotional boundaries with others.
- 2 Moderate problems with attachment. Attachment relationship is marked by sufficient difficulty as to require intervention. Caregiver may consistently misinterpret child cues, act in an overly intrusive way, or ignore/avoid child bids for attention/nurturance. Child may have ongoing difficulties with separation, may consistently avoid contact with caregivers, and may have ongoing difficulties with physical or emotional boundaries with others.
- 3 Severe problems with attachment. Child is unable to form attachment relationships with others (e.g., chronic dismissive/avoidant/detached behavior in care giving relationships) OR child presents with diffuse emotional/physical boundaries leading to indiscriminate attachment with others. Child is considered at ongoing risk due to the nature of his/her attachment behaviors. A child who meets the criteria for an Attachment Disorder in DSM-IV would be rated here. Child may have experienced significant early separation from or loss of caregiver, or have experienced chronic inadequate care from early caregivers, or child may have individual vulnerabilities (e.g., mental health, developmental disabilities) that interfere with the formation of positive attachment relationships.

EATING DISTURBANCES

These symptoms include problems with eating including disturbances in body image, refusal to maintain normal body weight and recurrent episodes of binge eating. These ratings are consistent with DSM-IV Eating Disorders.

- 0 This rating is for a child with no evidence of eating disturbances.
- 1 This rating is for a child with a mild level of eating disturbance. This could include some preoccupation with weight, calorie intake, or body size or type when of normal weight or below weight. This could also include some binge eating patterns.
- 2 This rating is for a child with a moderate level of eating disturbance. This could include a more intense preoccupation with weight gain or becoming fat when underweight, restrictive eating habits or excessive exercising in order to maintain below normal weight, and/or emaciated body appearance. This level could also include more notable binge eating episodes that are followed by compensatory behaviors in order to prevent weight gain (e.g., vomiting, use of laxatives, excessive exercising). This child may meet criteria for a DSM-IV Eating Disorder (Anorexia or Bulimia Nervosa).
- 3 This rating is for a child with a more severe form of eating disturbance. This could include significantly low weight where hospitalization is required or excessive binge-purge behaviors (at least once per day).

AFFECT DYSREGULATION

These symptoms include difficulties modulating or expressing emotions, intense fear or helplessness, difficulties regulating sleep/wake cycle, and inability to fully engage in activities.

- 0** This rating is given to a child with no difficulties regulating emotional responses. Emotional responses are appropriate to the situation.
- 1** This rating is given to a child with some minor difficulties with affect regulation. This child could have some difficulty tolerating intense emotions and become somewhat jumpy or irritable, in response to emotionally charged stimuli or more watchful or hypervigilant in general. This child may have some difficulty sustaining involvement in activities for any length of time.
- 2** This rating is given to a child with moderate problems with affect regulation. This child may be unable to modulate emotional responses. This child may exhibit marked shifts in emotional responses (e.g., from sadness to irritability to anxiety) or have contained emotions with a tendency to lose control of emotions at various points (e.g., normally restricted affect punctuated by outbursts of anger or sadness). This child may also exhibit persistent anxiety, intense fear or helplessness, or lethargy/loss of motivation.
- 3** This rating is given to a child with severe problems with highly dysregulated affect. This child may have more rapid shifts in mood and an inability to modulate emotional responses (feeling out of control of their emotions). This child may also exhibit tightly contained emotions with intense outbursts under stress. Alternately, this child may be characterized by extreme lethargy, loss of motivation or drive, and no ability to concentrate or sustain engagement in activities (i.e., emotionally “shut down”).
- NA** Not applicable due to child’s age. See section for children 0 to 5 years old.

BEHAVIORAL REGRESSIONS

These ratings are used to describe shifts in previously adaptive functioning evidenced in regressions in behaviors or physiological functioning.

- 0** This rating is given to a child with no evidence of behavioral regression.
- 1** This rating is given to a child with some regressions in age-level of behavior (e.g., thumb sucking, whining when age inappropriate).
- 2** This rating is given to a child with moderate regressions in age-level of behavior including loss of ability to engage with peers, stopping play or exploration in environment that was previously evident, or occasional bedwetting.
- 3** This rating is given to a child with more significant regressions in behaviors in an earlier age as demonstrated by changes in speech or loss of bowel or bladder control.

SOMATIZATION

These symptoms include the presence of recurrent physical complaints without apparent physical cause or conversion-like phenomena (e.g., pseudoseizures).

- 0 This rating is for a child with no evidence of somatic symptoms.
- 1 This rating indicates a child with a mild level of somatic problems. This could include occasional headaches, stomach problems (nausea, vomiting), joint, limb or chest pain without medical cause.
- 2 This rating indicates a child with a moderate level of somatic problems or the presence of conversion symptoms. This could include more persistent physical symptoms without a medical cause or the presence of several different physical symptoms (e.g., stomach problems, headaches, backaches). This child may meet criteria for a somatoform disorder. Additionally, the child could manifest any conversion symptoms here (e.g., pseudoseizures, paralysis).
- 3 This rating indicates a child with severe somatic symptoms causing significant disturbance in school or social functioning. This could include significant and varied symptomatic disturbance without medical cause.

ANGER CONTROL

This item captures the youth's ability to identify and manage their anger when frustrated.

- 0 This rating indicates a child with no evidence of any significant anger control problems.
- 1 This rating indicates a child with some problems with controlling anger. He/she may sometimes become verbally aggressive when frustrated. Peers and family members are aware of and may attempt to avoid stimulating angry outbursts.
- 2 This rating indicates a child with moderate anger control problems. His/her temper has gotten him/her in significant trouble with peers, family, and/or school. This level may be associated with some physical violence. Others are likely quite aware of anger potential.
- 3 This rating indicates a child with severe anger control problems. His/her temper is likely associated with frequent fighting that is often physical. Others likely fear him/her.
- NA Not applicable due to child's age.

