

THE EFFECT OF COMPLEX TRAUMA ON CHILDREN IN THE CHILD WELFARE  
SYSTEM: EXPLORING THE RELATIONSHIP BETWEEN COMPLEX TRAUMA,  
PLACEMENT, AND BEHAVIOR USING SECONDARY DATA ANALYSIS

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## ABSTRACT

This study used secondary data analysis to both identify and evaluate children with complex trauma who have interacted with the child protective services system. The study addressed a current gap in the literature by conducting secondary data analysis with this specific population. By using the NSCAW I dataset, two groups of children, one defined as complex-trauma likely and the other as not likely as complex trauma, were established. There was a significant difference between the average CBCL scores of externalizing behavior between the two groups. Additionally, for the complex trauma-likely specific population, disruptions in foster care placement had a statistically significant effect on externalizing behavior. Finally, a better understanding of the interaction of the variables of complex trauma, number of placements, and behavior was explored by using linear regression analysis.

## DEDICATION

This dissertation is dedicated to my Daddy, who taught me that if birds can fly then so can I.

## LIST OF ABBREVIATIONS AND SYMBOLS

$\alpha$	Cronbach's index of internal consistency
ACE	Adverse Childhood Experiences
ADA	Americans with Disabilities Act
APA	American Psychological Association
CANS	Child Abuse and Neglect Screen
CAPTA	Child Abuse Prevention and Treatment Act
CBCL	Child Behavior Checklist
CBT	Cognitive Behavioral Therapy
CPP	Child Parent Psychotherapy
CPS	Child Protective Services
C-PTSD	Complex-Post Traumatic Stress Disorder
CSA	Child Sexual Abuse
CT	Complex trauma
CW	Child Welfare
DESNOS	Disorders of Extreme Stress Not Otherwise Specified
<i>df</i>	Degrees of freedom
DHS	Department of Human Services
DSM-V	Diagnostic and Statistical Manual of Mental Disorders, fifth edition
EMDR	Eye Movement Desensitization and Reprocessing
<i>F</i>	Fisher's <i>F</i> ratio

HIV	Human Immunodeficiency Virus
IRB	Institutional Review Board
LCSW	Licensed Clinical Social Worker
NCANDS	National Child Abuse and Neglect Data System
NCCP	National Center for Children in Poverty
NCTSN	National Child Traumatic Stress Network
NIH	National Institutes of Health
NSCAW	National Survey of Child and Adolescent Well-Being
<i>p</i>	Probability
PTSD	Post Traumatic Stress Disorder
SAMHSA	Substance Abuse and Mental Health Services Administration
s.d.	Standard deviation
SPSS	Statistical package for the social sciences
<i>t</i>	Computed value of a <i>t</i> test
<	Less than
>	Greater than
=	Equal to

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## CHAPTER ONE

### **Introduction**

There is no quick fix or one-size-fits-all answer to working with child survivors of complex trauma related to child maltreatment. Complex traumatic events often affect a child's development in such a way that it alters his or her course for life. Each case of complex trauma related to child maltreatment is unique and each child victim experiences it differently. These facts can make for a daunting task when it comes to developing interventions for this population. Child survivors of complex trauma may face a lifetime of difficult rehabilitation, and those children with disoriented attachment may never reach a place where they can have the same types of relationships that more securely attached children can. The more time we can spend understanding complex trauma, in addition to abuse and neglect, the closer we can come to understanding the entire picture of abuse, recovery, and rehabilitation.

The literature shows a connection between exposure to trauma, behavior, and foster care placement. This relationship will be explored in this study, through the use of mediation analysis, to attempt to tease out the effect that complex trauma has on externalizing behaviors for this population. The first important step to be able to discuss the interaction of these three variables is to spend some time understanding the history and current state of science regarding this child abuse and trauma exposure.

### **History and Policy**

**History of child abuse.** Child abuse is not a recent occurrence in human history; the way we view it, however, has shifted over the past hundred years. Since ancient times there have been

accounts of infanticide, ritual abuse, mutilation, and sexual encounters with children.

What we would consider abuse in many cases was (and is) accepted in many cultures as rites of passage, everyday behavior, and ceremonial requirements (Sari & Buyukunal, 1991). The history relevant to this conversation is the current, western understanding of child abuse can be divided into three eras: Colonial times-1875, 1875-1962, and the modern era (Myers, 2008).

The first era represents the time before organized child protection, where abuse took place but was not handled as a public or government matter. Generally speaking, the birth of our modern understanding of child abuse began in the late 1800's with the first recorded public case of child abuse. In 1874, nine-year-old Mary Ellen Wilson suffered horrific physical abuse at the hands of her mother and foster mother. Mary Ellen's case was presented in court under the laws formed by the American Society for the Prevention of Cruelty to Animals® (ASPCA) for animal abuse, since no such laws for child abuse were in place. This case eventually led to the foundation of the New York Society for the Prevention of Cruelty to Children in 1875. By 1922, over 400 such societies were in place. Federal protection for children began later with the National Child Labor Committee (1904) and the Keating-Owen Child Labor Act (1916).

The year 1962 marks the transition to the modern era of governmental control over preventing and patrolling for child abuse. It was in the 1960s that child abuse became a topic amongst medical circles, specifically after an article by John Caffey on children with broken bones. Amendments to the Social Security Act in 1962 followed, based on the new emphasis in the physicians circles on child care. It is arguable that this was the first time that child protection was included as a part of the child welfare system. Several updates to these acts followed and in 1974 the Child Abuse Prevention and Treatment Act (CAPTA) established the groundwork for the legislation that remains in place today (Myers, 2008). In just over a hundred years, children

went from “property” to having, at least on some level, a voice, rights, and protection. While the legislation was evolving, so were definitions of abuse, theories of abuse, and interventions for working with abused children.

**CAPTA.** The main policy that informs most aspects of how U.S. society responds to child abuse or neglect today is the Child Abuse Prevention and Treatment Act (CAPTA). CAPTA, passed on January 31, 1974, as P.L. 93-247, had the goal of increasing prevention and reporting of child abuse (The Child Abuse Prevention and Treatment Act, 2003). The goal of CAPTA was to increase identification, reporting, and investigation of child maltreatment, and in doing so, protect children from harm. In addition, CAPTA increased research efforts on child abuse, including compilation of a research library for professionals in the field using a comprehensive approach to integrate social services with health services to prevent and identify child abuse. CAPTA also established the government as an identity that takes some responsibility in child abuse and neglect, and provided leadership on the front of child abuse services (CAPTA, 2003). Under CAPTA, Title I grants were created to assist public and private agencies to develop their child abuse prevention, assessment, investigation, prosecution, and treatment programs. Title II grants provided funds for communities to establish child abuse programs. CAPTA also designated funds to promote research in the areas of child abuse and neglect (CAPTA, 2003). CAPTA was groundbreaking for many reasons, but of note for this paper is that without CAPTA there would be very little discussion on child trauma today (Meyers, 2008).

**SAMHSA.** In 1992 Congress established the Substance Abuse and Mental Health Services Administration (SAMHSA) as a branch of the U.S. Department of Health and Human

Services. It is SAMHSA's mission to provide services having to do with mental illness and substance abuse, as well as other behavioral health issues that exist in America today (Who We Are, N.D.). This branch of the government was responsible for passing the Children's Health Act in 2000. Another one of the major positive aspects of SAMHSA is the funding the department provides for research in the areas of mental health and mental wellness. Federal funding, made available through SAMHSA, is what currently allows the National Child Traumatic Stress Network (NCTSN) to exist.

**Children's Health Act.** The Children's Health Act, passed in 2003, amended the Public Health Services Act to increase the focus on children's needs. Some of the highlights of this policy include a focus on the need for a pediatric research initiative, an increased focus on children's health concerns such as autism, and a redistribution of federal funds to better serve the child mental health population. This act spawned such programs as The Children's Day Care Health and Safety Act, the National Child Traumatic Stress Network (NCTSN), and the Healthy Start Program (Meyers, 2008).

**NCTSN.** The National Child Traumatic Stress Network is a collaboration of children, families, frontline workers, researchers, and practitioners focused on raising the level of care related to experiences of emotional trauma to which children have access to in this country. The NCTSN is an excellent example of how a policy enacted by the Federal government can be adapted, supported by a variety of funding sources and partners, and utilized in a way that provides information and resources that can positively influence children in our communities. This example truly shows one positive effect of how macro level policy works on a micro level. It is from programs like NCTSN that we gain valuable tools for working with traumatized children. The Think Trauma Toolkit is one example of the types of material that can come from

these think-tank-type programs. It is also a reminder of how important it is for the government to continue to update policy that affects children's health and to ensure that the funding for research in these areas continues (Lott, 2011).

**Keeping Children and Families Safe Act.** The Keeping Children and Families Safe Act of 2003, the most recent amendment to CAPTA included the reauthorization of CAPTA, the reevaluation of the protection of children under CAPTA, and an emphasis on linkages between child protective service agencies and public health, mental health, and developmental disabilities agencies (CAPTA, 2003). While the pros and cons (as well as the overall effect) of the CAPTA legislature is debatable, one of its primary impacts is the creation of a mandatory reporting laws. Under current law, any professional or nonprofessional can make a report to the proper agency when they suspect abuse is taking place, and some professionals (school teachers, police, social workers) are required to report. These reports can be anonymous, and there is a guarantee to keep the identity of the reporter confidential. There is also implied protection for the reporter from civil or criminal liability for reporting (Lau, Krase, & Morse, 2009).

On a micro level, there is budding emphasis on the creation of trauma-informed policy. Organizations like National Child Abuse and Neglect Data System (NCANDS), Child Welfare Information Gateway, and the National Center for Children in Poverty (NCCP) have all produced statements and materials geared towards informing policy makers and others of the special needs that survivors of trauma may have, and there is a general push towards including those special needs in new policy. The NCCP recently released a white paper with the specific focus of improving and strengthening current policy to “balance current knowledge about effective practices with supportive financing, cross-system collaboration and training, accountability, and infrastructure development” (Cooper, Masi, Dababnah, Aratani, & Knitzer,

2007, p.2). The NCCP paper, “Strengthening Policies to Support Children, Youth, and Families who Experience Trauma,” critiqued current trauma policy as being reactive and lacking both long-term goals and system-wide or community-wide applications. The paper also identified gaps in the current system, namely a lack in depth and quality for working with diverse populations, a need to integrate current research and best practices into outdated policies, and a need for the federal government to step up and lead by example when it comes to updating policy in this area (Cooper et al., 2007).

As with other areas of policy, working with smaller, rural, or low socio-economic status communities poses especially problematic for trauma-informed policy development and implication. With many Department of Human Services agencies in these areas trauma policy is the same whether it involves a single abuse case or incessant abuse. In some underfunded programs, the policy may be in place but the agencies have no way of fulfilling the demands and structures of the policy. In rural towns it can be difficult to access the necessary services dictated by the policy. While American’s with Disabilities Act laws may come into effect for assisting children who have diagnoses related to or resulting from trauma, getting those diagnoses is difficult when it comes to pinpointing complex trauma. The area of policy and policy implication on this micro level, all the way to the macro level, is wide open for development and improvement when it comes to the topic of complex trauma.

**History of the study of trauma.** The history of trauma, as a concept linked to child abuse is much shorter than the overall history of child abuse and neglect. The observation of the link between trauma and abuse began a hundred years ago with Pierre Janet's connection between traumatic experiences and their effect on a person. His initial research focused on the idea that a person expressed vehement emotions in response to a cognitive interpretation of a

stimulus (van der Hart & Horst, 1989). This basic linkage, further developed by researchers like van der Kolk, Roth, Pelcovitz, Sunday, and Sspinazzola (2005) and Courtois and Ford (2009), and the idea of traumatization matured with all new research. Unlike the field of child abuse which has come to certain agreements on areas, causes, and treatment of abuse, our understanding of trauma is still in its budding phases. Researchers work to understand traumatic reactions to natural disasters, child abuse, rape, war, and other experiences. The chemistry of the brain plays a part in reaction to trauma as do protective and risk factors.

**History of Complex Trauma.** Thoughts on complex traumatic reactions, such as the ones focused on in this paper, are even more newly formed ideas. It is only in the last fifteen years that publications have emerged that discuss “complex trauma.” With this change in terminology one can also observe a shift in the way researchers are thinking about child abuse. Rather than talking about the “damages” of the single events of abuse, workers and researchers began thinking about the entire person and the total series of events that have befallen that person. Language shifted from the “abused child” to a child who has experienced abuse. Additionally, an understanding began to develop that an act of abuse is not a single act, but a combination of horrors to which children must adapt. Work from Williams (2006), Briere (2006), and Courtois and Ford (2009) is leading the field when it comes to preventing, identifying, and intervening with complex traumatic reactions. It is an exciting time to be at the forefront of research on the topic of complex trauma!

