

PARENTAL CLOSENESS AND PROBLEM BEHAVIORS
IN A NATIONAL CHILD WELFARE SAMPLE

by

BARBARA ELIZABETH DELISLE

A DISSERTATION

Submitted in partial fulfillment of the requirements
for the degree of Doctor of Philosophy
in the Department of Social Work
in the Graduate School of
The University of Alabama

TUSCALOOSA, ALABAMA

2010

Copyright Barbara Elizabeth DeLisle 2010
ALL RIGHTS RESERVED

ABSTRACT

This study is a secondary data analysis that examines the links between child reports of parental closeness with their out-of-home caregivers and behavior problems for maltreated children placed in out-of-home care in the US. This cross-sectional analysis used panel data from The US Department of Health and Human Services Administration for Children and Families National Survey of Child and Adolescent Well-Being (NSCAW) to evaluate responses from an earlier time point and to determine a correlation between measures at a later time point. The measures for Parental Closeness were taken from Wave 1 of data collection; the measures for Problem Behaviors were from Wave 4, the last wave of data collection for this sample. Structural equation modeling (SEM) was used to examine the relationship between parental closeness scales and problem behavior scales within a subsample of children, 11 years and older in Long-Term Foster Care (LTFC), taken from NSCAW data, Waves 1 and 4 ($n = 188$). The model that best reflects theory and research is also the most parsimonious: a two-construct, seven-indicator recursive model with an inverse correlation between the exogenous and endogenous variables. A good fit for the model gives some support to the hypothesis that experiences and perceptions about caregivers explain some of the variance in problem behaviors, with a nonsignificant chi-square statistic indicating a good model fit to the sample variance-covariance matrix ($\chi^2 = 9.35$, $df = 13$, $p = .74$). Other model fit indices indicate a good data-to-model fit, thus confirming the final model (e.g., GFI = .99, NFI = .98, CFI = 1.0, and RMSEA = 0.0).

DEDICATION

This dissertation is dedicated to everyone who helped me and guided me through the trials and tribulations of creating this manuscript, with a special dedication to the children in out-of-home care with whom I have worked, who led me to this inquiry. In particular, to my children and dear friends who stood by me throughout the time taken to complete this work.

LIST OF ABBREVIATIONS AND SYMBOLS

α	Cronbach's index of internal consistency
df	Degrees of freedom: number of values free to vary after certain restrictions have been placed on the data
M	Mean: the sum of a set of measurements divided by the number of measurements in the set
p	Probability associated with the occurrence under the null hypothesis of a value as extreme as or more extreme than the observed value
r	Spearman's rho correlation
t	Computed value of t test
$<$	Less than
$>$	Greater than
$=$	Equal to
χ^2	Chi Square
R^2	Regression Coefficient

ACKNOWLEDGMENTS

I am pleased to have this opportunity to thank the many colleagues, friends, and faculty members who have helped me with this research project. I am most indebted to Dr. Carol S. Drolen, my committee chairperson, for sharing her critical thinking and wisdom regarding psychopathology and Attachment Theory and for encouraging me throughout this process. I would also like to thank all of my committee members, Dr. Wesley T. Church, Dr. James A. Hall, Dr. Stephen J. Thoma, and Dr. Ginny T. Raymond for their invaluable input, inspiring questions, and willingness to persevere along with me during this process. I would like to thank Ms. Rita R. Doughty for her invaluable and creative assistance in securing the NSCAW data with such persistence.

After my house flooded in Hurricane Katrina, I had numerous health-related issues and I am indebted to Dr. John Schmitt for granting needed extensions and for understanding my hardship during trying times. I am also indebted to my friends, Brenda Stamm and Normand Tetreault, who allowed me to stay in their air-conditioned apartment and travel trailer, respectively, so that I could finish my dissertation in comfort.

This research would not have been possible without the support of my chair, my friends, and my family who never stopped encouraging me to persist. Finally, I thank all of the participants in this study and hope that this research continues to contribute to evidenced-based practice for families involved in child welfare.

CONTENTS

ABSTRACT.....	ii
DEDICATION.....	iii
LIST OF ABBREVIATIONS AND SYMBOLS	vi
ACKNOWLEDGMENTS	v
LIST OF TABLES	vi
LIST OF FIGURES	viii
1. INTRODUCTION	1
a. Attachment Theory.....	6
b. Child Welfare in the US.....	14
2. METHODOLOGY	23
a. Background of the Study.....	24
b. Approach.....	28
c. Demographics	33
d. Instrumentation	37
3. FINDINGS	44
a. Model Specification and Model Identification	45
b. Model Estimation and Model Testing.....	59
c. Model Modification and Final Model	64
4. DISCUSSION.....	70
a. Implications for Research, Policy, and Practice.....	72

b. Limitations	74
REFERENCES	76
APPENDIX A: Attachment Behaviors According to Style.....	87
APPENDIX B: Characteristics of Attachment	88