CHILD RISK BEHAVIORS

For **Risk Behaviors**, the following categories and action levels are used:

- 0** indicates a dimension where there is no evidence of any needs.
- 1** indicates a dimension that requires monitoring, watchful waiting, or preventive activities.
- 2** indicates a dimension that requires action to ensure that this identified need or risk behavior is addressed.
- 3** indicates a dimension that requires immediate or intensive action.

SUICIDE RISK

This rating describes both suicidal and significant self-injurious behavior. A rating of 2 or 3 would indicate the need for a safety plan.

- 0** Child has no evidence or history of suicidal or self-injurious behaviors.
- 1** History of suicidal or self-injurious behaviors or significant ideation but no self-injurious behavior during the past 30 days.
- 2** Recent, (last 30 days) but not acute (today) suicidal ideation or gesture. Self-injurious in the past 30 days (including today) without suicidal ideation or intent.
- 3** Current suicidal ideation and intent in the past 24 hours.

SELF-MUTILATION

This rating includes repetitive physically harmful behavior that generally serves a self-soothing functioning with the child.

- 0** No evidence of any forms of self-mutilation (e.g. cutting, burning, face slapping, head banging)
- 1** History of self-mutilation but none evident in the past 30 days.
- 2** Engaged in self mutilation that does not require medical attention.
- 3** Engaged in self mutilation that requires medical attention.

OTHER SELF HARM

This rating includes reckless and dangerous behaviors that while not intended to harm self or others, place the child or others at some jeopardy. Suicidal or self-mutilative behavior is NOT rated here.

- 0** No evidence of behaviors that place the child at risk of physical harm.
- 1** History of behavior other than suicide or self-mutilation that places child at risk of physical harm. This includes reckless and risk-taking behavior that may endanger the child.
- 2** Engaged in behavior other than suicide or self-mutilation that places him/her in danger of physical harm. This includes reckless behavior or intentional risk-taking behavior.
- 3** Engaged in behavior other than suicide or self-mutilation that places him/her at immediate risk of death. This includes reckless behavior or intentional risk-taking behavior.

CHILD AND ADOLESCENT NEEDS AND STRENGTHS

DANGER TO OTHERS

This rating includes actual and threatened violence. Imagined violence, when extreme, may be rated here. A rating of 2 or 3 would indicate the need for a safety plan.

- 0** Child has no evidence or history of aggressive behaviors or significant verbal aggression towards others (including people and animals).
- 1** History of aggressive behavior or verbal aggression towards others but no aggression during the past 30 days. History of fire setting (not in past year) would be rated here.
- 2** Occasional or moderate level of aggression towards others including aggression during the past 30 days or more recent verbal aggression.
- 3** Frequent or dangerous (significant harm) level of aggression to others. Child or youth is an immediate risk to others.

SEXUAL AGGRESSION

Sexually abusive behavior includes both aggressive sexual behavior and sexual behavior in which the child or adolescent takes advantage of a younger or less powerful child through seduction, coercion, or force.

- 0** No evidence of problems with sexual behavior in the past year.
- 1** Mild problems of sexually abusive behavior. For example, occasional inappropriate sexually aggressive/harassing language or behavior.
- 2** Moderate problems with sexually abusive behavior, For example, frequent inappropriate sexual behavior. Frequent disrobing would be rated here only if it was sexually provocative. Frequent inappropriate touching would be rated here.
- 3** Severe problems with sexually abusive behavior. This would include the rape or sexual abuse of another person involving sexual penetration.

RUNAWAY

In general, to classify as a runaway or elopement, the child is gone overnight or very late into the night. Impulsive behavior that represents an immediate threat to personal safety would also be rated here.

- 0** This rating is for a child with no history of running away and no ideation involving escaping from the present living situation.
- 1** This rating is for a child with no recent history of running away but who has expressed ideation about escaping present living situation or treatment. Child may have threatened running away on one or more occasions or have a history (lifetime) of running away but not in the past year.
- 2** This rating is for a child who has run away from home once or run away from one treatment setting within the past year. Also rated here is a child who has run away to home (parental or relative) in the past year.
- 3** This rating is for a child who has (1) run away from home and/or treatment settings within the last 7 days or (2) run away from home and/or treatment setting twice or more overnight during the past 30 days. Destination is not a return to home of parent or relative.

CHILD AND ADOLESCENT NEEDS AND STRENGTHS

DELINQUENCY

This rating includes both criminal behavior and status offenses that may result from child or youth failing to follow required behavioral standards (e.g. truancy). Sexual offenses should be included as criminal behavior.

- 0** Child shows no evidence or has no history of criminal or delinquent behavior.
- 1** History of criminal or delinquent behavior but none in the past 30 days. Status offenses in the past 30 days would be rated here.
- 2** Moderate level of criminal activity including a high likelihood of crimes committed in the past 30 days. Examples would include vandalism, shoplifting, etc.
- 3** Serious level of criminal or delinquent activity in the past 30 days. Examples would include car theft, residential burglary, gang involvement, etc.

JUDGMENT

This item describes the child's decision-making processes and awareness of consequences.

- 0** No evidence of problems with judgment or poor decision making that result in harm.
- 1** History of problems with judgment in which the child makes decisions that are in some way harmful. For example, a child who has a history of hanging out with other children who shoplift.
- 2** Problems with judgment in which the child makes decisions that are in some way harmful to his/her development and/or well-being.
- 3** Problems with judgment that place the child at risk of significant physical harm.