### **Child Abuse Overview**

In 2011, over 676,000 children were victims of child abuse or neglect in America (U.S. Department of Health and Human Services, 2012). Child abuse can be defined in many ways, but a general definition used by CAPTA and the National Institutes of Health (NIH) is “any recent

act or failure to act on the part of a parent or caretaker which results in death, serious physical or emotional harm, sexual abuse or exploitation, or an act or failure to act which presents an imminent risk of serious harm” (CAPTA, 2010). Abuse can encompass neglect, physical abuse, sexual abuse, and/or emotional abuse. While more than 75% of the cases reported in 2011 were neglect, almost 9.1% of the reported cases filed indicated child sexual abuse (U.S. Department of Health and Human Services, 2012).

### **Statement of the Problem**

The negative effects of complex trauma span a range of developmental areas and topics. Domains of impairment can include attachment, biology, emotional, dissociation, behavioral, cognition, and self-concept (Becker-Weidman and Hughes, 2008). Anxiety disorders, sleep disorders, conduct disorders and eating disorders are only a few of the possible effects of complex trauma. Because of the breadth and depth the negative scope of complex trauma can have, working with children who are effected can be quite challenging. Interventions must be strengths-focused, systems based, and may require a variety of methods and techniques to be successful. In some cases, where a child never had the opportunity to form a successful attachment, the result may be a lifetime of struggles against dysfunction (Alexander, 1992.)

Children with complex trauma in the child welfare system present challenging cases because their struggles with externalizing behaviors can present challenges for foster parents and the social welfare system. These children are not only dealing with the results of trauma, they are also working through a whole host of other challenges coming from the removal from their home, the schism in their attachment network, and the hurdles of healing without the proper tools. The problem addressed here is to better understand the overall trajectory of the complex trauma child in the system to better serve this population.

## **Purpose of the Study**

In an attempt to better understand the entire trajectory for children after abuse and out-of-home placement, this study used an existing dataset to explore the effect of multiple traumatic experiences on children in the child welfare system. I sought to corroborate what I already knew about placements and child behavior by deepening my understanding so as to better serve children who have experienced adverse experiences including trauma and out-of-home placements. The study was guided by hypotheses grounded in attachment theory and modeled under Bronfenbrenner's Ecological Systems theory, and explored the connections between number of placements and behavioral and socioemotional skills for this specific population.

## **Research Questions**

1. Do children who have histories of complex trauma experience worse externalizing behaviors than children who have experienced lesser traumatic events?
2. How does placement type and number of placements affect child behavior for children with histories of complex trauma?
3. Do fewer placement changes result in a better adjusted CT child?
4. How can we better serve children with complex trauma in the child welfare system?

## **Hypotheses**

1. Children who are experiencing effects of complex trauma, as defined by having ongoing, interpersonal abuse before age six, will have poorer behavior than children experiencing other types of trauma (as indicated by clinical cutoff scores on the CBCL).
2. If children who have experienced complex trauma have two or more changes in placement, then their behavior will be negatively influenced, or will stay the same as upon intake into the system.

3. Children with one placement will see the CBCL score improve or stay the same.

### **Significance**

This research is significant because it places emphasis on a very tangible point on the foster child's life-course timeline, the number of times they change environments. By attempting to show a direct link between the number of times they are placed and developmental issues, I could have identified a point at which early intervention or intensive intervention would have greatly influenced these children's lives for the better. The real world impact is that by identifying children with certain risk factors (the inclusion criteria) and by working intensively with them to minimize changes in placement, workers may be able to improve the children's overall functioning and developmental level. Improving the outcome for children with complex trauma is the end goal for this type of work.

### **The Language of Complex Trauma**

The topic of "complex trauma" continues to be developed within the fields of psychiatry, medicine, nursing, criminal justice, and social work. When referring to complex trauma, there are a whole host of implications tied to those two words. In most cases the meaning of the phrase "children with complex trauma" is children who have experienced traumatic events early in life that were ongoing and interpersonal in nature. These experiences have had an effect on the child referred to as trauma. The phrase "child with complex trauma" summarizes these experiences, and having survived them. Complex trauma is not a diagnosis, as it does not appear in the DSM-IV and so some authors choose to use the phrase "children who have experienced complex traumatic events" and/or children affected by complex trauma. There are many different ways to label the traumatic events and children who experience them both in the literature and in our everyday vernacular. In an attempt to be transparent to the reader about these assumptions, for

the purpose of this paper I will use the terminology “complex trauma children” or “children with complex trauma.” These phrases are easier to read colloquially for the purposes of this proposal.

### **Organization of the dissertation**

1. Introduction
  - a. Introduction
  - b. Problem Statement
  - c. Statement of Purpose
  - d. Research Questions
  - e. Overview of Methodology
  - f. Rationale and Significance
  - g. Organization of the dissertation
2. Literature Review
  - a. Definitions of Key Terminology
  - b. Review of the Literature
  - c. Conceptual Framework
  - d. Summary
3. Methodology
  - a. Introduction
  - b. Rationale for research approach
  - c. Research setting/context
  - d. Research sample and data sources
  - e. Data Collection methods
  - f. Data analysis methods

- g. Threats to Validity
- h. Limitations and delimitations
- i. Summary
- 4. Data Analysis
- 5. Conclusion
  - a. Discussion
  - b. Future Research
  - c. Conclusions

## CHAPTER TWO

In this chapter I will highlight the important terms of child sexual abuse, neglect, and complex trauma. Each term will be defined in terms of the literature, and then in terms of what definition will be useful for this study and why. Furthermore, the effects of each of these topics will be reviewed, with specific emphasis placed on effect on the child after trauma due to Child Sexual Abuse (CSA), neglect, and complex trauma. I will use literature to explore the intersection of these three topics through an ecological systems/attachment lens, in an attempt to set up the both the theoretical and the empirically based framework for the procedure section.

### **Definition of Key Terminology and Their Effects**

**Child sexual abuse definition.** Child sexual abuse is specifically defined as “the deliberate exposure of minor children to sexual activity” (Child Welfare Information Gateway, 2013). This definition includes forcing a child or talking a child into sex or sexual activities which include but are not limited to oral sex, pornography, sexual intercourse, or fondling. Under current child sexual abuse laws, consensual sex between a minor and an adult is considered child sexual abuse as well (CAPTA, 2010). Sexual abuse is often referred to as being classless and without race, meaning that sexual trauma does not necessarily happen more to people of one race or income level than people of another; however, there are some at-risk groups that are statistically affected at higher rates than others. Almost 90% of children who are sexually abused are abused by a family member or an older child with whom they are familiar (Finkelhor & Asdigian, 1996). Abuse from a stranger occurs in only 10% of victims. Generally speaking,

perpetrators are overwhelmingly male (92%). Those with lower education levels or at lower socioeconomic status levels are more likely to be victims of sexual abuse (Maniglio, 2009).

Children under the age of three who suffer from child sexual abuse may not know that sexual activity is inappropriate, yet can still develop problems resulting from an inability to cope with the overstimulation. For older children, who are aware that the acts are wrong, feelings of entrapment, shame, and disbelief can occur (Summit, 1983). In many cases these children are fond of their abuser in the overall sense and do not want to risk getting in trouble for “telling” about the abuse. They may also fear telling if the abuser threatens violence in return. If the abuse occurs within a family setting, there may be an even stronger desire to keep the secret, for fear of the collapse of the family unit (Summit, 1983).

**Effects of child abuse.** Effects of child sexual abuse can fall into one of two categories: short-term effects and long-term effects. Short-term effects include those symptoms that develop within two years of the incident and long-term effects include any symptoms that carry over from the first two years after the incident and any developing thereafter (Beitchman et al., 1992). Short-term effects include headaches; PTSD; sadness; aggression; development of eating disorders and other psychiatric conditions; and trouble with normal sexual behaviors (Finkelhor, 1994).

Long-term effects can include a range of issues from financial instability to mental disabilities. Some other examples of effects include drug or alcohol problems (with up to 80% of survivors reporting excessive drinking), development of psychiatric disorders, inappropriate behavioral issues (sexual and otherwise), increased rate of underage pregnancy, increased rate of prostitution, increased rate of re-victimization, increased chance of committing a crime, and an

increased rate of becoming a perpetrator (Browne & Finkelhor, 1986; Finkelhor & Asdigian, 1996; Maniglio, 2009). Additionally, direct links have been found between survival of child sexual abuse and the development of bulimia nervosa in early adulthood, and there has been a link found between survival and increased subsequent risk of HIV infection (Hudson, Hiripi, Poe, & Kessler 2007; Zierler, 1991).

**Definition of neglect.** Child neglect, as defined by the Child Abuse Protection and Treatment Act (CAPTA), is “any recent act or failure to act on the part of a parent or caregiver, which results in death, serious physical or emotional harm, sexual abuse or exploitation, or an act or failure to act which presents an imminent risk of serious harm” (2003). While this definition might appear concise and manageable on one level, many scholars and child services workers would argue that defining neglect is not so simple (Dubowitz, 1999). Some factors that make defining neglect difficult are considering minimum actions for citing neglect, seeking a generalized definition that can apply worldwide, and incorporating a way to cite the intention of the caregiver (Child Welfare Information Gateway, 2013). To complicate the perfecting of the definition, a need for multiple types of definitions can be seen. There is often a need for different definitions that can have different uses and implications in political, judicial, and scholarship situations. It seems that because each case of abuse is unique, hope of reaching a single, effective, overarching definition may be nearly impossible; however, there are scholars working to establish a permanent, conceptual definition of child neglect (Tang, 2008).

In order to understand neglect we must look past the issues in defining the concept and begin to form an understanding of the effects, causes, and scope of child neglect. As far as numbers are concerned, child neglect is the most common type of child abuse (Child Welfare Information Gateway, 2013). Scholars agree, however, that the official count of cases of neglect

is low, much like the statistical number of reports for all types of child abuse (Dubowitz, 1999; Goodyear-Brown, 2011). One reason cases of neglect are underreported is the difficulty in defining and substantiating claims of neglect (Goodyear-Brown, 2011). Related to definitional issues, neglect being viewed as an act of omission versus co-mission may also play a role in misrepresented numbers of substantiated and reported cases. No matter what the official numbers are, for those children who are being neglected, the consequences can be serious and long-lasting.

In his book on research, practice, and policy related to neglect, Howard Dubowitz provides an in-depth look at the causes of child neglect. He focuses on the role of economic status as a contributor (not a direct link) to this type of abuse. Dubowitz breaks neglect down into three subtypes (disorganized, emotional, and depressed neglect) and calls for a systems-based look at individual causes. In general, parent education level, stress level, level of emotional maturity, parental coping skills, child protective factors, and mental disabilities of the child or adult may all be contributing factors (Dubowitz, 1999). Of course, each individual cause of abuse requires a different type of intervention when treating the outcome.

**Effects of neglect.** The consequences of child neglect can vary drastically from the consequences of physical or sexual child abuse. Of course, medical neglect or a child being left unattended can lead to the same sort of physical injuries as physical abuse, and if the result of a child being left unattended is sexual contact, the consequences are those of sexual abuse as well. Where the consequences of neglect differ, however, is when it comes to child development. Chronic, ongoing neglect can have devastating effects on child development (Stevenson, 2007). Research shows links between both physical and emotional chronic neglect to failure to thrive

syndrome, language delay, emotional disturbances, conduct disorder, and even skin infections (Stevenson, 2007; Dubowitz, 1999).

Many of these consequences are due to a child's difficulties in forming secure attachments in infancy or youth. When reviewing the basics of attachment theory and the original Harlow's experiments, one can begin to gain an understanding of just how difficult it is for children to overcome the feelings of insecurity, isolation, and unworthiness that can be caused by non-normative attachment (Harlow, Dodsworth, & Harlow, 1965; Stevenson, 2007). It is somewhere in this conversation on attachment, development, and chronic neglect that the relationship with complex trauma begins to emerge.

**Definitions of complex trauma.** Complex trauma, in layperson's terms, can be thought of as exposure to multiple or ongoing traumatic events (Tufnell, 2009). The reactions a child has to trauma are thought of as complex because of the effect on the child due to the long-term nature of the abuse. Reactions to complex trauma are not only found in abuse cases, they can also be seen in cases of war, terrorism, and natural disaster (Fairbank, 2008). There are four critical components to complex trauma: chronic abuse, early in nature, involving some sort of maltreatment, and happening despite or because of a care-giving relationship (Becker-Weidman & Hughes, 2008). It is the schism in the safety and security of the care-giving relationship (or the interruption of secure-attachment formation opportunities) where the severe consequences and implications of complex trauma can come into play.