LIST OF TABLES

1.1 Placement Settings	18
2.1 Related to Primary Caregiver by Out-of-Home (OOH) Care Status	34
2.2 Type of Out-of-Home Care by Age	35
2.3 Type of Out-of-Home Care by Ethnicity	36
2.4 Type of Out-of-Home Care by Gender	37
3.1 Latent and Manifest (Observed) Variables	49
3.2 Factor Loadings for the Sub-scale Indicators of Parental Closeness	50
3.3 Factor Loadings for Caregiver Report on Youth Problem Behaviors.....	52
3.4 Factor Loadings for Teacher Report on Youth Problem Behaviors.....	54
3.5 Factor Loadings for Youth Report on Youth Problem Behaviors.....	55
3.6 Factor Loadings for Delinquency Self-Report	57
3.7 Factor Loadings for the Modified Delinquency Self-Report	58
3.8 Measurement Model One Factor for Parental Closeness	60
3.9 Measurement Model One Factor for Problem Behaviors	62
3.10 Measurement Model One Factor for Problem Behaviors Trimmed	63
3.11 Structural Model Two Factor for Parental Closeness and Problem Behaviors.....	65

3.12 Covariance Matrix for Parental Closeness and Problem Behaviors.....66

3.13 SEM for Causal Pathway for Parental Closeness and Problem Behaviors67

LIST OF FIGURES

Figure 3.1: Hypothetical Structural Equation Model	48
Figure 3.2: One Factor Model of Parental Closeness.....	61
Figure 3.3: One Factor Model of Problem Behaviors.....	64
Figure 3.4: SEM Causal Pathway for Parental Closeness and Problem Behaviors	68

CHAPTER 1

INTRODUCTION

Attachment research began in the middle of the 20th century as an exploration of children who were at risk for a number of problems because of institutionalization, poverty, and victimization from war, abuse, and neglect (Ainsworth, 1985; Ainsworth, Blehar, Waters, & Wall, 1978; Bowlby, 1952, 1969, 1973, 1980). Most modern human developmental theorists agree that social relationships affect and are affected by psychopathology in childhood; from Freud to Winnicott, these theorists hypothesized that a child's primary relationships have the greatest impact on the development of mental health (Winnicott, 1965). It was not until Bowlby's seminal work on Attachment Theory that other researchers began to study the association between the child's closest caregiving relationships and the development of behavioral disorders (Bretherton & Munholland, 2008; Main & Hesse, 1990). During the past two decades, researchers have clarified the role of attachment security with primary caregivers in promoting psychological well-being during infancy and adulthood, yet much remains undiscovered about the attachment relationships of children in-out-of-home care and what, if any, are the consequences for these children when attachment relationships are formed with out-of-home caregivers (Ainsworth, Blehar, Waters, & Wall, 1978; Bretherton & Munholland, 2008; Erickson, Sroufe, & Egeland, 1985; Lieberman, Doyle, & Markiewicz, 1999; Marcus, 1991; Palmer, 1996; Paterson, Pryor, & Field, 1995; Rubin, O'Reilly, Luan, & Localio, 2007; Wulczyn, Barth, Yuan, Harden, & Landsverk, 2005).

For the purpose of this research, Attachment Theory is the theoretical principle undergirding the rationale behind the NSCAW survey items describing parental closeness (Webb, Dowd, Harden, Landsverk, & Testa, 2009). Cross-cultural studies on attachment in Africa, China, Japan, Israel (kibbutz), and other countries, demonstrate the four “core hypotheses” of Attachment Theory: universality, normativity, sensitivity, and competence (van IJzendoorn & Kroonenberg, 1988; van IJzendoorn & Sagi-Schwartz, 2008). Van IJzendoorn and Sagi-Schwartz (2008) observed consistent evidence for the “universality” hypothesis of Attachment Theory, in that infants in all cultures showed behavioral patterns representative of attachment to their caregivers, although the specific behaviors varied. Additionally, they found consistent evidence for the “normativity” hypothesis of Attachment Theory, in that in all cultures, secure attachment was regarded by mothers as ideal and preferred to other attachment styles of behavior. They also found convergent evidence for the “sensitivity” hypothesis of Attachment Theory inasmuch as sensitive parenting was related to secure attachment. Finally, they found emergent evidence for the “competence” hypothesis of Attachment Theory, in that secure attachment was found to be associated with enhanced social and cognitive competence. Therefore, considering that universality and allowing for culture-specific components, van IJzendoorn and Sagi-Schwartz (2008) concluded that the construct of attachment is relevant to cultures other than middle-class European-Americans, and that the basic hypotheses of attachment theory appear to be valid cross-culturally. Thus, these four core hypotheses can be said to be applicable to children who have been removed by the State from their primary caregivers. Attachment Theory best explains the motivation behind this research.