FIRE SETTING

This item refers to behavior involving the intentional setting of fires that might be dangerous to the child or others. This does not include the use of candles or incense or matches to smoke.

- 0** No evidence or history of fire setting behavior
- 1** History or fire-setting but not in past six months
- 2** Recent fire setting behavior (in past six months) but not of the type that has endangered the lives of others (e.g. playing with matches) OR repeated fire setting behavior over a period of at least two years even if not in the past six months.
- 3** Acute threat of fire setting. Set fire that endangered the lives of others (e.g. attempting to burn down a house).

CHILD AND ADOLESCENT NEEDS AND STRENGTHS

SOCIAL BEHAVIOR

This rating describes obnoxious social behaviors that a child engages in to intentionally force adults to sanction him/her. This item should reflect problematic social behaviors (socially unacceptable behavior for the culture and community in which he/she lives) that put the child at some risk sanctions (e.g. not excessive shyness).

- 0** Child shows no evidence of problematic social behaviors.
- 1** Mild level of problematic social behaviors. This might include occasionally inappropriate social behavior that forces adults to sanction the child. Infrequent inappropriate comments to strangers or unusual behavior in social settings might be included at this level.
- 2** Moderate level of problematic social behaviors. Social behavior is causing problems in the child's life. Child may be intentionally getting in trouble in school or at home.
- 3** Severe level of problematic social behaviors. This would be indicated by frequent seriously inappropriate social behavior that force adults to seriously and/or repeatedly sanction the child. Social behaviors are sufficiently severe that they place the child at risk of significant sanctions (e.g. expulsion, removal from the community).

SEXUALLY REACTIVE BEHAVIORS

Sexually reactive behavior includes both age-inappropriate sexualized behaviors that may place a child at risk for victimization or risky sexual practices.

- 0** No evidence of problems with sexually reactive behaviors or high-risk sexual behaviors.
- 1** Some evidence of sexually reactive behavior. Child may exhibit occasional inappropriate sexual language or behavior, flirts when age-inappropriate, or engages in unprotected sex with single partner. This behavior does not place child at great risk. A history of sexually provocative behavior would be rated here.
- 2** Moderate problems with sexually reactive behavior that place child at some risk. Child may exhibit more frequent sexually provocative behaviors in a manner that impairs functioning, engage in promiscuous sexual behaviors or have unprotected sex with multiple partners.
- 3** Significant problems with sexually reactive behaviors. Child exhibits sexual behaviors that places child or others at immediate risk.

RATINGS OF CHILDREN FIVE YEARS OLD AND YOUNGER

The following items are required for any child who is five years old or younger; however, they may be rated for any child if they represent a need for that specific individual.

MOTOR

This rating describes the child's fine (e.g. hand grasping and manipulation) and gross (e.g. sitting, standing, walking) motor functioning.

- 0** Child's fine and gross motor functioning appears normal. There is no reason to believe that the child has any problems with motor functioning.
- 1** The child has mild fine (e.g. using scissors) or gross motor skill deficits. The child may have exhibited delayed sitting, standing, or walking, but has since reached those milestones.
- 2** The child has moderate motor deficits. A non-ambulatory child with fine motor skills (e.g. reaching, grasping) or an ambulatory child with severe fine motor deficits would be rated here. A full-term newborn who does not have a sucking reflex in the first few days of life would be rated here.
- 3** The child has severe or profound motor deficits. A non-ambulatory child with additional movement deficits would be rated here, as would any child older than 6 months who cannot lift his or her head.

SENSORY

This rating describes the child's ability to use all senses including vision, hearing, smell, touch, and kinesthetics.

- 0** The child's sensory functioning appears normal. There is no reason to believe that the child has any problems with sensory functioning.
- 1** The child has mild impairment on a single sense (e.g. mild hearing deficits, correctable vision problems).
- 2** The child has moderate impairment on a single sense or mild impairment on multiple senses (e.g. difficulties with sensory integration, diagnosed need for occupational therapy).
- 3** The child has significant impairment on one or more senses (e.g. profound hearing or vision loss).

COMMUNICATION

This rating describes the child's ability to communicate through any medium including all spontaneous vocalizations and articulations.

- 0** Child's receptive and expressive communication appears developmentally appropriate. There is no reason to believe that the child has any problems communicating.
- 1** Child's receptive abilities are intact, but child has limited expressive capabilities (e.g. if the child is an infant, he or she engages in limited vocalizations; if older than 24 months, he or she can understand verbal communication, but others have unusual difficulty understanding child).
- 2** Child has limited receptive and expressive capabilities.
- 3** Child is unable to communicate in any way, including pointing or grunting.

FAILURE TO THRIVE

Symptoms of failure to thrive focus on normal physical development such as growth and weight gain.

- 0** The child does not appear to have any problems with regard to weight gain or development. There is no evidence of failure to thrive.
- 1** The child has mild delays in physical development (e.g. is below the 25th percentile in terms of height or weight).
- 2** The child has significant delays in physical development that could be described as failure to thrive (e.g. is below the 10th percentile in terms of height or weight).
- 3** The child has severe problems with physical development that puts their life at risk (e.g. is at or beneath the 1st percentile in height or weight).

REGULATORY PROBLEMS

This category refer to all dimensions of self-regulation, including the quality and predictability of sucking/feeding, sleeping, elimination, activity level/intensity, sensitivity to external stimulation, and ability to be consoled.