**Effects of complex trauma.** The negative effects of complex trauma span a range of developmental areas and topics. Domains of impairment can include attachment, biology, emotional, dissociation, behavioral, cognition, and self-concept (Becker-Weidman and Hughes, 2008). Anxiety disorders, sleep disorders, conduct disorders, and eating disorders are only a few

of the possible effects of complex trauma. Because of the breadth and depth the negative consequences of complex trauma can have, working with children who are affected can be quite challenging. Interventions must be strengths-focused, systems-based, and may require a variety of methods and techniques to be successful. In some cases, where a child never had the opportunity to form a successful attachment, the result may be a lifetime of struggles against dysfunction (Alexander, 1992.)

This topic of attachment, and the biological, mental, emotional, and developmental aspects associated with it, is where I see the complicated relationship between complex trauma and neglect housed. Neglect can result in the creation of avoidant or insecure attachment between a child and a caregiver. This attachment type will govern the way the child views relationships, interacts with people, and even values him or herself for the rest of his or her life. Ongoing trauma that takes place during the early formative years of a child can affect development of the brain and social development in a similar way (Cook, Blaustein, Spinazzola, & van der Kolk, 2003).

The link between brain development and neglect/complex trauma is important for many reasons. In one sense, any connection we can draw is important to help us better understand the effect of trauma and abuse on children. The brain is still an area that we know little about and the brain's control of developmental aspects is something we continue to try to understand. The primary purpose of seeking to understand this connection is to help researchers be better able to tailor interventions to working with children who have been affected by complex trauma. By simply acknowledging that there is a physical difference in the brain itself after trauma, researchers are making a step towards being better able to understand these effects.

One study that researched the link between child maltreatment and changes in brain function was conducted by Anda et al. in 2006. This study, of European origin, used the Adverse Childhood Experiences (ACE) study as a tool to compare the point at which epidemiological and neurobiological evidence of child abuse converged. The ACE study is an important tool for looking at child abuse and is known for its ACE score tool, the length and quality of the study, and the ease by which researchers can use the information from the study in their own work. Anda et al. used the ACE to set up a study where the ACE score for 18 outcomes was compared to one of 18 hypothesized dose-response situations. The researchers used logistic regression to analyze the risk level of the different hypothesized outcomes and eventually concluded with significance ( $p < 0.001$ ) that the ACE score predicted a negative change in the long term neurobiology of a child as the abuse increased (Anda et al., 2005).

## **Literature Review**

**Exploring attachment theory.** This topic of attachment, and the biological, mental, emotional, and developmental aspects associated with it, is where I see the complicated relationship between complex trauma and neglect housed. Neglect can result in the creation of avoidant or insecure attachment between a child and a caregiver. This attachment type will govern the way the child views relationships, interacts with people, and even values him or herself for the rest of his or her life. Ongoing trauma that takes place during the early formative year of a child can affect the development of the brain and social development in a similar way (Cook et al., 2003).

Attachment theory is the primary theory that informs our current understanding of complex trauma. This theory was born in the 1970's when Mary Ainsworth did the famous "strange situation" attachment experiment with mother and baby, showing how different types of

attachment exist (Ainsworth, Blehar, Waters, & Wall, 1978). Ainsworth's work, combined with Bowlby's original conclusions, built the theory that there are three primary types of attachment: secure, avoidant, and ambivalent. These three types of attachment were formed, in Bowlby's eyes, from the type of relationship between care-taker and baby during the baby's more formative years. The relationship type formed a template for the relationships that the child would have for the rest of his or her life (Bowlby, 1969).

Specifically with complex trauma, attachment theory provides a lens by which we can view how children react to trauma. If the child has a secure relationship with a non-offending caregiver (in essence a safe place to turn when a trauma happens) they will feel comfortable sharing with that person. If the caregiver shows concern but confidence in getting through the ordeal, the child may come through relatively well adjusted. If the child has no such secure attachment, or if the person with whom they are attached is the offender, the child may have to internalize those feelings of confusion, shame, or doubt, leading to a whole host of psychodynamic issues. Just as a secure attachment can promote stability, comfort, and consistency, a lack of this bond is the origin of self-doubt, poor self-image, and uncertainty. If a child finds him or herself in a situation where there is no secure relationship, or where secure relationships are broken time and time again, he or she may have no healthy template for relationships in the future, leading to conduct disorder, emotional disorders, and other such behaviors.

Attachment theory is not only a useful lens for viewing the causes and events of complex trauma, but it also provides us with a framework for treating it. One of the underlying foci for therapy related to trauma is working to reestablish a trustworthy person in an abused child's life. It is only after the child is provided a safe environment where they are consistently out of

danger's way that they can feel secure enough to start establishing these types of relationships. These relationships can then begin to model for the child a new template for interacting with others in a healthy way. While reforming a secure relationship in a child's life is by no means a one-way fix-all to working with victims of trauma, the secure relationship is viewed by some practitioners as a necessary starting point for cognitive, behavioral, and emotional therapies (Williams, 2006).

As we know, attachment is the building block upon which things like self-worth, identity, good coping skills, and adjustment are based upon. By exploring the number of times a child is removed from one foster family and placed with another, we may be able to get a better picture of just how important these relationships are over the life course of the child, and especially during the critical first years, in helping the development of skills necessary to overcome trauma.

**Bronfenbrenner's ecological systems theory.** Bronfenbrenner's Developmental Ecological Systems theory is a specialized version of systems theory that can also offer an interesting lens through which to view complex trauma. This theory focuses on the fact that there are systems that influence the development of a child that are not finite and cannot be recreated in lab settings. The ecology that surrounds a child while they are developing is made up of all of the social and cultural interactions that child experiences. Bronfenbrenner's theory is important in reminding us that there are an infinite number of interactions and systems that effect how we respond to traumatic stimuli and that no child, or adult for that matter, develops in exactly the same way. This theory is important to remember when thinking about protective factors of complex trauma as well as intervention; there is no "one size fits all" case or response for trauma cases (Bronfenbrenner, 1989).

Ecological systems theory, and more specifically Bronfenbrenner's person-process-context model, focuses on the relationships between a person and the environment around him or her. There is great emphasis placed on the reciprocal nature of relationships and the strengths that come from good relationships. Bronfenbrenner places special attention on the "first context," or the closest relationships to a person, and this is where I see ecological systems theory and attachment theory coinciding. Within the "first context" is a child's most valuable relationship, that relationship with a caregiver that ideally leads to a securely attached child. In large part, the reciprocal nature of this relationship, or lack thereof, that Bronfenbrenner discusses, is the secure relationship that Ainsworth and Bowlby explore. A child will send out signals to a caregiver to test and explore responses. The reaction of the caregiver to these signals forms the very building blocks of the relationship. A child who sends out a signal of fear and gets comforted develops very differently than a child who sends out a signal of fear and gets no response or evokes a negative response. Other relationships can be important to a child's development as well (hence the Russian Dolls metaphor that is often related to Bronfenbrenner's work) and can assist in a normal development of a child, even if the primary caregiving relationship is not a strong one. Patricia Harney, whose research focuses on resilience processes, notes that the development of resilience is a point at which these two theories nicely align (2007). This makes sense to me as well, since both theories are intertwined to create the theoretical perspective for this proposal, and resilience is a key factor in how a child processes trauma and the resulting effects of it.

**The life course perspective.** Looking at the child's development over time, or taking into account the life course perspective, is also important when exploring the effect of complex trauma. We already know that effects can be long-lasting, mainly due to the fact that the abuse is

happening at a critical developmental time for these children, when both their brains and bodies are growing and changing rapidly. The life course perspective, which looks at how chronological age, relationships, common life transitions, and social change shape people's lives from birth to death, reminds us that development and event histories must both be taken into account when trying to get an overall picture of a child's adjustment (Hutchison, 2010). This study will use the life course perspective as a guiding idea and as a support for looking at different domains of adjustment in a child's life.

There is one simple truth that comes out of research on trauma: whether it is complex, interpersonal, or minor, no person experiences trauma in the same way (Ziegler, 2002). Traumatic events are usually external in nature, but the majority of the effects of the event are processed internally. Coping mechanisms, personality strengths, and even how the person, or in this case child, perceives the traumatic event all influence his or her response to it. It is important to establish the fact that the current state of science on trauma strives to understand that there is no "one size fits all" treatment or template for working with children who have experienced trauma (Ziegler, 2002). Specifically focusing on what is commonly called complex trauma is one way of honing in on a specific set of traumatic experiences in order to try to better serve those children affected by it.

**Defining complex trauma.** Complex psychological trauma, as defined by Courtois and Ford, involves "traumatic stressors that (1) are repetitive or prolonged; (2) involve direct harm and/or neglect and abandonment by caregivers or ostensibly responsible adults; (3) occur at developmentally vulnerable times in the victim's life such as early childhood; and (4) have great potential to compromise severely child's development" (2009). Resulting reactions to these traumatic stressors are then referred to as complex traumatic stress disorders (such as Complex-

PTSD) (Courtois & Ford, 2009). This long and complicated definition strives to include a range of scenarios, reactions, responses, and types of trauma, but the results are quite complex and convoluted.

The Courtois and Ford definition is not the only one currently accepted by the medical, social work, and nursing fields today. Additional definitions include one from a White Paper of the National Child Traumatic Stress Network Complex Trauma Task Force:

The term complex trauma describes the dual problem of children's exposure to traumatic events and the impact of this exposure on immediate and long-term outcomes. Complex traumatic exposure refers to children's experiences of multiple traumatic events that occur within the caregiving system – the social environment that is supposed to be the source of safety and stability in a child's life. Typically, complex trauma exposure refers to the simultaneous or sequential occurrences of child maltreatment—including emotional abuse and neglect, sexual abuse, physical abuse, and witnessing domestic violence—that are chronic and begin in early childhood. Moreover, the initial traumatic experiences (e.g., parental neglect and emotional abuse) and the resulting emotional dysregulation, loss of a safe base, loss of direction, and inability to detect or respond to danger cues, often lead to subsequent trauma exposure (e.g., physical and sexual abuse, or community violence). (Cook et al., 2003).

Also from The National Child Traumatic Stress Network Website:

The term complex trauma describes the problem of children's exposure to multiple or prolonged traumatic events and the impact of this exposure on their development. Typically, complex trauma exposure involves the simultaneous or sequential occurrence of child maltreatment—including psychological maltreatment, neglect, physical and

sexual abuse, and domestic violence—that is chronic, begins in early childhood, and occurs within the primary caregiving system. Exposure to these initial traumatic experiences—and the resulting emotional dysregulation and the loss of safety, direction, and the ability to detect or respond to danger cues—often sets off a chain of events leading to subsequent or repeated trauma exposure in adolescence and adulthood (Cook, Blaustein, Spinazzola, & van der Kolk, 2003).

And from Becker-Weidman:

Complex Post Traumatic Stress Disorder (CPTSD) is a clinical formulation that refers to the results or outcomes of four simultaneous factors:

1. Chronic
2. Early
3. Maltreatment
4. Within a care-giving relationship

Maltreatment refers to abuse or neglect. Early, meaning occurring in early childhood; within the first several years of life. Chronic meaning a pervasive pattern, not a single or discrete event. Very important is that all the above occurs within a care-giving relationship. It is this last factor that makes the chronic early maltreatment so insidious and that leads to such pervasive negative effects on later development and impairment in so many domains of functioning (Becker-Weidman, 2008).

In addition to these definitions, some researchers also use the more clinical definition of Disorders of Extreme Stress, Not Otherwise Specified (DESNOS) when referring to complex trauma:

The requirements from the DSM-IV for DESNOS are trauma which involves interpersonal victimization, multiple traumatic events, or events of prolonged duration.

Disturbances in six areas of functioning are required for the diagnosis: (1) regulation of affect and impulses; (2) attention or consciousness; (3) self-perception; (4) relations with others; (5) somatization; and (6) systems of meaning. (Luxenberg, Spinazzola, & van der Kolk, 2001).

There are also a few ways to think about complex trauma in layman's terms that help make the topic simpler, one of which is to think about trauma that adds "insult to injury," meaning that it affects a child that already has other aspects of trauma to be processing.

An initial point that emerges immediately when comparing all of these definitions is a range of terminology. The terms complex trauma, CT, Complex-PTSD, DESSOS, Complex Psychological Trauma, and PTSD seem to be thrown around and used almost interchangeably. While there are clear differences between PTSD and complex psychological trauma, the confusion with terminology and definitions may be a symptom of the larger issue of the range of cases and incidences that can truly be called complex trauma. It has already been established that everyone experiences trauma differently and it appears that the confusion in defining and operationalizing definitions of complex trauma stems from that same assumption. For the remainder of this paper, the author will use the definition by Courtois and Ford (2009) presented first in this section. This definition is generally accepted in the field, is specific yet inclusive at the same time, and provides specific criteria that are necessary in order to understand the overall topic of complex trauma. In addition, the word "trauma" itself is often regarded as confusing both in meaning and in definition. The word trauma will be used throughout this paper in reference to an actual event as well as meaning the experience a child has during and after the event.