A central finding in attachment studies is that care that provides for the infant's basic physical needs but is relatively insensitive or unresponsive to the infant's attachment signals and emotional needs can lead to an insecure infant-caregiver attachment (Ainsworth, 1985; Ainsworth, Blehar, Waters, & Wall, 1978; De Wolff & van IJzendoorn, 1997). Although early insecure attachment relationships are not necessarily pathological, they place children at risk for subsequent emotional and interpersonal difficulties (Carlson, 1998; Erickson, Sroufe, & Egeland, 1985; Lyons-Ruth, Alpern, & Repacholi, 1993; Lyons-Ruth, Easterbrooks, & Cibelli, 1997), and disorganized attachment appears to be one of the most meaningful risk factors for later maladjustment (IJzendoorn, Schuengel, & Bakersman-Kranenburg, 1999; Lyons-Ruth, Bronfman, & Parsons, 1999; Lyons-Ruth, Repacholi, McLeod, & Silva, 1991).

The concern regarding the study of children involved in the out-of-home care system is the transitory and traumatic histories, which may have occurred at birth or later in their young lives. Research demonstrates that children in out-of-home care are at a high risk for disorganized attachment and poor developmental outcomes (Dozier, Stovall, Albus, & Bates, 2001; Fein, Maluccio, Hamilton, & Ward, 1983; Juffer, Bakermans-Kranenburg, & van IJzendoorn, 2005). In legal terms, out-of-home care means one thing; the experiences of children in out-of-home care take on a different meaning entirely. For the purposes of clarity in this paper, children whose guardian is the State are referred to as "children in out-of-home care." These include children in state-managed foster placements, kinship care, therapeutic foster homes, group homes, residential treatment facilities, and institutional care. The National Survey of Child and Adolescent Well-Being (NSCAW) attempts to capture the child welfare experience in the US. Of

specific interest in this inquiry is the relationship between children in out-of-home care and their caregivers, and what, if any, this relationship means to problem behaviors for children in out-of-home care (US DHHS/ACF, 2010).

Several studies on children in out-of-home care link behavioral disturbances such as oppositional behavior (Deklyen & Greenberg, 2008; Gean, Gillmore, & Dowler, 1985); elevated scores of the Child Behavior Checklist (CBCL) (Barth, Courtney, Berrick, & Albert, 1994); and psychiatric emergencies that are often precipitated by disruptions in their attachment relationships with their out-of-home caregivers (Leslie et al., 2000; Pilowsky & Kates, 1996). Although part of the risk for attachment problems can be attributed to maltreatment and caregiver disruption prior to and upon entry into out-of-home care, research has shown that the interactive processes between children and their out-of-home caregivers are implicated as well (Dozier, et al., 2001; Juffer et al., 2005; Smyke, Zeanah, Fox, Nelson, & Guthrie, 2010). In this inquiry, only the relationship between the children in out-of-home care and their out-of-home caregivers is included, not the relationship that these children have or have had with their biological caregivers. The reason for this exclusion is to protect the anonymity of the birth parents so the General Release Data, which is accessible to graduate students, does not contain this information.

The enactment of child welfare laws in the US (e.g., Adoption Assistance and Child Welfare Act of 1980 [P.L.96-272]; the Adoption and Safe Families Act of 1997 [P.L. 105-89]; the Child Abuse Prevention and Treatment Act, 1974 [P.L. 93-247]; and the more recent Fostering Connections to Success and Increasing Adoptions Act of 2008 [P.L. 110-351]) is to protect children from maltreatment. Children who frequently

experience child abuse and neglect or live with substance abusing parents are often candidates for involvement in the child welfare system (US DHHS/ACF, 2009a). In addition to being removed from homes in which there exists substance abuse, maltreatment, and/or neglect, the initial trauma of being removed from their home is often exacerbated by repeated separations and numerous placements while in care (Marcus, 1991; Newton, Litrownik, & Landsverk, 2000; Rubin, O'Reilly, Luan, & Localio, 2007; US DHHS/ACF, 2009a). Researchers have found long-term longitudinal relationships between disorganized attachment and poor developmental outcomes including psychopathology (Carlson, 1998; Lyons-Ruth, 2003; Ogawa, Sroufe, Weinfeld, Carlson, & Egeland, 1997; Sroufe, Egeland, Carlson, & Collins, 2005). It is hypothesized that the symptoms of pathology are a result of poor attachment, and that these symptoms of pathology are either developed or exacerbated during the child's experience in out-of-home care (Allen, Hauser, & Borman-Spurrell, 1996; Marcus, 1991; Moretti & Holland, 2003; Wall, 2004).