- 0** Child does not appear to have any problems with self-regulation.
- 1** Child has mild problems with self-regulation (e.g. unusually intense activity level, mild or transient irritability).
- 2** Child has moderate to severe problems with self-regulation (e.g. chronic or intense irritability, unusually low tolerance/high sensitivity to external stimulation).
- 3** Child has profound problems with self-regulation that place his/her safety, well being, and/or development at risk (e.g. child cannot be soothed at all when distressed, child cannot feed properly).

BIRTH WEIGHT

This dimension describes the child's weight as compared to normal development.

- 0 Child is within normal range for weight and has been since birth. A child with a birth weight of 2500 grams (5.5 pounds) or greater would be rated here.
- 1 Child was born under weight but is now within normal range or child is slightly beneath normal range. A child with a birth weight of between 1500 grams (3.3 pounds) and 2499 grams would be rated here.
- 2 Child is considerably under weight to the point of presenting a development risk to the child. A child with a birth weight of 1000 grams (2.2 pounds) to 1499 grams would be rated here.
- 3 Child is extremely under weight to the point of the child's life is threatened. A child with a birth weight of less than 1000 grams (2.2 pounds) would be rated here.

PICA

This item describes an eating disorder involving the compulsive ingestion of non-nutritive substances. Generally, the child must be older than 18 months to be considered with this problem.

- 0 No evidence that the child eats unusual or dangerous materials.
- 1 Child has repeatedly eaten unusual or dangerous materials consistent with the diagnosis of Pica; however, this behavior has not occurred in the past 30 days.
- 2 Child has eaten unusual or dangerous materials consistent with the diagnosis of Pica in the past 30 days.
- 3 Child has become physically ill during the past 30 days by eating dangerous materials (e.g. lead paint).

PRENATAL CARE

This dimension refers to the health care and birth circumstances experience by the child in utero.

- 0** Child's biological mother had adequate prenatal care (e.g. 10 or more planned visits to a physician) that began in the first trimester. Child's mother did not experience any pregnancy-related illnesses.
- 1** Child's mother had some short-comings in prenatal care, or had a mild form of a pregnancy-related illness. A child whose mother had 6 or fewer planned visits to a physician would be rated here (her care must have begun in the first or early second trimester). A child whose mother had a mild or well-controlled form of pregnancy-related illness such as gestational diabetes, or who had an uncomplicated high-risk pregnancy, would be rated here.
- 2** Child's biological mother received poor prenatal care, initiated only in the last trimester, or had a moderate form of pregnancy-related illness. A child whose mother had 4 or fewer planned visits to a physician would be rated here. A mother who experienced a high-risk pregnancy with some complications would be rated here.
- 3** Child's biological mother had no prenatal care, or had a severe form of pregnancy-related illness. A mother who had toxemia/pre-eclampsia would be rated here.

LABOR AND DELIVERY

This dimension refers to conditions associated with, and consequences arising from, complications in labor and delivery of the child.

- 0** Child and biological mother had normal labor and delivery. A child who received an Apgar score of 7-10 at birth would be rated here.
- 1** Child or mother had some mild problems during delivery, but child does not appear to be affected by these problems. An emergency C-Section or a delivery-related physical injury (e.g. shoulder displacement) to the child would be rated here.
- 2** Child or mother had problems during delivery that resulted in temporary functional difficulties for the child or mother. Extended fetal distress, postpartum hemorrhage, or uterine rupture would be rated here. A child who received an Apgar score of 4-7, or who needed some resuscitative measures at birth, would be rated here.
- 3** Child had severe problems during delivery that have long-term implications for development (e.g. extensive oxygen deprivation, brain damage). A child who received an Apgar score of 3 or lower, or who needed immediate or extensive resuscitative measures at birth, would be rated here.

SUBSTANCE EXPOSURE

This dimension describes the child's exposure to substance use and abuse both before and after birth.

- 0** Child had no in utero exposure to alcohol or drugs, and there is currently no exposure in the home.
- 1** Child had either mild in utero exposure (e.g. mother ingested alcohol or tobacco in small amounts fewer than four times during pregnancy), or there is current alcohol and/or drug use in the home.
- 2** Child was exposed to significant alcohol or drugs in utero. Any ingestion of illegal drugs during pregnancy (e.g. heroin, cocaine), or significant use of alcohol or tobacco, would be rated here.
- 3** Child was exposed to alcohol or drugs in utero and continues to be exposed in the home. Any child who evidenced symptoms of substance withdrawal at birth (e.g. crankiness, feeding problems, tremors, weak and continual crying) would be rated here.

PARENT OR SIBLING PROBLEMS

This dimension describes how this child's parents and older siblings have done/are doing in their respective developments.

- 0** The child's parents have no developmental disabilities. The child has no siblings, or existing siblings are not experiencing any developmental or behavioral problems
- 1** The child's parents have no developmental disabilities. The child has siblings who are experiencing some mild developmental or behavioral problems (e.g. Attention Deficit, Oppositional Defiant, or Conduct Disorders). It may be that child has at least one healthy sibling.
- 2** The child's parents have no developmental disabilities. The child has a sibling who is experiencing a significant developmental or behavioral problem (e.g. a severe version of any of the disorders cited above, or any developmental disorder).
- 3** One or both of the child's parents have been diagnosed with a developmental disability, or the child has multiple siblings who are experiencing significant developmental or behavioral problems (all siblings must have some problems).

CHILD AND ADOLESCENT NEEDS AND STRENGTHS

MATERNAL AVAILABILITY

This dimension addresses the primary caretaker's emotional and physical availability to the child in the weeks immediately following the birth. Rate maternal availability up until 3 months (12 weeks) post-partum.