**Effects of complex trauma.** Just as there is variability in the range of definitions of complex trauma, there is range in the effects of these traumatic experiences. Cook, Spinazzola, Ford, & Lanktree summarize these effects in terms of domains of impairment. The domains noted are attachment, biology, affect regulation, behavior control, dissociation, self-concept, and cognition (2005). Others summarize the effects of trauma as a loss of interpersonal relatedness skills and a lack of self-regulation. One of the trickiest parts of defining, diagnosing, treating, and/or analyzing reactions to complex trauma is understanding that each case is entirely unique; where one child might respond with substance abuse and boundary issues, another may be overly compliant and have low self-esteem (Cook et al., 2005). Currently, this variety in influences and symptoms can be viewed as one of the greatest challenges for any field researching reaction to trauma. When it comes to social work, specifically diagnosing children who may have experienced complex trauma, the field is working to narrow diagnoses criteria to better identify and understand the reactions these children are experiencing.

**Externalizing behavior.** Externalizing behavior is defined as aggressive, anti-social under-controlled behavior by Achenbach and Edelbrock (1991), and is generally thought of as poor or bad behavior of a child. Dysregulation of emotion and impulses are thought of as the most pervasive and far-reaching results of complex trauma (Bath, 2008). Furthermore, youth in foster care are known to display higher rates of disorders related to externalizing behavior than children in the general population (Pilowsky, 1995); I presume this is due to these children's exposure to events related to complex trauma. Keil and Price surmise that this is why children who exhibit externalizing behavior are not only spending more time in foster care, but are also less likely to be reunified with the parent and are more likely to experience placement disruptions (2006). Interestingly, in Keil and Price's article, "Externalizing behavior disorders in

child welfare settings: Definition, prevalence, and implications for assessment and treatment,” they neatly summarize the negative effects of externalizing behaviors in the child welfare setting, but they fail to link these behaviors to one of the primary causes of this type of behavior, trauma. This further illustrates the reason to learn more about complex trauma as the root of other types of behaviors/responses from a child, and to not skip over the origins of these behaviors in an attempt to classify, study, and treat the behavior itself. Additionally, for the purposes of the remainder of this paper, behavior and externalizing behavior will be used interchangeably.

**Treating complex trauma.** In terms of treating complex traumatic reactions, it may be no surprise that there is a range of opinions about the best ways to intervene. In a perfect world, a child would be evaluated on multiple levels, with input from a variety of sources that observe the child in different ways, and a comprehensive intervention plan would be created, implemented, and then evaluated. For example, a truly comprehensive evaluation would include input from care-givers, teachers, friends, and family and would cover all seven domains of impairment. In addition, medical tests and cognitive testing could give diagnosticians more insight into the case. Even with such thorough assessment, the effects of complex trauma may still be misdiagnosed. When the current state of science meets the real world it is easy to see how less-than-thorough inspection of clues to complex trauma may come into play. It is difficult enough to diagnose this condition with a full-analysis, but when small budgets, undereducated front line workers, and lack of time come into play, the results are predictably less than ideal.

Over the last fifteen years, examination of the topic of complex trauma has gained momentum, with task groups and professional groups focused on finding the most effective interventions for working with this population. The National Child Traumatic Stress Network is

one such entity that has produced a six part, sequentially building chart for working with these youths. In this chart, the NCTSN identifies safety as the first component of intervention. This is in line with Maslow's hierarchy of needs as well as state and federal policy for working with trauma survivors. The second level, self-regulation, focuses on restoring equilibrium, specifically with regards to the domains of affect, behavior, cognition, interpersonal relatedness, and self-attribution. The third level is self-reflective information processing, where the focus is on attention processing and overall functioning. Next is traumatic experience integration, where the focus is on the resolution of traumatic memories and symptom management. Fifth, relational engagement is the stage where working models of attachment and interpersonal relationships are repaired, restored, or created. And finally, the sixth level focuses on positive affect enhancement and the reinforcement of self-worth.

In addition to this list of stages of intervention, some researchers have made the case for focusing on individual manifestations of the effects of trauma. Contextual therapy, cognitive-behavioral therapy, emotion-focused therapy, sensorimotor psychotherapy, pharmacotherapy, internal family systems therapy, couples therapy, family systems therapy, and group therapy can all be used in tandem or individually to effectively intervene (Courtois & Ford, 2009). It is up to individual practitioners to evaluate their child clients and determine which combination or implementation of those methods may be appropriate. There is also a large push to focus on some of the positive or protective factors when it comes to complex trauma. The main protective factor when it comes to trauma is strong family relations or a strong connection to a caregiver. The reaction of the caregiver to the trauma is often thought of as a template for how the child reacts (Cook et al., 2005).

While screening for complex trauma is not standardized, there are checklists and tools in place for workers to use after an initial idea that trauma has occurred. These include the Child Behavior Checklist, the Trauma Symptom Checklist for Children, the Trauma Symptom Checklist for Young Children, the Child Sexual Behavior-Inventory, and the Trauma Symptom Inventory. Critiques of the measure as whole include the fact that in many the age range for evaluation is very broad, there are limited numbers of assessments to choose from, some of the assessments are quite long and time consuming, and some are not very accessible (Courtois & Ford, 2009). Ziegler, in his book *Traumatic Experience and the Brain*, created a succinct list he calls “treatment implications” that should be understood by those hoping to successfully intervene with trauma (2002). His list includes the following points:

Childhood neglect has special treatment significance. Because of the pervasive nature of neglect, it should get special attention and consideration in the treatment process.

Most negative behaviors were useful adaptations at some point.

When assessing the trauma, look closely at symptomatic behaviors, themes, and patterns of responses. What is the child telling you about his or her past through these methods?

The significance of the trauma is based on how strong, how long, how many dimensions, and how overwhelming. The degree to which an experience is overwhelming is linked to the child’s support system at the time.

Consider what the child missed developmentally at the time of the trauma (2002, p. 31).

Zeigler also composed a list of ten primary “ingredients” of trauma therapy that should be included when working with trauma victims. These ingredients are to develop an atmosphere of safety and trust, to learn about the nature of the trauma to the individual, to explore how the child feels about the trauma (not how a clinician thinks he or she feels), to decondition harmful affective responses, to consider re-exposure as a tool, to work towards having the child change the ending of the trauma story, to replace problematic behavioral response with adaptive behaviors, to help the child build a new internal self-view, to teach specific coping strategies, and to focus on the idea that negative reactions to trauma can be turned into strengths (Ziegler, 2002). These basic reminders, in combination with the state of science and what we understand about trauma and children as a whole, form the basic criteria on which we can review interventions for complex trauma.

***Contextual therapy.*** Contextual therapy is a form of therapy that was originally created to work with long-term adult survivors of child abuse. The three main principles of this therapy, however, can be applied when working with children. This form of individual therapy focuses on securing safety and interpersonal stability before moving on to direct processing of the trauma and then reintegrating and reconnecting. Work with contextual therapy focuses on three major areas of intervention: the interpersonal area, the practical area, and the conceptual area (Hargrave & Pfitzer, 2003). This type of therapy is empirically tested with adults and was shown to be effective for that population (Courtois & Ford, 2009). While the methodology has not been empirically tested for children, the basic points of this method could be useful in that population as well (Courtois & Ford, 2009).

***Cognitive-Behavioral Therapy.*** Cognitive- Behavioral Therapy (CBT) is a currently a popular choice of intervention for therapists working with trauma survivors. CBT is based on the

concept that clients can change in a positive way. This therapy focuses on improving self-image and positive functioning by working to revise negative or dysfunctional behaviors and thoughts. This type of intervention primarily focuses on symptom or maladaptive behavior reduction, but can also be used with children to build interpersonal relationships and reestablish trust and boundaries. The CBT intervention starts with an assessment of strengths and dysfunctional behaviors in the client followed by normalization of those behaviors. The first stage is considered to be safety/stabilization and emotional regulation. After that stage, the goal becomes to begin emotional processing of traumatic memories. CBT is acclaimed for its ability to create change in a short amount of time and also for having success in difficult cases such as eating disorders, but it is often critiqued as being intensive and not necessarily responsive to the developmental aspects children may have missed during trauma (Hoffman, 2012; Courtois & Ford, 2009).

***Trauma-focused CBT.*** Trauma-focused CBT is a specific form of CBT that is considered useful for this population as well. In 2012 Cohen, Mannarino, Kliethermes, and Murray authored a study focusing on the effectiveness of CBT on youth with complex trauma. In their study the researchers adapted CBT to implement a phased-based application of the therapy to better suit the needs of traumatized children. The researchers used the phased-based approach on 30 participants and analyzed results with the CANS (Child and Adolescent Needs and Strengths) tool. The study found that of the (n=30) participants, there was an improvement in PTSD symptoms as measured by the CANS and the UCLA PTSD Reaction Index (score decreased from 52 to 21). With a significance of  $p < .01$ , Cohen et al. concluded that trauma-focused CBT can be an effective tool when working with this population.

Systematic reviews of CBT, like the one entitled “Psychological therapies for the treatment of post-traumatic stress disorder in children and adolescents,” by the Cochrane Review think-tank, have also shown CBT to be an effective means of intervention (Gillies, Taylor, Gray, O’Brien, & D’Abrew, 2012). In the review, the Cochrane research team analyzed all studies that focused on analyzing cognitive interventions for children dealing with PTSD. The team analyzed fourteen studies with over 750 total participants. There was a range of techniques included in the studies including CBT, EMDR, and counseling. The participants in the study experienced a variety of traumatic events that led to the PTSD diagnosis. In the majority of the studies, the participants’ results were compared to a control group. The Cochrane Review found that there was good evidence on the whole for these types of interventions to work with this population, and they specifically noted CBT as being a useful means of intervention for this group (Gillies et al., 2012).

In a second review from the same source, Early Psychological Interventions to Treat Acute Traumatic Stress Symptoms, researchers focused on analyzing the effects of CBT as a psychological intervention and found that CBT is significantly more effective than single-use or single-visit therapies (2012). While much more research is needed in both of the reviews to show the significance of the long-term effects of CBT, currently it is one of our strongest tools for intervening with trauma symptoms.

***Pharmacotherapy.*** Pharmacotherapy is a more controversial intervention that can be used in combination with some of the psychotherapies. It is controversial because not all practitioners find it appropriate to medicate children. While it may not be appropriate for the entire age range of children it is viewed as effective in specific cases. Selective serotonin reuptake inhibitors may be used in some cases but are not generally recommended by the field.

Instead, medications that focus on treating specific disorders such as borderline personality disorder, that may be comorbid with C-PTSD are suggested (Courtois & Ford, 2009).

*Family Systems Therapy.* Family Systems Therapy, when used with non-offending family units, may be useful if the child truly feels like the family system is a safe space for exploration. The only model of family therapy that has been empirically evaluated for the treatment of complex trauma is CPP, Child-Parent Psychotherapy. This form of therapy basically follows the same principles of creating a safe space and then working through the emotional and physical challenges of surviving trauma (Broderick, 1993). While not supported by research, there is some implication that this method might work quite well for treating children, since they may be already somewhat comfortable within their family setting.

When it comes to social work interventions for complex trauma, there are two challenges that strike me as important and relevant to the field today: identifying children who are challenged with navigating the waters of complex traumatic reactions and customizing interventions for each child's specific needs. While the second of those two challenges is not limited just to social work or even to the event of trauma for that matter, identifying children and getting them appropriate care is an area in which I see a great need for improvement and progress. There is an opportunity for social workers to be the first line of action when it comes to children who have undergone trauma, and those workers need education on trauma, access to resources, and effective methods in order to fully serve this specific population. Another area that could use development, specifically when it comes to trauma and children, is the area of policy, on both micro and macro levels

One of the more recent and most interesting developments when it comes to the current state of science is the push to make changes to the DSM-V when it comes to listing and

diagnosing complex trauma. In the current version of the DSM the closest diagnosis to the types of trauma discussed here is Post-Traumatic Stress Disorder (PTSD). Leading thinkers and workers in the field have established a need to update this listing to include a diagnosis such as Complex-PTSD and one that focuses on the specific needs of children presenting with either PTSD or C-PTSD (Resick, 2012). The discussion has many sides, but of note are the points that (1) children are different than adults; (2) the variety of symptoms of C-PTSD continue to make it difficult to succinctly describe; (3) the effect of protective factors is difficult to include; (4) confusion in defining terms leads to confusion in determining diagnosis; and (5) arguments can be made both for including C-PTSD as a subsection of trauma and for regrouping trauma-diagnoses all together (Sar, 2011; Friedman et al., 2011; Weiss, 2012). The discussion on what to include and what not to include is interesting and also somewhat reminiscent of the old chicken and the egg adage. If complex trauma earns its own place in the DSM-V, the concept itself will gain strength, clarity, and perhaps validity, but it is only after the idea develops in the field and in the literature that the writers of the DSM will consider its place there. Either way, the process by which terminology is included or excluded in that manual is important to include.