Thus, the examination of cross-cultural studies on attachment determines the construct to be both a normative and a universal phenomenon; infant-caregiver dyads are formed for the protection and security of the infant and, as a result, attachment relationships are established (van IJzendoorn & Kroonenberg, 1988; van IJzendoorn & Sagi-Schwartz, 2008). When these attachment relationships are interrupted, infant-caregiver and subsequent relationships are described in the research as insecure (e.g., anxious-ambivalent, anxious-avoidant, and disorganized) (Ainsworth, Bell, & Stayton, 1974; Ainsworth, et al., 1978; Main & Solomon, 1986; Mercer, 2006). Supposing that attachment relationships may have been formed either in the birth home of children in

out-of-home care or in their foster homes as these relationships are a universal phenomenon, how do children in out-of-home care perceive their current caregivers? Does this relationship with their primary caregiver influence their behavior in adolescence? The goal of this inquiry is to shed some light on the relationship between what is reported as parental closeness in the survey data by the children in this sample and what is reported as problem behaviors by children, their caregivers, and their teachers. The aim of this paper is to answer specific inquiries about vulnerable children placed in out-of-home care and about their relationship with their out-of-home caregivers using a structural equation model to examine the relationship between parental closeness subscales and problem behavior scales with secondary data on a sample of children from the US Department of Health and Human Services/Administration for Children and Families (US DHHS/ACF) National Survey of Child and Adolescent Well-Being (NSCAW) data (US DHHS/ACF, 2010).

Attachment Theory

With respect to differences in attachment relationships with mothers and fathers, it is important to understand that most studies of child attachment and adjustment have focused on mother-child rather than father-child relationships. This focus has occurred because the primary caregiver in infancy is typically the mother, and because infant attachment is predictable primarily from mothers' as opposed to fathers' attachment style (van IJzendoorn & De Wolff, 1997). Additionally, childhood attachment security is predicted more from infant attachment to mother than from infant attachment to father (Ainsworth, et al., 1978; Main, Kaplan & Cassidy, 1985). Human beings also form other

bonds of affection with others throughout the course of their lives. Ainsworth explained the difference between attachment of infants to their primary caregivers and affectional bonds with others as a “bond in which the attachment figures are never wholly interchangeable with or replaceable by another, even though there be another to whom one is also attached” (1985, p. 793).

Psychological theories about attachment have been proffered from the late nineteenth century onward. Freudian theory attempted a systematic consideration of infant attachment and attributed the infant’s attempts to stay near the familiar person to motivation learned through feeding experiences and gratification of libidinal drives. Attachment Theory was developed by John Bowlby because of his frustration with existing theories of early relationships, particularly their inability to describe the reciprocal nature of a child’s ties to his or her mother (Bowlby, 1952).

Bowlby was influenced by the beginnings of the object relations school of psychoanalysis and in particular, Melanie Klein, although he disagreed with the psychoanalytic belief then prevalent that saw infants responses as relating to their internal *phantasy* life rather than to real life events (Klein, 1952/1995). A much stronger influence was the work of James Robertson who filmed the effects of separation on children in the hospital during mothers’ maternity leave, a practice in England at the time. He and Bowlby collaborated in making the 1952 documentary film *A Two-Year Old Goes to the Hospital*, illustrating the impact of loss and suffering experienced by young children separated from their primary caretakers (Bowlby, 1969).

Bowlby’s two central hypotheses are, first, that individual differences in the quality of infant-caregiver attachment relationships were largely the product of the

history of interaction with the caregiver, and second, that variations in attachment quality were the foundation for later individual differences in personality, temperament, and relationships with others. According to Bowlby, attachment develops through the primary caregiver relationship from the age of six months until the first year, as need for attachment is innate, having as its biological function the provision of physical and psychological security for the infant. From the ethological perspective, the attachment behavioral system consists of ingrained behavior that exists for the maintenance of proximity to significant others who will provide protection and insure survival. These behaviors--crying, clinging, and smiling--are usually directed toward the primary caregiver (Bowlby, 1969, 1973). For Bowlby, attachment was then defined as an affectional tie with a specific and preferred caregiver with infant behavior designed to attain or maintain proximity to the attachment figure. Other attachment behavior is slower to develop, taking a gradual course and cues from the caregiver. Although parental attachment may develop earlier, the child's attachment to the primary caregiver develops slowly, taking typically six months to establish a preferential relationship to that caregiver.

When attachment is established, the infant uses the primary caregiver as a secure base from which to explore the environment. A safe, securely situated infant explores the world, but as distance from the primary caregiver increases, the attachment system is triggered and fear or anxiety is experienced as warnings to return to the safety of the caregiver. This mechanism is part of child development and changes as the infant, then child, receives cues from the caregiver. Although the basis of an attachment relationship is formed during infancy, Bowlby believed that childhood and adolescence were also

important; beyond adolescence, however, the attachment pattern tends to remain relatively unchanged. Thus, the attachment-behavioral system continues to be evident in some form throughout the life course and during times of distress. According to Bowlby, and important to any child welfare research, is the observation that if attachment is not formed by the age of three, a child may not be able to form or to maintain stable attachments (1969, 1973, 1980). Attachment Theory is particularly relevant to the experiences of children placed in out-of-home care who face traumatic and often repeated experiences of separation due to the very nature of the child welfare system in which they are involved.