- 0** The child's mother/primary caretaker was emotionally and physically available to the child in the weeks following the birth.
- 1** The primary caretaker experienced some minor or transient stressors which made her slightly less available to the child (e.g. another child in the house under two years of age, an ill family member for whom the caretaker had responsibility, a return to work before the child reached six weeks of age).
- 2** The primary caretaker experienced a moderate level of stress sufficient to make him/her significantly less emotionally and physically available to the child in the weeks following the birth (e.g. major marital conflict, significant post-partum recuperation issues or chronic pain, two or more children in the house under four years of age).
- 3** The primary caretaker was unavailable to the child to such an extent that the child's emotional or physical well-being was severely compromised (e.g. a psychiatric hospitalization, a clinical diagnosis of severe Post-Partum Depression, any hospitalization for medical reasons which separated caretaker and child for an extended period of time, divorce or abandonment).

CURIOSITY

This rating describes the child's self-initiated efforts to discover his/her world.

- 0** This level indicates a child with exceptional curiosity. Infants display mouthing and banging of objects within grasp; older children crawl or walk to objects of interest.
- 1** This level indicates a child with good curiosity. An ambulatory child who does not walk to interesting objects, but who will actively explore them when presented to him/her, would be rated here.
- 2** This level indicates a child with limited curiosity. Child may be hesitant to seek out new information or environments, or reluctant to explore even presented objects.
- 3** This level indicates a child with very limited or no observable curiosity. Child may seem frightened of new information or environments.

PLAYFULNESS

This rating describes the child's enjoyment of play alone and with others.

- 0** This level indicates a child with substantial ability to play with self and others. Child enjoys play, and if old enough, regularly engages in symbolic and means-end play. If still an infant, child displays changing facial expressions in response to different play objects.
- 1** This level indicates a child with good play abilities. Child may enjoy play only with self or only with others, or may enjoy play with a limited selection of toys.
- 2** This level indicates a child with limited ability to enjoy play. Child may remain preoccupied with other children or adults to the exclusion of engaging in play, or may exhibit impoverished or unimaginative play.
- 3** This level indicates a child who has significant difficulty with play both by his/her self and with others. Child does not engage in symbolic or means-end play, although he or she will handle and manipulate toys.

TRANSITION TO ADULTHOOD

The following items are required for youth 17 and older. However, any of these items can be rated regardless of age if they represent a need for a specific youth.

INDEPENDENT LIVING SKILLS

This rating focuses on the presence or absence of short or long-term risks associated with impairments in independent living abilities.

- 0** This level indicates a person who is fully capable of independent living. No evidence of any deficits that could impede maintaining own home.
- 1** This level indicates a person with mild impairment of independent living skills. Some problems exist with maintaining reasonable cleanliness, diet and so forth. Problems with money management may occur at this level. These problems are generally addressable with training or supervision.
- 2** This level indicates a person with moderate impairment of independent living skills. Notable problems with completing tasks necessary for independent living are apparent. Difficulty with cooking, cleaning, and self-management when unsupervised would be common at this level. Problems are generally addressable with in-home services.
- 3** This level indicates a person with profound impairment of independent living skills. This individual would be expected to be unable to live independently given their current status. Problems require a structured living environment.

TRANSPORTATION

This item is used to rate the level of transportation required to ensure that the individual could effectively participate in his/her own treatment and in other life activities. Only unmet transportation needs should be rated here.

- 0** The individual has no transportation needs.
- 1** The individual has occasional transportation needs (e.g., appointments). These needs would be no more than weekly and not require a special vehicle.
- 2** The individual has occasional transportation needs that require a special vehicle or frequent transportation needs (e.g., daily to work or therapy) that do not require a special vehicle.
- 3** The individual requires frequent (e.g., daily to work or therapy) transportation in a special vehicle.

PARENTING ROLES

This item is intended to rate the individual in any caregiver roles. For example, an individual with a son or daughter or an individual responsible for an elderly parent or grandparent would be rated here. Include pregnancy as a parenting role.

- 0** **The individual has no role as a parent.**
- 1** **The individual has responsibilities as a parent but is currently able to manage these responsibilities.**
- 2** **The individual has responsibilities as a parent and either the individual is struggling with these responsibilities or they are currently interfering with the individual's functioning in other life domains.**
- 3** **The individual has responsibilities as a parent and the individual is currently unable to meet these responsibilities or these responsibilities are making it impossible for the individual to function in other life domains.**

PERSONALITY DISORDER

This rating identifies the presence of any DSM-IV Axis II personality disorder

- 0** **No evidence of symptoms of a personality disorder.**
- 1** **Evidence of mild degree, probably sub-threshold for the diagnosis of a personality disorder. For example, mild but consistent dependency in relationships might be rated here; or, some evidence of antisocial or narcissistic behavior. An unconfirmed suspicion of the presence of a diagnosable personality disorder would be rated here.**
- 2** **Evidence of sufficient degree of personality disorder to warrant a DSM-IV Axis II diagnosis.**
- 3** **Evidence of a severe personality disorder that has significant implications for the individual long-term functioning. Personality disorder dramatically interferes with the individuals ability to function independently.**

INTIMATE RELATIONSHIPS

This item is used to rate the individuals current status in terms of romantic/intimate relationships.

- 0** **Adaptive partner relationship. Individual has a strong, positive, partner relationship with another adult. This adult functions as a member of the family.**
- 1** **Mostly adaptive partner relationship. Individual has a generally positive partner relationship with another adult. This adult may not function as a member of the family.**
- 2** **Limited adaptive partner relationship. Individual is currently not involved in any partner relationship with another adult.**
- 3** **Significant difficulties with partner relationships. Individual is currently involved in a negative, unhealthy relationship with another adult.**

MEDICATION COMPLIANCE

This rating focuses on the level of the individual's willingness and participation in taking prescribed medications.