It is also important to note that different fields may have different approaches when it comes to intervening with complex trauma. Trauma is an area that crosses into many domains when it comes to who cares for children who are traumatized. Some of the domains include the medical field, mental health, criminal justice, and of course, social work. These areas are not exclusive, as often social work and criminal justice domains serve the same population and social work kids may be medically treated simultaneously. Practitioners in each domain may each approach working with trauma survivors from different theoretical backgrounds. A medical practitioner will approach the case with a focus on treating the biological implications while a

criminal justice agent may approach the case with a focus on reducing unwanted behaviors and reactions.

As far as a social work perspective goes, different theories may govern the way social workers approach their intervention. Social workers may have a unique position when it comes to being a broker of resources for traumatized children. Often, especially for the children in custody, it is the social worker's responsibility to make sure that ALL domains of trauma are being attended to for each child that they are working with. Front line social workers may also have the unique opportunity to identify the effects of trauma and start the initial steps towards getting a child the services he or she needs to work through those effects. More advanced social workers, such as LCSWs and experienced workers, may even create and implement interventions for working with traumatized children themselves, providing another level of service that social workers have to offer this population. Overall, while complex trauma may be treated in a variety of ways and in a variety of settings, social workers have a truly unique place in identifying, working with, and furthering the field's understanding of complex trauma.

**Placement and the child welfare system.** So far it is clear that externalizing behavior and other negative reactions to complex trauma can cause placement disruptions for children in the child welfare system; now it is necessary to understand why changes in placement are particularly harmful to this population of children. There is a general consensus among researchers and child care workers that changes in placement can be damaging to a child that is already being removed from their normal environment and is now challenged with acclimating to a new one. Attachment theory shows why schisms in the caregiver relationship are particularly harmful for children who have been sexually abused at a young age, as they struggle to form some type of secure attachment with a trustworthy caregiver. Additionally, behavior issues are

linked to children working through this struggle, and are also documented in the literature as a common reason for disruptions in placement. All of these facts together paint a challenging picture for children in the child welfare system.

Most children who enter the foster care system can expect to experience at least one placement change, with many states mandating that no child changes placements more than two times. Pardeck found that 22% of children had three or more placements during their stay in foster care (an average of a 2.5 year stay) (1986). Evidence also exists that the longer a child is in a foster care setting, the more placements he or she may experience, with one study citing that a child in a two-year placement can expect three changes. Taking the literature and the state policies into consideration, as well as the importance of not disrupting the child/caregiver relationship more than necessary, this study will use two placement changes as criteria for inclusion into the experimental group. There is some evidence that children with two or less placements are less likely to experience behavior issues according to Newton, Litrownik, and Landsverk (2000), and may be more likely to find a secure attachment with changes being minimized. Children with greater than two placements may show greater behavioral issues and have a more difficult time attaching, especially as time goes on. This study may show additional support for that claim.

## CHAPTER THREE

Now that I have established in the literature a basis for this study, I will outline the procedure for the methodology, including discussing the dataset, measures, analysis, limitations, and implications for future research.

### **Methodology**

**Introduction and Conceptualization.** This project used secondary analysis of quantitative data from the National Survey of Child and Adolescent Well-Being I (NSCAW I). Children are a protected population when it comes to research, and children who have experienced traumatic events are an even more sensitive population. Due to the protected nature of the subjects, it makes sense to use secondary data to explore this topic.

The idea behind the thesis is that a stable attachment environment or a stable support figure can provide the type of interpersonal relationship that is generally regarded as important or imperative for a child to be able to work through some of the effects of complex trauma. If a child does not have a good foster placement experience, or does not encounter a person with whom he or she can relate within their foster experience, then the child has less of a chance of post-traumatic adjustment, as manifested by poor behavior and socio-emotional skills.

**Rationale for research approach.** This study uses quantitative methods for analyzing numerical data. The original dataset includes some abstract concepts (things like feelings,

behavior, and complex trauma), so study measures warranted extra care and scrutiny. I assessed whether there were relationships between placement and complex trauma, as well as between placement and behavior. I sought to use mediation analysis to tease out the extent to which placement stability mediated the relationship between the IV and the DV. A mediating variable can be thought of as a link in an explanatory chain (Baron & Kenny, 1986). Theoretically, if variable A causes B which then causes C, then B would be the mediating variable, and understanding B is key to understanding more of the relationship between A and C. In this case, we know that complex trauma affects behavior, so it makes sense to explore what effect placement has on that relationship.

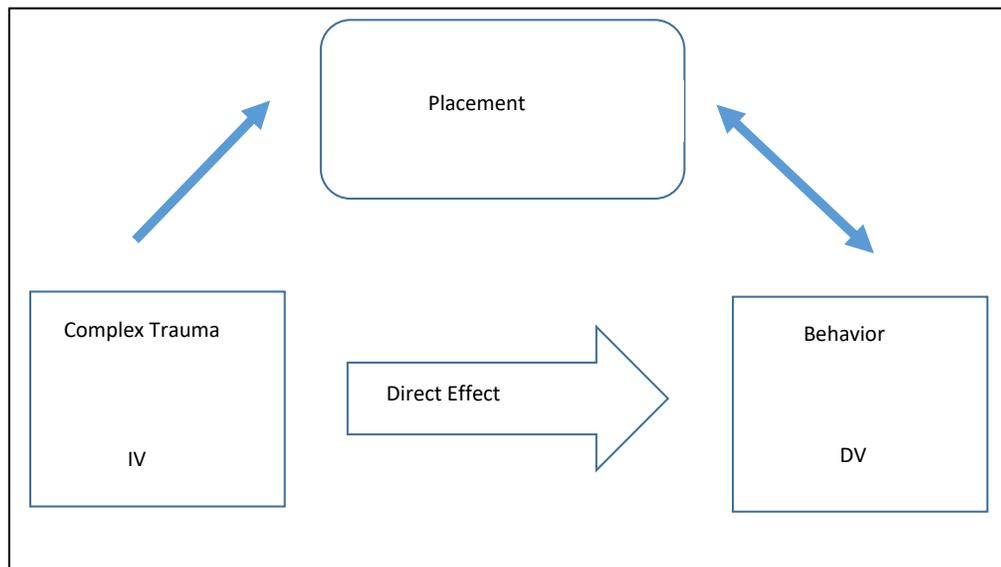


Figure 1.

Complex Trauma, Behavior, and Placement. Illustrating the mediated relationship between variables.

**Institutional Review Board.** In order to conduct this study in compliance with both national and University of Alabama regulations, the procedure for this research was approved by the Institutional Review Board (IRB) board at The University of Alabama. This study uses the NSCAW 1 dataset as its source of participants, and because this is secondary data for the

researcher, there is very little risk to the participants. The participants are de-identified and care is taken by the owners of the dataset to ensure that participants' identities are protected, both their names and geographic locations. The risk level is low enough that this study was approved for exempt IRB status, which is a status granted by the IRB that allows for not having to complete the full review process because of low risk to participant safety.

**Research sample and data sources.** The NSCAW data was collected from 1997-2014 from children and families involved in the child welfare system. The data collection was sponsored by the Administration for Children and Families and conducted by a variety of research teams across the country. The longitudinal study was conducted nationwide and was based on information collected from many different sources including children, parents, caseworkers, caregivers, teachers, and CPS records. The breadth and depth of the data collected allowed the NSCAW data to become one of the foremost data sets for researching the progression of children through the child welfare system and the life course after abuse. NSCAW I, the first data collected, followed 6200 children over 5 years, with waves of data being collected annually (ending in 2007). NSCAW I had a specific focus on safety, permanency, and well-being, which made it the ideal dataset for the research questions presented here. This study utilized waves 1 and 5 from the NSCAW, allowing for the most time to pass between data points to assess change in behavior over that time.

The participants in this dataset were selected from available participants in the NSCAW I dataset. This dataset sampled from children across the United States and included children that had contact with the child welfare system during a 15-month period in 1999 and children who had already been in the system for a year at that point in time. The NSCAW researchers used a complicated two-stage stratified sampling design to ensure that a quality representation of this

population was sampled. Only four states were eliminated from the original scope of the study, due to contact laws in those states. Additionally, weights were available to help correct for non-response, over-representation, and under-representation. The measures taken by the NSCAW researchers allowed for reasonable application of the results back to children who are currently involved in the child welfare system.

The sample used for this study included children under age six that were involved with the child welfare system. From the overall sample, I operationalized the definition of complex trauma to create a “complex trauma” and a “non-complex trauma” group. Inclusion criteria for the CT group were (1) removed from the home prior to age six; (2) must have substantiated neglect for over thirty days or be survivors of child sexual abuse; and (3) the abuser must have been a caregiver. The non-complex trauma group was made up of children that also experienced abuse prior to age six but were not removed from their home. Participants came from all of the population of NSCAW I participants, as there were no anticipated regional differences for complex trauma. Initial screening did not discriminate for race, gender, or socioeconomic status; however, individual analyses were completed on the variable of race in order to gain more insight into final results.

A power analysis was conducted to assess the sample size necessary to conduct this mediation analysis with a .8 statistical power (.8 is commonly accepted in the social sciences). It is important to note, however, that in the majority of cases of Baron & Kenny’s Causal Steps method, or methods seeking to prove complete mediation, that statistical power is often much less than .8 (Fritz & MacKinnon, 2007). This is because the smaller the effect of the mediation, the larger the sample size is necessary to be able to tease out the effect. The formula for determining sample size for this method is  $n = (L / f^2) + k + 1$  where  $n$  is the sample size,  $k$  is the

number of predictors in the regression equation,  $f$  is the effect size, and  $L$  is a tabled value corresponding to a specific power value. The regression coefficient is based on the strength of the predicted relationship, ranging from .14 to .59. Since the literature shows that there is most likely a strong relationship between the variables in my study, I will use a coefficient of .39, indicating a medium effect size. So with  $r^2 = .39$ , and the predicted strength of the alpha and beta path being both medium, the  $n = 75$  when at .8 power (Fritz & MacKinnon, 2007).

**Measures.** The primary measure used for the analysis of both behavioral and socio-emotional skills over time was the Child Behavior Checklist (CBCL) (Achenbach and Edelbrock, 1991). This measure was developed as a relatively short, easy to answer, empirically tested measure for evaluating children's behaviors and skills related to internalizing, externalizing, and overall problems. The tool measures eight constructs that range from social problems and attention problems, to delinquency and aggressiveness. The CBCL also offers a scale to measure social competence. The survey can be issued by parents, caregivers, or teachers and for the LONGSCAN purposes was issued every year for five years.

The CBCL has very good test-retest reliability, internal consistency, and construct validity (Achenbach & Edelbrock, 1991; Edelbrock & Costello, 1988). The test-retest reliability for the Behavior Problem Subscale, which measures issues with externalizing behavior, was .89, with Cronbach's alphas of .92 for both genders (Achenbach & Edelbrock, 1991). The measure was found to have good validity by Nakamura, Ebesutani, Bernstein, & Chorpita, who reported showing favorable internal consistency and convergent validity across all subscales (2009). Generally speaking, this measure is widely accepted as a respectable measure of both behavior, needs, and symptoms of children affected by trauma.

For my specific study, the CBCL variable used was the raw score for the externalizing behavior subscale. This was a continuous variable, which I left as continuous in order to be able to gain as much information as possible from the variable during the regression analysis. The variable was normally distributed, and appeared to work well for the regression.

Additional variables gathered from the general information questionnaires created by the NSCAW study and issued to the caregivers and the caseworkers of the participants provided the remainder of the demographic variables. For the complex trauma and non-complex trauma variables, I used the inclusion criteria of type of abuse (more than thirty days of neglect or sexual abuse, and removal from the home prior to age six). For this categorical variable, if a child met both criteria, they were coded as a one, and if they were not removed from the home they were coded as non-complex trauma, or two. Caseworkers for each participant reported the variable for type of abuse and removal from home. Race was also reported by the caseworker, and was originally coded into different types of race/ethnicity with original categories being American Indian, Asian/Hawaiian/Pacific Is, Black, White, Hispanic, Other, and Refused. For the purposes of this study I recoded the variable into a dichotomous variable for race with “white” being a one and “non-white” being a two, with the original category of “white” remaining the same and the other categories being combined into “non-white.” Missing data was coded as “missing”. This decision was based on the concept that minorities may experience the same types of challenges in the foster care system, allowing me to create two groups with more participants in each group instead of many smaller ones. This recoding also allowed for more participants in the “non-white” group, which gave more strength to the statistics used in this analysis.