From the ethological perspective, human attachment behaviors and emotions are adaptive as social behaviors that make individual or group survival more likely (Bowlby, 1952, 1969, 1973, 1980). These behaviors are driven by brain and sensory functioning which allows for specific structures and functions of the central nervous system that underlie at least some of human attachment behavior, such as gazing and touch. They begin with predictable, innate behavior in infancy, but change with age in ways that are partly determined by experiences (e.g., a toddler is likely to cry when separated from her mother while an older child can communicate this anxiety). They depend upon experiences with others in that infants develop preference for particular people and engage in behaviors that solicit their attention and care. Attachment behaviors in caregivers exhibit monotropy, a concept developed by Bowlby (1952) to describe the phenomenon in which a mother appears to be able to bond with only one infant at a time. Attachment then produces a reciprocal relationship in which infants become attached to adults who are sensitive and responsive to the needs of the infant, and who remain the

infant's consistent caregivers for some time. Attachment relationships have time constraints such that certain changes in attachment regarding an infant's preference for a familiar caregiver and the avoidance of strangers are most likely to occur within a fairly narrow age range (e.g., the period between about 6 months of age and 2 or 3 years is the time during which attachment to specific caregivers is most likely to occur). Finally, the attachment processes are guided by the "internal working model of social relationships." Bowlby describes this process as the infant's early experiences with caregivers that gradually give rise to a system of thoughts, memories, beliefs, expectations, emotions, and behaviors about the self and others. This system continues to develop with time and experience, and enables the child to handle new types of social interactions (Bowlby, 1952, 1969, 1973, 1980).

To elaborate on the theoretical assumptions, Bowlby did not rule out the possibility of other attachment figures for a child, but he did believe that there should be a primary bond that was much more important than any other, usually the mother. Bowlby's theory of monotropy led to the formulation of his maternal deprivation hypothesis (1952). Bowlby used the term *maternal deprivation* to refer to the separation or loss of the mother and failure to develop an attachment. The underlying assumption of Bowlby's Maternal Deprivation Hypothesis is that continual disruption of the attachment between infant and primary caregiver could result in long-term cognitive, social, and emotional difficulties for that infant. According to Bowlby, the long-term consequences of maternal deprivation might include the following: delinquency, reduced intelligence, increased aggression, depression, and affectionless psychopathology (Bowlby, 1952, 1969, 1973, 1980).

A crucial concept of Attachment Theory pertains to the concept of internal working models of self expressed as dynamic representations of real life experiences with attachment figures. The internal working model of self is formed during the earliest interactions with caregivers and is heuristic in that it modifies itself in response to the caregiver responses and then becomes the template for future relationships; it is resistant to change. In order to define attachment, Bowlby used information-processing models with feedback loops to describe the internal working model of the infant as it relates to cues given by the caregiver and received by the infant. If the infant receives cues from the caregiver that are hostile or rejecting, the internal working model activates a “defensive dissociation of emotional information” (e.g., in psychoanalysis, a defense mechanism separating needs and emotions). In this sense, defensive exclusions occur when a child cannot cope with dissimilar emotional information, such as being loved *and* rejected by the same parent. This defensive structure is employed to allow for survival in the face of extreme loss, separating the need for affectional bonding with the loss and pain of rejection (Bowlby, 1969, 1973, 1980).

To explain this important concept further, according to Bowlby, infant attachment behavior is primarily a process of proximity seeking to an identified attachment figure in situations of perceived distress or alarm for the sole purpose of survival. Infants become attached to adults who are sensitive and responsive in social interactions with the infant, and who remain as consistent caregivers for some months during the period from about six months to two years of age. Parental responses lead to the development of patterns of attachment, which lead to internal working models that guide the individual’s feelings, thoughts, and expectations in later relationships. As the child develops, toward the end of

the first year, he or she begins to interact more actively with the primary caregiver. Though established by the first years of life, the internal working models and outward behaviors of attachment continue to develop throughout the life span and are governed by genetic inheritance and the influence of environment (e.g., both nature and nurture) (Biringen, 1994; Bowlby, 1969, 1973, 1980).

The child who does not have the sensitive attachment figure described above, or who receives inconsistent attention, develops an insecure internal working model. Based on the insensitivity or inconsistency of the caregiver, the child learns to perceive the attachment relationship as an unreliable source of comfort and protection. As these children learn that their cues will not be recognized or responded to, they cease to anticipate a response and therefore, to communicate. Studies of reactions to long-term separation suggest that children first exhibit protest, anger, and then despair in response to separation from the primary caregiver (Ainsworth, et al., 1978; Bowlby, 1969, 1973, 1980; Main & Weston, 1981). Those in a state of despair appear to display dejection, stupor, decreased activity, and withdrawal. Eventually, this may lead to detachment, in which the child is unresponsive or even hostile towards the caregiver (Ainsworth, et al., 1978; Bowlby, 1969, 1973, 1980). These behavior patterns, or styles, have been identified as secure, anxious-ambivalent, anxious-avoidant, and disorganized (see Appendixes A and B) (Ainsworth, Bell, & Stayton, 1974; Ainsworth, et al., 1978; Main & Solomon, 1986; Mercer, 2006).