- 0** This level indicates a person who takes psychotropic medications as prescribed and without reminders, or a person who is not currently on any psychotropic medication.
- 1** This level indicates a person who will take psychotropic medications routinely, but who sometimes needs reminders to maintain compliance. Also, a history of medication noncompliance but no current problems would be rated here.
- 2** This level indicates a person who is somewhat non-compliant. This person may be resistant to taking psychotropic medications or this person may tend to overuse his or her medications. He/she might comply with prescription plans for periods of time (1-2 weeks) but generally does not sustain taking medication in prescribed dose or protocol.
- 3** This level indicates a person who has refused to take prescribed psychotropic medications during the past 30 day period or a person who has abused his or her medications to a significant degree (i.e., overdosing or over using medications to a dangerous degree).

EDUCATIONAL ATTAINMENT

This rates the degree to which the individual has completed his/her planned education.

- 0** Individual has achieved all educational goals or has none but educational attainment has no impact on lifetime vocational functioning.
- 1** Individual has set educational goals and is currently making progress towards achieving them.
- 2** Individual has set educational goals but is currently not making progress towards achieving them.
- 3** Individual has no educational goals and lack of educational attainment is interfering with individual's lifetime vocational functioning.

VICTIMIZATION

This item is used to examine a history and level of current risk for victimization.

- 0** This level indicates a person with no evidence of recent victimization and no significant history of victimization within the past year. The person may have been robbed or burglarized on one or more occasions in the past, but no pattern of victimization exists. Person is not presently at risk for re-victimization.
- 1** This level indicates a person with a history of victimization but who has not been victimized to any significant degree in the past year. Person is not presently at risk for re-victimization.
- 2** This level indicates a person who has been recently victimized (within the past year) but is not in acute risk of re-victimization. This might include physical or sexual abuse, significant psychological abuse by family or friend, extortion or violent crime.
- 3** This level indicates a person who has been recently victimized and is in acute risk of re-victimization. Examples include working as a prostitute and living in an abusive relationship.

CAREGIVER NEEDS AND STRENGTHS

These ratings should be done focused on permanency plan caregivers. Caregiver ratings should be completed by household. If multiple households are involved in the permanency planning, then this section should be completed once for each household under consideration.

For Caregiver Needs and Strengths the following definitions and action levels apply:

- 0** indicates a dimension where there is no evidence of any needs. This is a strength
- 1** indicates a dimension that requires monitoring, watchful waiting, or preventive activities.
- 2** indicates a dimension that requires action to ensure that this identified need or risk behavior is addressed.
- 3** indicates a dimension that requires immediate or intensive action.

PHYSICAL HEALTH

Physical health includes medical and physical challenges faced by the caregiver(s)

- 0** Caregiver(s) has no physical health limitations that impact assistance or attendant care.
- 1** Caregiver(s) has some physical health limitations that interfere with provision of assistance or attendant care.
- 2** Caregiver(s) has significant physical health limitations that prevent them from being able to provide some needed assistance or make attendant care difficult.
- 3** Caregiver(s) is physically unable to provide any needed assistance or attendant care.

MENTAL HEALTH

This item refers to the caregiver's mental health status. Serious mental illness would be rated as a '2' or '3' unless the individual is in recovery.

- 0** Caregiver(s) has no mental health limitations that impact assistance or attendant care.
- 1** Caregiver(s) has some mental health limitations that interfere with provision of assistance or attendant care.
- 2** Caregiver(s) has significant mental health limitations that prevent them from being able to provide some needed assistance or make attendant care difficult.
- 3** Caregiver(s) is unable to provide any needed assistance or attendant care due to serious mental illness.

SUBSTANCE USE

This item rates the caregiver's pattern of alcohol and/or drug use. Substance-related disorders would be rated as a '2' or '3' unless the individual is in recovery.

- 0 Caregiver(s) has no substance-related limitations that impact assistance or attendant care.**
- 1 Caregiver(s) has some substance-related limitations that interfere with provision of assistance or attendant care.**
- 2 Caregiver(s) has significant substance-related limitations that prevent them from being able to provide some needed assistance or make attendant care difficult.**
- 3 Caregiver(s) is unable to provide any needed assistance or attendant care due to serious substance dependency or abuse.**

DEVELOPMENTAL

This item describes the caregiver's developmental status in terms of low IQ, mental retardation or other developmental disabilities.

- 0 Caregiver(s) has no developmental limitations that impact assistance or attendant care.**
- 1 Caregiver(s) has some developmental limitations that interfere with provision of assistance or attendant care.**
- 2 Caregiver(s) has significant developmental limitations that prevent them from being able to provide some needed assistance or make attendant care difficult.**
- 3 Caregiver(s) is unable to provide any needed assistance or attendant care due to serious developmental disabilities.**

SUPERVISION

This rating is used to determine the caregiver's capacity to provide the level of monitoring and discipline needed by the child.

- 0 This rating is used to indicate a caregiver circumstance in which supervision and monitoring are appropriate and functioning well.**
- 1 This level indicates a caregiver circumstance in which supervision is generally adequate but inconsistent. This may include a placement in which one member is capable of appropriate monitoring and supervision but others are not capable or not consistently available.**
- 2 This level indicates a caregiver circumstance in which appropriate supervision and monitoring are very inconsistent and frequently absent.**

CHILD AND ADOLESCENT NEEDS AND STRENGTHS

- 3 This level indicates a caregiver circumstance in which appropriate supervision and monitoring are nearly always absent or inappropriate.