**Analytic techniques.** This study used means comparison testing to look at the differences between behavior of children with and without complex trauma. Both a T-test and a

non-parametric Mann-Whitney U test were used to assess the relationship. Further testing included using a linear regression to control for race and placement stability variables to explore whether or not any associations between complex trauma and CBCL were maintained, and to rule out certain explanations for a spurious relationship.

Additionally, this study originally planned to use mediation analysis to explore the relationship between three variables: complex trauma (causal variable), placement (mediator), and behavior (outcome). The steps to mediation analysis are as follows.

- 1) Show that complex trauma is correlated with behavior issues. Complex trauma will be indicated by the criteria listed above. Behavior will be indicated by cutoff scores on the CBCL. By using behavior as the criterion variable in a regression equation we can establish that there is a relationship between the two variables that can be mediated.
- 2) Show that complex trauma is correlated with placement. By using placement as a criterion variable in a regression equation and complex trauma as the predictor, we can almost use placement as a temporary outcome variable to establish the relationship between it and complex trauma.
- 3) Next we must show that behavior also effects placement, so we use behavior as the criterion variable in a regression equation with complex trauma and placement as predictors.
- 4) Using significance testing, check to see if the mediator completely mediates the relationship between complex trauma and behavior. If it does not, then partial mediation is indicated.

Research Question	Hypotheses	Analysis
Do children who have histories of complex trauma experience worse externalizing behaviors than children who have experienced lesser traumatic events?	Children who are experiencing effects of complex trauma, as defined by having two or more types of interpersonal abuse (one being neglect) before age four, will have poorer behavior than children experiencing other types of trauma (as indicated by clinical cutoff scores on the CBCL).	Show that complex trauma is correlated with behavior issues. Complex trauma will be indicated by the criteria listed above. Behavior will be indicated by cutoff scores on the CBCL. By using behavior as the criterion variable in a regression equation we can establish that there is a relationship between the two variables that can be mediated.
How does placement type and number of placements affect child behavior for children with histories of complex trauma?	If children who have experienced complex trauma have two or more changes in placement, then their behavior will be negatively influenced, or will stay the same as upon intake into the system.	Show that complex trauma is correlated with placement. By using placement as a criterion variable in a regression equation and complex trauma as the predictor, we can almost use placement as a temporary outcome variable to establish the relationship between it and complex trauma.
Do fewer placement changes result in a better adjusted CT child?	Children with one placement will see the CBCL score improve or stay the same.	Complete the mediation analysis by showing that behavior also effects placement, so we use behavior as the criterion variable in a regression equation with complex trauma and placement as predictors. Using significance testing, check to see if the mediator completely mediates the relationship between complex trauma and behavior. If it does not, then partial mediation is indicated.

Figure 2. Operationalizing Research Questions. Showing which hypotheses and methods link to which research questions.

## CHAPTER FOUR

This chapter begins with a description of children included as participants for this study, including a description of the inclusion criteria. Limitations and challenges to recoding data for analysis are discussed at length. Following this, the chapter discusses the statistical models used for analysis including the Mann-Whitney U test used to test hypothesis one, the paired T-tests used to test hypotheses two and three, additional T-tests, and the linear regression used to further assess the relationships between trauma, placement, and behavior for these participants. The chapter concludes with a summary of the analyses used in the study.

### **Children in the NSCAW I**

**Selection Criteria.** The participants in this study were selected based on several criteria including type of abuse, age, and type of placement. The sample, drawn from the NSCAW I dataset, consisted of n=2,880 children who were involved with the child welfare system by age 6. From this sample, I coded the variable for complex trauma as 1 (n=219) which included children that were removed from the home prior to age six and experienced either thirty days of neglect or sexual abuse. The comparison group, children without complex trauma (n=2661), were coded to represent children who were not removed from their home due to the type of trauma they experienced.

**Demographic Information.** Table one displays demographic information for the complex trauma group and the comparison group based on Wave I information from the NSCAW I dataset. Variables of interest include gender, race, and type of abuse.

Table 1  
*Demographic Information*

	Variable	CT (n= 219)	%	NonCT(n=2,661)	%
<i>Gender</i>	Male	105	48.4	1126	53.2
	Female	114	51.6	992	46.8
<i>Race</i>	American Indian	15	6.8	111	5.2
	Asian/Hawaiian	5	2.28	50	2.4
	Black	84	38.36	684	32.3
	White	105	47.95	1126	53.2
	Other	12	5.5	147	4.6
	Missing	1	.5	152	7.2
<i>Type of Abuse</i>	Physical Neglect	181	82.65	431	20.3
	Sexual Maltreatment	23	10.50	156	7.4
	Emotional Mal.	0	0	118	5.6
	Physical	8	3.6	0	0
	Neglect / No Supervision	6	2.7	563	26.6
	Educational	1	.5	0	0
	Other	1	.5	121	5.6

### Behavior and Placement Variables

The two continuous variables for this study were number of placements and externalizing behavior (as indicated by scores on the CBCL). Table two shows the measures of central tendency (mean, standard deviation, median, minimum, and maximum) for number of placements for the complex trauma group as well as the comparison group. Table three shows the same information for the externalizing behavior variable. For the total sample, 812 participants had two or more placements and 2748 one or less. For the CBCL variable, the cutoff score from the instrument was used as the cut point for the variable. There is an arguable case for using future research to investigate a wider range of scores as a way of increasing the available n and therefore the power of the study. There may be several participants that were borderline as far as the cutoff goes but that may still be experiencing symptoms of externalizing behavior. The clinical cutoff score does not always accurately represent the impact of externalizing behavior in the real world.

Table 2  
*Placements in the Child Welfare System*

	Mean	Median	S.D.	Min	Max
<i>Complex Trauma</i> ( <i>n=219</i> )	1.93	1.0	1.0	0	12
<i>Comparison Group</i>	.79	0	1.39	0	14

Table 3  
Externalizing Behavior

	Scores on CBCL	Frequency (n=219/ n= 2661)	%
<i>Complex Trauma</i>	<63	28	12.8
	>=63	5	2.3
	NO REPORT	188	85.8
<i>Comparison Group</i>	<63	359	16.9
	>=63	60	2.8
	NO REPORT	1699	80.2

Table 4  
Mean CBCL Scores

<b>ALL CHILDREN (n=2880)</b>	<b>Wave 1</b>	<b>Wave 5</b>
<i>MEAN CBCL SCORE</i>		
CT	58.24	55.24
NON-CT	55.66	54.60
<i>PLACEMENTS</i>		
0-1	55.58	54.25
2 OR MORE	57.2	56.4
<b>CT CHILDREN ONLY (n=219)</b>		
0-1 PLACEMENTS	57.88	55.10
2 OR MORE PLACEMENTS	58.9	56.0

### Results of the T-test and Mann-Whitney U Test

Hypothesis one asked if children who are experiencing effects of complex trauma, as defined by having either ongoing neglect or interpersonal abuse before age six, will have poorer

behavior than children experiencing other types of trauma (as indicated by clinical cutoff scores on the CBCL). The initial analysis performed was a simple t-test, designed to compare the means of these two groups, complex trauma (n=87) and non-complex trauma (n=1211). There was a significant difference between the means of the complex trauma at wave one (M=58.24; SD=10.75) and the non-complex trauma group (M=55.66; SD=10.99);  $t(1296)=2.12, p=.03$ . Because there was a large difference in the n of the two groups, a second non-parametric test was used to further explore the relationship. The Mann-Whitney U test was a good fit for the data as the two groups passed the assumptions of type of data for each variable and showed independence of observations. Because the two groups were similarly distributed but did not look the same (due to the large amount of participants in the non-complex trauma group), this test was used to compare mean ranks for the two groups. The Mann-Whitney test indicated that for children with complex trauma (n=87) the average mean rank for behavior was higher than the average mean rank for behavior for the non-complex trauma group (n=1211), (U=45700;  $p=.039$ ). There was a significant amount of missing data for both the CT group and the non-CT group, due to the fact that children under age two were not issued the CBCL; this reduced the power of the findings for this hypothesis.

Additional testing was completed to further assess whether or a spurious relationship existed between the variables of complex trauma and behavior. A linear regression equation was used to assess the relationship between the variables of race, trauma, and behavior. Table eight summarizes the descriptive statistics and analysis results. Complex trauma and race were both positively and significantly correlated with behavior, indicating that the relationship between race, behavior, and complex trauma discussed previously was not a spurious relationship. Once race and complex trauma are taken into account, however, there is not a significant relationship

between number of placement changes and behavior in this model. The multiple regression model with these predictors produced  $R^2=.028$ ,  $F(3, 2741)=26.53$ ,  $P<.001$ .

Table 5  
*Multiple Regression: Complex Trauma, Race, Behavior*

<b>Variables</b>	<b>b</b>	<b>SE</b>	<b>B</b>	<b>t</b>	<b>p</b>	<b>R<sup>2</sup></b>
(constant)	20.01	4.78	-	4.19	.000	
Complex Trauma	9.14	2.26	.078	4.05	.000	
Placement Change	-.124	.381	-.006	-.325	.75	
White vs. Non-White	-8.36	1.09	-.145	-7.69	.000	
<i>MODEL</i>					.000	.028

### Results of the Paired Samples T-Tests

Hypothesis two stated that if children who have experienced complex trauma have two or more changes in placement, then their behavior will be negatively influenced, or will stay the same as upon intake into the system. A paired samples T-test was used to examine the difference in behavior scores for the complex trauma group between Time One (intake) and Time Five (five years later). The paired samples T-test showed that there was a significant change in the score between Time One ( $M=58.9$ ,  $SD=9.57$ ) and Time Five ( $M=56.0$ ,  $SD=13.19$ ) with  $t(31)=1.21$ ,  $p=.016$ . A paired samples t-test was also used to explore hypothesis three: that complex trauma children with one placement will see the CBCL score improve or stay the same over the same time period ( $n=23$ ). The T-test showed no significant change in score for this group over time with Time One ( $M=57.88$ ,  $SD=11.48$ ) and Time Five ( $M=55.1$ ,  $SD=11.13$ ),  $t(37)=.764$ ;  $p=.45$ , which was expected. Additional T-tests were used to explore the relationship between the CBCL

scores for 0-1 placement and 2 or more placements at both Time One and Time Five. The T-test for time one showed no significant difference in means for externalizing behavior 0-1 placements ( $M=58.9$ ,  $SD=10.01$ ) and for 2 or more placements ( $M=57.88$ ,  $SD=11.23$ );  $t(82)=.448$ ,  $p=.65$ . The T-test for time five showed no significant difference in the scores for externalizing behavior 0-1 placements ( $M=55.10$ ,  $SD=11.00$ ) and for 2 or more placements ( $M=56$ ,  $SD=11.20$ );  $t(176)=.53$ ,  $p=.21$ . Even though this analysis produced the predicted results for hypothesis two and three, the results are of not much use to the study because of large amounts of missing data.

### **Results from the Linear Regression Model**

In an attempt to gain a better understanding of the variables explored in hypotheses two and three, I revisited the linear regression analysis performed earlier to better understand the interaction of placement and behavior for this population. To assess linearity, a scatterplot of externalizing behavior and number of placements was plotted. Visual inspection of the scatterplot suggested a linear relationship may exist. Additional charts confirmed no violations of normality of residuals. Homoscedasticity was slightly skewed, most likely due to the higher number of one or two placement changes in the data. I decided that the analysis was robust enough to still be the best type of analysis to use, based on the number of assumptions that were satisfied and the only slight skew of the homoscedasticity. There were no outliers.

For the regression, the dependent variable was behavior and the independent variables were complex trauma, number of placements, and race (non-white vs. white). The behavior variable was continuous as was the number of placements variable, and complex trauma and race were both recoded as dichotomous, with either a one or a two. The race variable was not necessary in terms of establishing the mediation analysis, however provided an interesting

demographic variable. The prediction equation was significant at  $p < .000$  ( $n=2745$ ) but only explained 3% of the model. The overall linear regression was not a good fit for the question, as it did not explain very much of the variance. The variable for placement heavily skewed towards lower numbers of changes, with most of the participants falling in the 0-2 category. Even with squaring the variable, there was not much variance in that category, and the equation was not able to demonstrate a causal link between complex trauma and the behavior variable. The chart below shows a summary of the output of this regression, including the significant relationship between behavior and trauma.

### **Summary**

Chapter four focused on the three different types of data analysis used in this study. I presented a description of each analysis and results. An overall description of the complex trauma group was given, based on variables important to the theoretical framework for this study. In chapter five, these results will be examined and discussed in context of the current literature on this subject matter. Recommendations for future research will be presented and discussed.

## CHAPTER FIVE

### **Discussion of Results**

The purpose of this study was to explore the effect of complex traumatic experiences on children involved with the child welfare system, in an attempt to better understand the entire trajectory for children after abuse and out-of-home placement. The study focused on better understanding three relationships within this population: (a) the differences between children with complex trauma and children with lesser traumatic experiences; (b) the effect of number of placements on children who have experienced complex trauma; and (c) the interaction of number of placements and complex trauma on behavior. Chapter four presented the statistical results of each of these analyses and the basic meaning of the results. This chapter seeks to take those results and further explain and understand their meaning, specifically within the context of the current literature. The chapter concludes with a discussion of future research that could improve upon this study and could further the exploration of knowledge related to this topic.