Considering human attachment from a developmental perspective, research suggests that attachment has important implications for adjustment in childhood through adolescence (Sroufe, et al., 2005; Zeanah & Shah, 2005). Rutter evaluated the maternal

deprivation hypothesis in his Isle of Wight study; he proposed that many different underlying social and psychological mechanisms lead to a child's formation of an attachment relationship (1981). He proposed that if a child fails to develop an attachment, it is *privation*; *deprivation* refers to the loss of or damage to an attachment. Rutter further proposed that these problems are not due to factors such as the lack of intellectual stimulation and social experiences that attachment relationships provide. His later Romanian Adoptees studies indicate that, with the right kind of care, these problems can be overcome later in the child's development (Beckett, Castle, Rutter, & Sonuga-Barke, 2010).

Research from The Minnesota Longitudinal Study of Parents and Children, a longitudinal study of high-risk caregiver/infant dyads, found that children who are securely attached to their mothers engage in more pro-social behavior; are perceived as more socially competent; and demonstrate higher positive affect and lower negative affect in social interactions than insecure children demonstrate. Their teachers also rate securely attached children as more empathic and more compliant (LaFreniere & Sroufe, 1985; Sroufe, 1983; Sroufe, et al., 2005). Studies also demonstrate a link between insecure attachment patterns (avoidant, ambivalent, disorganized) in infancy and non-compliance and aggression in early childhood. Consistent with the theory that insecure attachment is related to poor emotional regulation, longitudinal studies have demonstrated that, compared to secure children, avoidant children are more aggressive and confrontational with their mothers (Main & Weston, 1981). They are also more aggressive, hostile, and distant with their peers (Sroufe, 1983; Erickson, Sroufe, &

Egeland, 1985; Sroufe, et al., 2005). Similarly, disorganized attachment in infancy has been shown to predict later aggressive behavior in adolescence (Carlson, 1998).

There is additional evidence from longitudinal studies that early attachment patterns continue to influence a person over time with some prediction of children's later functioning (Beckett, Castle, Rutter, & Sonuga-Barke, 2010; Carlson, 1998; Sroufe, 1983; Hodges & Tizard, 1989a, 1989b; LaFreniere & Sroufe, 1985; Merz & McCall, 2010; Rutter & the English and Romanian Adoptees (ERA) Study Team, 1998; Sroufe, et al., 2005; Tizard & Rees, 1975; Tizard & Hodges, 1978). Additionally, several of these more recent studies on institutionalized children show evidence to support that, in some cases, when given a caring and nurturing environment, early problematic attachment patterns can be altered over time to more favorable attachment behaviors (Beckett, Castle, Rutter, & Sonuga-Barke, 2010; Merz & McCall, 2010; Rutter & the English and Romanian Adoptees (ERA) Study Team, 1998; Tizard & Rees, 1975; Tizard & Hodges, 1978).

Child Welfare in the US

Since January 21, 1994, The Adoption and Foster Care Analysis and Reporting System (AFCARS), has collected case level information on all children in foster care. States are required to submit AFCARS data semi-annually to ACF. The AFCARS report periods are October 1 through March 31 and April 1 through September 30 (US DHHS/ACF, 2009c). After remaining under 300,000 until 2005, the estimated number of children entering foster care increased from 298,000 in 2004 to 307,000 in 2005. Later AFCARS reports found that the number of entries has been declining, down from

303,000 in 2006 to 293,000 in 2007. In 2008, the estimated number of entries into foster care dropped even further to 273,000, the lowest number since AFCARS data has been reported. Since 2005, the estimated number of exits, which had increased between 2002 and 2007 from 278,000 to 293,000, declined to 285,000 in 2008. Although the overall numbers are decreasing, the likelihood of exiting the system decreases as length of time in stay increases (US DHHS/ACF, 2009a; US DHHS/ACF, 2009b). Of the children discharged from out-of-home care in 2008, approximately 6% were discharged before one year in care. According to the latest AFCARS estimates from 2008, the average time children and youth spent in out-of-home care during FY 2008 was approximately 27.2 months. Of the children and youth in this latest AFCARS report, 27% spent two years or more in out-of-home care in 2008 (US DHHS/ACF, 2009a; US DHHS/ACF, 2009b).