INVOLVEMENT WITH CARE

This rating should be based on the level of involvement the caregiver(s) has in the planning and provision of child welfare and related services.

- 0 This level indicates a caregiver(s) who is actively involved in the planning and/or implementation of services and is able to be an effective advocate on behalf of the child or adolescent.
- 1 This level indicates a caregiver(s) who is consistently involved in the planning and/or implementation of services for the child or adolescent but is not an active advocate on behalf of the child or adolescent.
- 2 This level indicates a caregiver(s) who is minimally involved in the care of the child or adolescent. Caregiver may visit individual when in out of home placement, but does not become involved in service planning and implementation.
- 3 This level indicates a caregiver(s) who is uninvolved with the care of the child or adolescent. Caregiver may want individual out of home or fails to visit individual when in residential placement.

KNOWLEDGE

This rating should be based on caregiver's knowledge of the specific strengths of the child and any problems experienced by the child and their ability to understand the rationale for the treatment or management of these problems.

- 0 This level indicates that the present caregiver is fully knowledgeable about the child's psychological strengths and weaknesses, talents and limitations.
- 1 This level indicates that the present caregiver, while being generally knowledgeable about the child, has some mild deficits in knowledge or understanding of either the child's psychological condition of his/her talents, skills and assets.
- 2 This level indicates that the caregiver does not know or understand the child well and that significant deficits exist in the caregiver's ability to relate to the child's problems and strengths.
- 3 This level indicates that the present caregiver has little or no understanding of the child's current condition. The placement is unable to cope with the child given his/her status at the time, not because of the needs of the child but because the caregiver does not understand or accept the situation.

CHILD AND ADOLESCENT NEEDS AND STRENGTHS

ORGANIZATION

This rating should be based on the ability of the caregiver to participate in or direct the organization of the household, services, and related activities.

- 0** Caregiver(s) is well organized and efficient.
- 1** Caregiver(s) has minimal difficulties with organizing or maintaining household to support needed services. For example, may be forgetful about appointments or occasionally fails to call back case manager.
- 2** Caregiver(s) has moderate difficulty organizing or maintaining household to support needed services.
- 3** Caregiver(s) is unable to organize household to support needed services.

RESOURCES

This item refers to the financial and social assets (extended family) and resources that the caregiver(s) can bring to bear in addressing the multiple needs of the child and family.

- 0** Caregiver(s) has sufficient resources so that there are few limitations on what can be provided for the child.
- 1** Caregiver(s) has the necessary resources to help address the child's major and basic needs but those resources might be stretched.
- 2** Caregiver(s) has limited resources (e.g. a grandmother living in same town who is sometimes available to watch the child).
- 3** Caregiver(s) has severely limited resources that are available to assist in the care and treatment of the child.

RESIDENTIAL STABILITY

This item rates the caregivers current and likely future housing circumstances

- 0** This rating indicates a family/caregiver in stable housing with no known risks of instability.
- 1** This rating indicates a family/caregiver who is currently in stable housing but there are significant risks of housing disruption (e.g. loss of job).
- 2** This rating indicates a family/caregiver who has moved frequently or has very unstable housing.
- 3** This rating indicates a family/caregiver who is currently homeless.

SAFETY

This rating refers to the safety of the assessed child. It does not refer to the safety of other family or household members based on any danger presented by the assessed child.

- 0** This level indicates that the present placement is as safe or safer for the child (in his or her present condition) as could be reasonably expected.
- 1** This level indicates that the present placement environment presents some mild risk of neglect, exposure to undesirable environments (e.g. drug use or gangs in neighborhood, etc.) but that no immediate risk is present.
- 2** This level indicates that the present placement environment presents a moderate level of risk to the child, including such things as the risk of neglect or abuse or exposure to individuals who could harm the child.
- 3** This level indicates that the present placement environment presents a significant risk to the well being of the child. Risk of neglect or abuse is imminent and immediate. Individuals in the environment offer the potential of significantly harming the child.

MARITAL/PARTNER VIOLENCE

This rating describes the degree of difficult or conflict in the caregiver relationship.

- 0** Caregivers appear to be functioning adequately. There is no evidence of notable conflict in the caregiver relationship. Disagreements are handled in an atmosphere of mutual respect and equal power.
- 1** Mild to moderate level of family problems including marital difficulties and caregiver arguments. Caregivers are generally able to keep arguments to a minimum when child is present. Occasional difficulties in conflict resolution or use of power and control by one partner over another.
- 2** Significant level of caregiver difficulties including frequent arguments that often escalate to verbal aggression or the use of verbal aggression by one partner to control the other. Child often witnesses these arguments between caregivers or the use of verbal aggression by one partner to control the other.
- 3** Profound level of caregiver or marital violence that often escalates to mutual attacks or the use of physical aggression by one partner to control the other. These episodes may exacerbate child's difficulties or put the child at greater risk.

CHILD AND ADOLESCENT NEEDS AND STRENGTHS

CAREGIVER POSTTRAUMATIC REACTIONS

This rating describes posttraumatic reactions faced by caregiver(s), including emotional numbing and avoidance, nightmares and flashbacks that are related to their child's or their own traumatic experiences.

- 0** Caregiver has adjusted to traumatic experiences without notable posttraumatic stress reactions.
- 1** Caregiver has some mild adjustment problems related to their child's or their own traumatic experiences. Caregiver may exhibit some guilt about their child's trauma or become somewhat detached or estranged from others.
- 2** Caregiver has moderate adjustment difficulties related to traumatic experiences. Caregiver may have nightmares or flashbacks of the trauma.
- 3** Caregiver has significant adjustment difficulties associated with traumatic experiences. Symptoms might include intrusive thoughts, hypervigilance, and constant anxiety.