One of the primary focuses of this study was to evaluate some of the differences between children with complex trauma and those with lesser traumatic experiences. Hypothesis one sought to address this by asking if “children who are experiencing effects of complex trauma, as defined by having ongoing, interpersonal abuse before age six, will have poorer behavior than children experiencing other types of trauma”? Participants were selected from the overall

population of children in the child welfare system involved in the NSCAW I and divided into a complex trauma group and a non-complex trauma group. Selection criteria for the complex trauma group included being six years old or under at intake, having experienced either sexual abuse or greater than thirty days of neglect, and having been removed from the home by child protective services because of the nature of the abuse. The non-complex trauma group also had to meet the criteria of being six or under at intake into the CPS system, but did not experience extended periods of abuse and were not removed from the home.

One of the challenges when working with the topic of complex trauma and using secondary data was that, to date, no peer-reviewed studies had attempted to identify a complex trauma group in a study where there was not a measure of trauma given. In this case there were trauma measures administered, but not for this age group, and age was one of the most important deciding factors for participant selection, based on the importance of developmental level/age to the definition of complex trauma. One of the challenges for this study was to use current definitions in the literature to best identify this group of subjects within the population. By using one of the more commonly accepted definitions of complex trauma according to the literature, I was able to create selection criteria for the two groups (Becker-Weidman & Hughes, 2008). There are four critical components to complex trauma: chronic abuse, early in nature, involving some sort of interpersonal maltreatment, and happening despite or because of a care-giving relationship (Becker-Weidman & Hughes, 2008). It is the schism in the safety and security of the care-giving relationship (or the interruption of secure-attachment formation opportunities) where the severe consequences and implications of complex trauma can come into play. Because the break in the caregiving relationship is perhaps the most important part of identifying children with complex trauma, I chose type of abuse and removal as my limiting factor for the complex

trauma group. By including both sexual abuse AND/OR more than thirty days of neglect, I was able to capture a larger portion of the complex trauma population, increasing my sample size to have enough power for the linear regression, while still meeting the variable operationalization criteria.

This first question sought both to establish criteria for selecting a CT group and to look at the difference between the CT group and the non-CT children. Findings were consistent with current research in that the externalizing behavior issues were more problematic to the children with complex trauma. There was quite a large difference in the n for the complex trauma and non-complex trauma groups, so a non-parametric test was used to analyze the differences in the means of the two groups. The findings from the statistical analysis showed that there was a significant difference in the means of the behavior scores for the complex trauma and the non-complex trauma groups, with the scores for the complex trauma group being slightly higher. In other words, children in the complex trauma group scored higher on the CBCL scale for having externalizing behavior issues. This finding fits in well with the current literature and was in line with the predicted result for hypothesis one.

Child abuse can lead to behavior issues in young children. Short term effects of child abuse included headaches, PTSD, sadness, aggression, development of eating disorders and other psychiatric conditions, and trouble with normal sexual behaviors (Finkelhor, 1994). Building on Finkelhor's and other's research, recent studies found that children with complex trauma experience even more challenges with externalizing behaviors. Becker-Weidman and Hughes reviewed and confirmed that complex trauma can impair the domains of attachment, biology, emotional, dissociation, behavioral, cognition, and self-concept (2008). Other researchers have suggested that because of these behavioral issues (among other issues), children with complex

trauma can have particularly difficult times in the child welfare system (Keil & Price, 2006). The results of the current study fit in with the suggestions in the current literature that perhaps complex trauma does effect a child's behavior in an important way and that we must learn as much as we can about this relationship to be able to better serve this special population of children. Specific new contributions of this study to the current body of literature include the use of a nationally representative sample of children and the adapting of secondary data to obtain the sample. The latter is an important contribution not only for suggesting that it can be done, but also because it opens the doors to using these criteria to identify a complex trauma sample in other datasets, increasing access to thousands more variables than may have been previously available by traditional data collection techniques.

This study also focused on better understanding the relationship between placement and behavior. Hypothesis two posited "If children who have experienced complex trauma have two or more changes in placement, then their behavior will be negatively influenced, or will stay the same as upon intake into the system." The analysis for this hypothesis, a paired samples t-test, focused on just the complex trauma group, and compared the children's scores (on the externalizing behavior scale of the CBCL) from intake into the study to the scores at the five-year mark. The analysis showed that there was a significant difference in scores over time for these participants but that the scores slightly decreased over time.

Looking at behavior over time for this population is an important part of the story of children with complex trauma. Researchers are still seeking to understand the overall impact of severe abuse on children. What effect does complex trauma have on the life course of this population? By better understanding this impact over time we can better understand the best way to help these children navigate challenges they may experience.

There are many reasons why the scores may have decreased over time: maturation of the child; a different expression of symptoms; improvement in the functioning of the child due to a new, steady home placement; or simply a different person scoring the test at time five. Perhaps the most likely reason is that as these children grew older, they found other ways to express their feelings related to trauma. One interesting idea is that for children who were experiencing the worst of the abuse, perhaps removal from the caregiving relationship was the best option possible, and they actually benefitted from the schism in that relationship. This provides an interesting counter-argument to the original logic that the caregiving relationship is perhaps the most important relationship to a child's early development.

One of the biggest roadblocks to this analysis becomes apparent when looking more closely at the data used for the paired samples t-test. Even though the n for the sample was 219, there was CBCL data reported for only thirty-two of those participants. This may have been due to the age of the child (no test was administered under two years old) or the fact that the child's caregiver opted out of the specific test. Obviously this reduced the power of the analysis and the amount of importance we can give to the results. This does not completely eliminate the importance of the results, however, but it does indicate a need to attempt this study again using a larger sample.

Further exploration of the impact of placement change on behavior led to hypothesis three asking if "children with one placement will see the CBCL score improve or stay the same"? This analysis also used a paired-samples T-test to evaluate the difference between CBCL behavior scores for children with only one placement, between time one and time five. There was no significant difference between the means of the paired-samples. By accepting the hypothesis, this study showed that children with only one placement did not see a rise in poor

externalizing behavior. This fits in nicely with the literature on both attachment relationships and the importance of the caregiving relationship. While all of these children were removed from the home, they were able to acclimate to their new environment and only had one placement change within the five-year period. Many of these children were placed in kin-care settings which would have facilitated the establishment of a trustworthy relationship for the child, perhaps the most important part of helping a child to overcome severe abuse and complex trauma.

When looking closer at the results in terms of the CBCL scores, while there were statistically significant changes in terms of the raw clinical scores, critical interpretation of these results shows that in reality, these statistically significant changes may not mean much in a real world setting. For hypotheses two and three, the difference between mean scores at wave 1 and wave 5 were analyzed. These waves were selected to give the longest time period possible between tests, to allow for the most amount of placement changes to happen in between the waves. While the CBCL was issued a total of 5 times for many of the children, there would have been little merit in comparing means at each wave, since placement changes were not evenly distributed during those five years. Additionally, even though a difference was found over time, when looking more closely at interpretations of the CBCL we can see that this change does not mean much in terms of perceivable differences in the children's behavior. From the CBCL guidebook on interpreting results, we know that a change in behavior can be indicated when a score changes more than two standard deviations from the norm. In our case the score only changed two points when the standard deviation was 9.57, not allowing us to rule out chance or other factors when discussing the importance of this change. In addition, one study by Crusto & Whitson show that younger children had lower scores at baseline than older children in terms of the CBCL (2010). Since all of our children were under age 6 at baseline, change in the scores

over time may have been based simply on a different expression of behavior as the children aged. When taking these factors into account, the results, although statistically significant, offer little to the literature in terms of real world expression of changes in behavior.

Becker-Weidman (2008) reminded us that it is the schism in the safety and security of the care-giving relationship (or the interruption of secure-attachment formation opportunities) where the severe consequences and implications of complex trauma can come into play. Therefore, for the children removed from their caregiving network at a young age, it is imperative they can attach to a nurturing caregiver quickly in order to facilitate the growth needed for them to continue to establish their maturation. This is why, in some cases, the kin-care setting is an ideal placement for both children with complex trauma and children with other types of abuse. An interesting counter-idea to that logic is that some children placed in kin-care find themselves in an environment where the abuser learned the behavior in the first place. Placing children with complex trauma is difficult and considering each child's needs and environment is a priority to finding a beneficial placement for the child.

Additionally, what is not clear by the results of this hypothesis testing is if the behavior change impacts the placement change or vice versa. Interestingly, this hypothesis brings up a bit of a "chicken before the egg" question. Is it the number of placements that affects the externalizing behavior, or is it the lack of poor behavior that is affecting the number of placements? Keil and Price (2006) surmise that children who exhibit externalizing behavior are not only spending more time in foster care, but are also less likely to be reunified with the parent and are more likely to experience placement disruptions. The efforts of this study focused on the former question, where placement affected behavior, however the opposite view is definitely an interesting topic for future research stemming from this study. With more research focused on

the directionality of the relationship, researchers may be able to gain a better understanding of which trait to focus on as needing attention when a child comes in to custody.

### **Linear Regression**

For this study a mediation analysis would have provided a means of better understanding the relationship between complex trauma, number of placements, and behavior. Because the relationship between the predictor variables was not strong enough, the mediation analysis no longer made sense as a type of valid analysis for this study; however, there was still much to observe from the relationship between these three variables. By using a linear regression to explore these relationships, it was possible to begin to get a better understanding of the interaction between the three. In addition, by adding an extra variable of white or not white, an additional level of analysis was available.

For the regression, the dependent variable was behavior and the independent variables were complex trauma, number of placements, and race (non-white vs. white). The behavior variable was continuous as was the number of placements variable, and complex trauma and race were both recoded as dichotomous, with either a one or a two. The race variable was not necessary in terms of establishing the mediation analysis, however provided an interesting demographic variable. The prediction equation was significant at  $p < .000$  ( $n=2745$ ) but only explained 3% of the model. The overall linear regression was not a good fit for the question, as it did not explain very much of the variance. The variable for placement heavily skewed towards lower numbers of changes, with most of the participants falling in the 0-2 category. Even with squaring the variable, there was not much variance in that category, and the equation was not able to demonstrate a causal link between complex trauma and the behavior variable.

The overall model ended up not being a good fit for the data, since the model did not explain very much of the variance. Because the literature implies a relationship between placement and complex trauma, and behavior and complex trauma, a relationship between the three variables was predicted in the hypothesis. This relationship, however, was not proven by the analysis. The R-squared is the measure of the correlation between the independent and the dependent variables. One reason why this model had a low R-squared could have been that there is an additional, unnamed variable that has more of an effect on behavior than placement. Since the literature suggests that there is a relationship between these two variables, I expected to see that supported in this analysis. A confounding variable may be the reason that the expectation did not fit with this model.

This analysis was useful, however, in establishing additional support for the strength of the relationship between complex trauma and behavior. This relationship was significant at  $p < .001$  even after accounting for race and attempting to account for placement. Even with the significant challenges of lack of power, this finding could provide useful to establishing groundwork for future studies.

Even though measures were taken to assess the power of the analysis before running the linear regression, the lack of data reported on the behavior variable may have affected the final results. Similarly to how the paired-sample T-test was affected, the lack of reported information led to a reduced power for this analysis, and could have caused the small R-squared here. Future research should focus on rerunning this analysis with a similar variable that may have had more information available.

## **Study Limitations**

There are several limitations to this study that are worth reviewing critically, including sample size, lack of previous research on this topic, and access to the population being studied. Perhaps the largest challenge with using secondary data to try to operationalize the idea of complex trauma was lack of previous research. Since there were no studies that have thus far attempted to select a complex trauma group where there was no true measure of complex trauma given, I was challenged to create a selection criteria that made the most sense based on current definitions and what previous literature was available. In order to increase validity and feel comfortable that I was truly capturing children with complex trauma in my sample, I had to be very narrow in the definition. The measure of complex trauma I used can easily be challenged as lacking face validity, as it is not precise. Surely, some children who experienced neglect or physical abuse, but remained at home have also experienced complex trauma. Yet, in my study, such children are coded as not experiencing complex trauma. My measure of complex trauma also resulted in a very small group of children with that designation, which resulted in extremely small sample sizes for some of the analyses. While small sample sizes due to study attrition and my measure are not ideal for either internal validity (my confidence in the findings) or external validity; for being able to generalize beyond the study population; or for being able to explore the relationships between some of the variables, this tradeoff was necessary to be able to establish a set of variables to operationalize complex trauma, given the limitations of the dataset. Additionally, I recoded the race variable to attempt to strengthen the study, but in future studies looking at the differences of each individual race may prove interesting to this discussion as well.