Current legal trends place emphasis on permanency planning and reunification with the child's biological parent as part of the federal Adoption Assistance and Child Welfare Act of 1980 (P.L.96-272) that mandates children in placement be reunified with their biological parent(s) whenever possible. With ASFA, the Adoption and Safe Families Act of 1997 (P.L. 105-89), child "well-being" has been included in child welfare policy in addition to safety and permanency. However, well-being is a difficult to operationalize, making implementation of policies related to well-being more difficult. It "is inherently limited in the case of well-being because there is no easy way to acknowledge the causal influences outside the parent-child dyad" (Wulczyn, Barth, Yuan, Harden, & Landsverk, 2005, p.10). In essence, ASFA emphasized that out-of-home care is intended to provide a safe and temporary way station while children prepare for permanent homes. For the first time in federal law, the 1980 ASFA specified that a

child's health and safety must be paramount in decision making to initiate termination of parental rights proceedings when a child had been under state responsibility for 15 of the previous 22 months.

Specifically, ASFA made explicit that a child's health and safety must be paramount in decision making concerning the initial removal of the child from the home, his or her return home, and the care received in out-of-home care or in another permanent family. Additionally, ASFA clarified that nothing in federal law requires a child to remain in or be returned to an unsafe home, and the act included examples of when it might be "unreasonable" to reunify children with their families. The law also sought to expedite permanence by clarifying that such reasonable efforts to place a child for adoption or with a legal guardian may be made concurrently with efforts to reunify a child with both parents. In terms of kinship care, ASFA explicitly recognized placements with "fit and willing relatives" or legal guardians as acceptable permanency options for children in out-of-home care.

In a 2008 report issued by the US Department of Health & Human Service in which the National Survey of Child and Adolescent Well-Being data on child maltreatment was analyzed, children whose parents abused drugs and alcohol were almost three times more likely to experience neglect than children whose parents did not abuse drugs and alcohol. This report estimated that 40% to 80% of children in foster care are from families with substance abuse issues (US DHHS/ACF, 2008). Without appropriate services and treatment, children are more likely to be placed in out-of-home care, to stay there for longer periods (Allen & Bissell, 2004; Barth, Courtney, Berrick, & Albert, 1994), and to re-enter the foster care system due to repeated maltreatment or

child behavior problems (Aarons, et al., 2010; Barth, Weigensberg, Fisher, Fetrow, & Green, 2008). When these problems reoccur, children are often returned to out-of-home care, either to foster homes or group homes, and rather infrequently to the out-of-home care setting in which they were first placed (Allen & Bissell, 2004; US DHHS/ACF, 2007).

The last AFCARS reporting estimates ended on September 30, 2008. As in previous years, the highest percentages on length of time in care are for infants under one year of age; the next highest percentages of time spent in care are for more than one year, five years, and more (US DHHS/ACF, 2009b). The demographic data for the children in foster care from AFCARS (2009b) is not surprising. Boys are slightly more represented in foster care, approximately 53% male to 47% female. White children are in foster care in greater numbers than Black children, and both group's representation in foster care is, as one might expect, more pronounced than all other groups combined. The mean age of children is 8.0 and the median age is 7.2, with 16%, the largest group, being less than one year of age. Most children were placed in non-relative placements, or paid foster care, and the case goal most often assigned to children in placement settings such as this is typically reunification with the parent(s). Unless there are grounds to pursue termination of parental rights (TPR) immediately (e.g., death of a child in the home due to homicide), most cases are assigned the goal of reunification in the case record. The majority of children in out-of home care live in non-relative foster homes, as Table 1 demonstrates, and in these homes, attachment relationships may be formed (US DHHS/ACF, 2009b).

Table 1.1

Placement Settings

Type of Home	Percent of Total	Number
Pre-Adoptive Home	4%	17,485
Foster Family Home (Relative)	24%	112,643
Foster Family Home (Non-Relative)	47%	217,243
Group Home	6%	29,122
Institution	10%	47,165
Supervised Independent Living	1%	5,217
Runaway	2%	9,766
Trial Home Visit	5%	24,358

According to AFCARS, there were 123,000 children waiting to be adopted on September 30, 2008 (US DHHS/ACF, 2009b). Waiting children were identified as children who have the goal of adoption and/or whose parental rights have been terminated. Those youth 16 years old and older whose parental rights were terminated and have a goal of emancipation were excluded from estimates. While States are required to have an adopted home available when filing for TPR, most of the waiting children were placed elsewhere other than a pre-adoptive home. Of those children waiting to be adopted, 61% waited two years or longer; 25% of these waiting children had been removed from their biological caregiver(s) prior to age one. In this same year,

there were 75,000 children in foster care who had parental rights terminated for all living parents.

As of September 30, 2008, the number of months that had elapsed since the termination of parental rights averaged of 24.7. According to available data, 55,000 children were adopted with public agency involvement in FY 2008. The trends that emerged in the mid-1990's and continue today are: more White children than Black children are adopted; younger children are adopted in greater numbers than older children; children still spend a long time waiting to be adopted while placed in out-of-home care; and the most likely candidates for adoption are non-relative placements (US DHHS/ACF, 2009a; US DHHS/ACF, 2009b).