PARENTAL CRIMINAL BEHAVIOR

This item rates the criminal behavior of both biological and stepparents.

- 0** There is no evidence that youth's parents have ever engaged in criminal behavior.
- 1** One of youth's parents has history of criminal behavior but youth has not been in contact with this parent for at least one year.
- 2** One of youth's parents has history of criminal behavior resulting in incarceration and youth has been in contact with this parent in the past year.
- 3** Both of youth's parents have history of criminal behavior resulting in incarceration.

Appendix B

Ethics Approval for Study 1



Ethics Approval Notice
Social Science and Humanities REB

Principal Investigator / Supervisor / Co-investigator(s) / Student(s)

<u>First Name</u>	<u>Last Name</u>	<u>Affiliation</u>	<u>Role</u>
John	Lyons	Social Sciences / Psychology	Supervisor
Jennifer	Hopton	Social Sciences / Psychology	Student Researcher

File Number: 10-09-13

Type of Project: Secondary use of data

Title: Assessment of the Unique Needs of Boys and Girls in Child Welfare: Sex Differences in Symptom Profiles Following Abuse

Renewal Date (mm/dd/yyyy)	Expiry Date (mm/dd/yyyy)	Approval Type
01/28/2014	01/27/2015	Ia

(Ia: Approval, Ib: Approval for initial stage only)

Special Conditions / Comments:
N/A



Université d'Ottawa **University of Ottawa**
Bureau d'éthique et d'intégrité de la recherche Office of Research Ethics and Integrity

This is to confirm that the University of Ottawa Research Ethics Board identified above, which operates in accordance with the Tri-Council Policy Statement and other applicable laws and regulations in Ontario, has examined and approved the application for ethical approval for the above named research project as of the Ethics Approval Date indicated for the period above and subject to the conditions listed the section above entitled "Special Conditions / Comments".

During the course of the study the protocol may not be modified without prior written approval from the REB except when necessary to remove subjects from immediate endangerment or when the modification(s) pertain to only administrative or logistical components of the study (e.g. change of telephone number). Investigators must also promptly alert the REB of any changes which increase the risk to participant(s), any changes which considerably affect the conduct of the project, all unanticipated and harmful events that occur, and new information that may negatively affect the conduct of the project and safety of the participant(s). Modifications to the project, information/consent documentation, and/or recruitment documentation, should be submitted to this office for approval using the "Modification to research project" form available at:
<http://www.research.uottawa.ca/ethics/forms.html>

Please submit an annual status report to the Protocol Officer four weeks before the above-referenced expiry date to either close the file or request a renewal of ethics approval. This document can be found at:
<http://www.research.uottawa.ca/ethics/forms.html>

If you have any questions, please do not hesitate to contact the Ethics Office at extension 5387 or by e-mail at: ethics@uOttawa.ca.

Signature:

.....
Mélanie Rioux
Ethics Coordinator
For Gilles Morier, Interim Director of the Office of Research Ethics and Integrity

Appendix C

Ethics Approval for Study 2



Université d'Ottawa **University of Ottawa**
Bureau d'éthique et d'intégrité de la recherche Office of Research Ethics and Integrity

Ethics Renewal Notice
Social Sciences and Humanities REB

Principal Investigator / Supervisor / Co-investigator(s) / Student(s)

<u>First Name</u>	<u>Last Name</u>	<u>Affiliation</u>	<u>Role</u>
John	Lyons	Social Sciences / Psychology	Supervisor
Jennifer	Hopton	Social Sciences / Psychology	Student Researcher

File Number: 06-12-43

Type of Project: PhD Thesis

Title: Predicting Placement Breakdown in Foster Care from Complex Trauma Exposure: The Roles of Externalizing Behaviour and Attachment

Renewal Date (mm/dd/yyyy)	Expiry Date (mm/dd/yyyy)	Approval Type
11/05/2014	11/04/2015	Ia

(Ia: Approval, Ib: Approval for initial stage only)

Special Conditions / Comments:

N/A



Université d'Ottawa **University of Ottawa**
Bureau d'éthique et d'intégrité de la recherche Office of Research Ethics and Integrity

This is to confirm that the University of Ottawa Research Ethics Board identified above, which operates in accordance with the Tri-Council Policy Statement (2010) and other applicable laws and regulations in Ontario, has examined and approved the ethics application for the above named research project. Ethics approval is valid for the period indicated above and subject to the conditions listed in the section entitled "Special Conditions / Comments".

During the course of the project, the protocol may not be modified without prior written approval from the REB except when necessary to remove participants from immediate endangerment or when the modification(s) pertain to only administrative or logistical components of the project (e.g., change of telephone number). Investigators must also promptly alert the REB of any changes which increase the risk to participant(s), any changes which considerably affect the conduct of the project, all unanticipated and harmful events that occur, and new information that may negatively affect the conduct of the project and safety of the participant(s). Modifications to the project, including consent and recruitment documentation, should be submitted to the Ethics Office for approval using the "Modification to research project" form available at: <http://www.research.uottawa.ca/ethics/forms.html>.

Please submit an annual report to the Ethics Office four weeks before the above-referenced expiry date to request a renewal of this ethics approval. To close the file, a final report must be submitted. These documents can be found at: <http://www.research.uottawa.ca/ethics/forms.html>.

If you have any questions, please do not hesitate to contact the Ethics Office at extension 5387 or by e-mail at: ethics@uOttawa.ca.

Signature:

Mélanie Rioux
Ethics Coordinator
For Catherine Paquet, Director of the Office of Research Ethics and Integrity