The limitation of lack of direct access to this population, is of course not unique, as most researchers using secondary data do not have direct access to protected populations such as

children who have experienced trauma. I am listing it as a limitation of the current study but it is also an interesting direction for future research. It would be very interesting to see how the group of children that I identified as having complex trauma compares to a group that was evaluated by a screener designed for CT use.

Other limitations that came with using secondary data were missing data, especially where the CBCL was not issued to children under the age of two; attrition; and a lack of information on who was reporting the data (such as the CBCL). In hindsight, and with the experience with the dataset that I now have, there are additional things I would do differently to strengthen the results of this study. The main difference would be spending more time with the variables to find selection criteria that both meets the definition of complex trauma, but also allows for more potential for inclusion into the complex trauma group. By using different variables, perhaps ones that are not as “strict” as the ones I selected, the study might be strengthened enough to make a meaningful contribution to the literature. Additionally, I would have like to explore other datasets that followed children over a longer period of time, in attempt to gain an even more complete picture of the trajectory of the child’s life after abuse. Once again, however, I feel that even though these challenges were present, the importance of trying to analyze this group outweighed the issues at hand.

### **Implications for Social Work Practice, Policy, and Education**

Social workers are often the front line of communication when it comes to working with children who are experiencing complex trauma. Gaining a better understanding of this specific population is imperative so the field can develop better screening tools and guidelines for care plans for CT children. By learning more about the number of placement disruptions and the effect that this can have on this population, we are learning more about a very tangible turning-

point in a child's life course. This is important for social work practice, especially for those involved in placing children in the child welfare system. It is also extremely important for policy writers dealing with child protective services. There is a reason that many states try to limit the amounts of times a child changes placement during their involvement with CPS. What goes hand in hand with making those policies effective, however, is the allocation of the necessary resources to support the policies. Sadly, it is perhaps this area that is the most lacking on the subject of complex trauma. In rural areas such as rural Mississippi, for example, there may not be a therapist qualified to do an evaluation such as a trauma evaluation in a town even within 100 miles of a DHS office. It can be one thing for the state to mandate those workers to have an evaluation on file for every child, and a completely other issue for the individual offices to manage the cost, time, and effort needed to actually schedule and attend those appointments.

As far as education is concerned, the current study demonstrates a need for more social work researchers to be involved in both the collection and the analysis of secondary data. There are many variables related to this subject matter out there, both in this dataset and many others, but there is a need for more brains to access these variables and try to make sense of them. Especially with the topic of complex trauma, there is a need for more research to be collected with that specific population, and a need for more empirically tested measures of trauma to be included in data collection. There is also a need for inclusion of discussion of brain development into social work curricula. One of the primary effects of the attachment issues related to complex trauma is a change in the neuropathways in the brains of these children. This causes children with complex trauma to respond differently to everyday stimuli that many be challenging or overstimulating to them, but be completely manageable to a lesser traumatized child. It is vital to understand the concept in order to be able to fully understand and successfully work with this

population! Children with complex trauma react differently to a teacher raising her voice, or a daily routine being altered, or a student making fun of their clothes. It is only through educating both social work students and workers and teachers in the field that these differences can be noted and celebrated, rather than ignored and condemned. It is my hope that studies like this will bring light to this special population of children and their unique strengths and needs as they navigate the child protective services system.

### **Future Research**

There is much research left to complete on the topic of complex trauma. Generally, there is a need for more exploration on the effects of complex trauma on children in the child welfare system, and this study is only the smallest beginning to understanding. With the many different variables that can affect a child's outcome, there is endless research to do on how to better serve these children. There are over twenty-five measures just in the NSCAW I dataset alone, and each one can reveal to researchers a new aspect of the pervasiveness of trauma in a child's life. Specifically, it would be interesting to further investigate the effect of number of placements on outcome variables such as reading skills or future involvement with the juvenile justice system.

Perhaps one of the most pressing issues is for the field to continue working on identification of this population, both in secondary data and the real world. One of the best parts about being able to identify this group in secondary data is that there is such a wealth of information out there for children involved in the child welfare system (such as in the NSCAW) and so much of that information can help researchers to better understand the complex trauma population. Additionally, it will be important to document that complex trauma and reactions to trauma are complex and important variables, and measures should be included in future datasets

to help better capture the needs of this population. This is also where empirically tested screening tools and evaluation tools come into play, and the need for more complex trauma evaluation tools for the age group in this study is apparent.

Future research on the topics of externalizing behavior and placement disruption is also necessary. While there is research on both sides of the argument as to which causes the other, few studies exist that claim that one absolutely causes the second. While it may not be necessary to label one as “cause” and one as “effect,” there is a need for more research to clarify and understand the relationship between the two variables.

Additionally, there is much more to be learned in regards to viewing this study and future studies through the lens of ecological systems theory. There are many factors affecting this population including protective factors like extended family, community support, and religious influences. Each of these factors should be explored and their impact, either positive or negative, on the relationship between complex trauma and behavior may prove interesting. While the current study does offer some evidence that creating secure attachment type relationships and minimizing placement changes must be prioritized to best serve children with complex trauma, there may be other factors that can equally help these children succeed in their life course that have not been mentioned or explored here.

Finally, there is still evidence in the literature that there is a strong relationship between placement, behavior, and complex trauma. While this study was only able to explain a small percentage of the relationship, future studies should work to gain a better understanding of the interaction between the three important variables.

## **Conclusions**

This study is a useful first step towards using secondary data to evaluate complex trauma in the child welfare setting. While the study is limited in terms of lack of generalizability and lack of power due to limited reported data for the participants, there are important findings in terms of placement, behavior, and complex trauma. One important finding of the current study is the significant difference found between the complex trauma and the non-complex trauma group. This sets a precedent that secondary data is useful to study this population in a meaningful way. Furthermore, based on the linear regression, there is still great promise in using secondary data to better understand the relationship between behavior and placement; this is one of the strongest possibilities for future research stemming from the current study. Overall, this work is one tiny piece of a very large puzzle to better understanding and serving the population of children with complex trauma, but it is work like this that establishes hope for tailored interventions to better serve this population. With this study and many more like it there is great promise that children with complex trauma will have a brighter future and will be better served by those in the field of social work.

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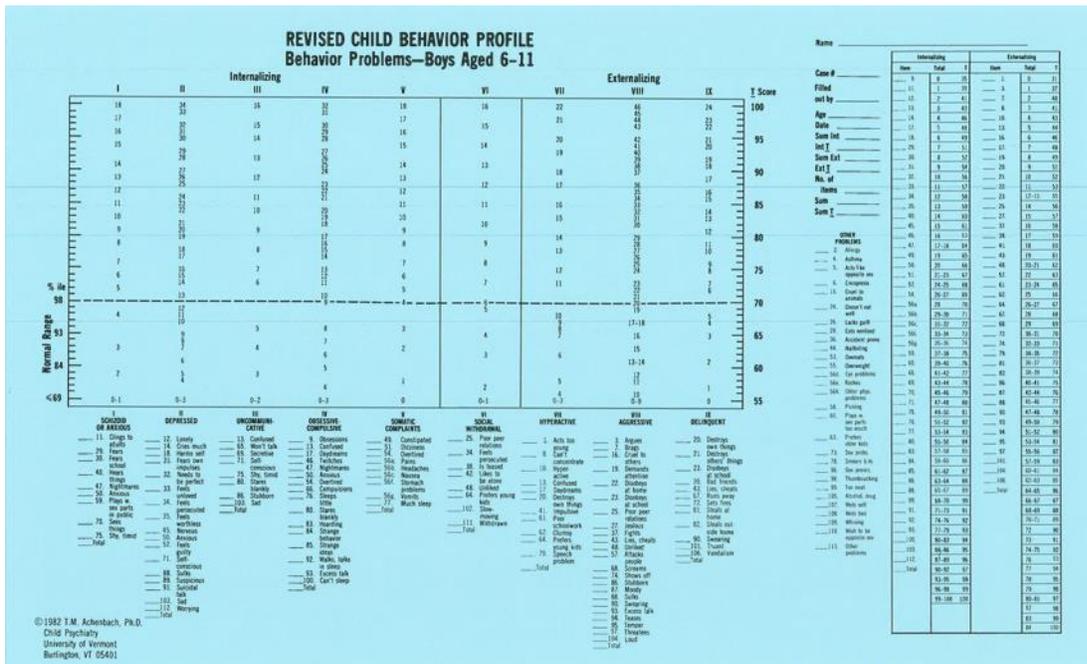
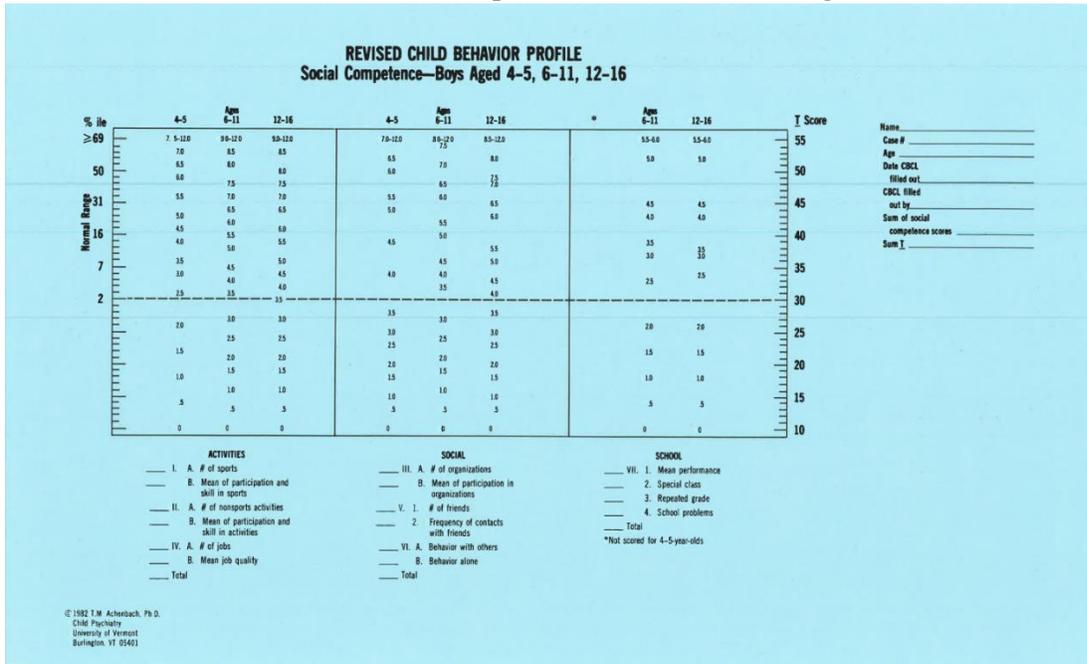
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## APPENDIX A: Example of CBCL Externalizing Behavior Scale



APPENDIX B: NSCAW Restricted Data release

### Data License Summary

MAILING LIST
ORDERS
REPORTS
COPY
PASTE
FINI

< > 
License Ser. # 
MIS Serial # 
Invoice #

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 jwilliams11@sw.ua.edu

**License Type**

**License Active?**  Yes  No

**Start Date**

**End Date**

**Termination Notice Received**

**Greetings** Dr. Williams

**License Notes**

3/3/2016 renewal reminder sent

**Client Notes**

**Research Staff**

Serial Number	Staff Name	Staff Title	Staff Email	Staff Added Date	Staff Removed Date
13707	Katelyn Reed	doctoral	ullmerk@Gmail.com	3/22/2016	

150

APPENDIX C: APPROVED IRB PROTOCOL



March 24, 2016

Javonda Williams, Ph.D.  
Assistant Professor  
School of Social Work  
The University of Alabama  
Box 870314

Re: IRB # 13-OR-216-R3 "Ecological Factors that Determine Post-Abuse Adjustment"

Dear Dr. Williams:

The University of Alabama Institutional Review Board has granted approval for your renewal application. Your renewal application has been given expedited approval according to 45 CFR part 46. Approval has been given under expedited review category 5 as outlined below:

*(5) Research involving materials (data, documents, records, or specimens) that have been collected, or will be collected solely for nonresearch purposes.*

Your application will expire on March 23, 2017. If your research will continue beyond this date, complete the relevant portions of the IRB Renewal Application. If you wish to modify the application, complete the Modification of an Approved Protocol Form. Changes in this study cannot be initiated without IRB approval, except when necessary to eliminate apparent immediate hazards to participants. When the study closes, complete the appropriate portions of the IRB Study Closure Form.

Should you need to submit any further correspondence regarding this proposal, please include the above application number.

Good luck with your research.

Sincerely,



Carpanthio T. Myles, MSM, CIM, CIP  
Director & Research Compliance Officer  
Office for Research Compliance