Regarding maltreatment, Wulczyn et al., contend that the “onset is significant in that it places maltreatment in a specific developmental context” (p.77). Onset of maltreatment during infancy and early childhood has direct implications for adverse developmental conditions. However, according to the authors’ review of the data on adolescent well-being, while developmentally better able to protect themselves from maltreatment than younger children, “the oldest children are the most likely to have had more previous reports, more previous substantiated reports, and more out-of-home placements” (2005, p. 85). The phenomenon of “more out-of-home placements” has been referred to in the literature as *foster care drift* (Katz & Robinson, 1991), with the standard in the literature being three or more moves (four placements) which constitute *placement instability* (Hartnett, Leathers, Falconnier, & Testa, 1999; Webster, Barth, & Needell, 2000).

Studies on foster care drift support a positive correlation between a child's number of moves and his or her number of problems (Barber, Delfabbro, & Cooper, 2001; Cooper, Peterson, & Meier, 1987; Dore & Eisner, 1993; Hartnett, Leathers, Falconnier, & Testa, 1999; McMillen, et al., 2005; Palmer, 1996; Pardeck, 1984; Smith, Stormshak, Chamberlain, & Whaley, 2001; Wulczyn, Kogan, & Harden, 2003). As the research indicates, the effects on a child of frequently changing environments and caregivers can be seriously detrimental. In another study, research suggests that unstable placement histories contribute to both internalizing and externalizing behavior in foster children. Specifically, externalizing behaviors proved to be the strongest predictor of placement changes for the entire sample and for a smaller sample of those who initially reported problem behaviors on at least one broadband child behavior scale. Findings also suggest that children who initially score within the normal range on the behavior scale may be particularly vulnerable to the detrimental effects of placement breakdowns to the extent that they may respond to multiple placements with increasingly self-defeating behaviors (Newton, Litrownik, & Landsverk, 2000).

Concerning problem behaviors for youth in foster care, living in foster care was associated with earlier pregnancy and a more than average number of sexual partners. Living in kinship care was associated with a younger age at both first consensual sex and first conception, and with having more than the average number of sexual partners. There was no statistically significant difference between the foster care group and the kinship care group for these outcomes (Carpenter, Clyman, Davidson, & Steiner, 2001). According to another study, children in out-of-home care received mental health services for their problem behaviors but did not receive services for the maltreatment they

experienced prior to entering foster care (Leslie et al., 2000). In a study linking out-of-home care to later incarceration, the rate of entry into youth detention facilities among children with investigated abuse reports compared to children in the general population doubled for all ethnic groups, consistent with other research findings that there is an association of higher risk of delinquent behavior among children who have been maltreated. Although males were at higher risk of entry, the change in risk for females as intensity of services increased was more dramatic, suggesting further investigation into the risk factors of maltreatment and neglect for female juvenile delinquency is warranted (Jonson-Reid & Barth, 2000).

Much like the Tizard UK studies, a study in the US examined outcomes for youth who were reunified after placement in foster care compared with youth who did not reunify. Compared with youth who were not reunified, reunified youth reported more self-destructive behavior, substance use, and total risk behavior problems (Taussig, Clyman, & Landsverk, 2001). Reunified youth were more likely to have received a ticket, to drop out of school, and to receive lower grades. Reunified youth reported more problems in internalizing behaviors, more total behavior problems, and lower total competence. There were no statistically significant differences between the groups on delinquency, sexual behaviors, pregnancy, suspensions, or externalizing behaviors (Taussig, Clyman, & Landsverk, 2001). Further, in validation of the importance of a child's emotional ties to a primary caregiver, Marcus (1991) found that, in an earlier study on foster children, the quality of children's emotional ties to their caregiver appears connected to their psychological adjustment and school achievement. Children who feel more secure with their foster parents, who experience more positive emotional ties with

them, and who receive physical affection from them are psychologically better adjusted and experience fewer achievement problems in school.

CHAPTER II

METHODOLOGY

The NSCAW data is an important resource for researchers interested in child maltreatment, child welfare, child development, and services to high-risk children and families. Within the NSCAW data, information is available on children's health; development; social, emotional, and cognitive functioning; and children's caregivers' service needs and service utilization. Contextual information is provided about the children's household characteristics, as well as the child welfare service system (US DHHS/ACF, 2010). The goal of this secondary data analysis is to construct a hypothesized model and find the "best fit" using the latent variable construct identified as "Parental Closeness" and the observed variable identified as "Problem Behaviors" in the NSCAW survey. The subsample of subjects ($n = 188$) for this analysis was drawn from the larger sample ($N = 727$) from among children who had been in out-of-home care for approximately one year at the time of sampling; whose placement had been preceded by an investigation of child abuse or neglect referred to the longer-term foster care (LTFC) sample; and who were at least 11 years of age at Wave 1. In the case of the LTFC sample, Wave 2, 3, and 4 interviews were scheduled approximately 24, 30, and 48 months after the initial survey. Children were not interviewed in Wave 2, and only a modified version of the Behavior Scale was administered at Wave 2 so this wave is excluded from this analysis. Wave 4 included additional questions about delinquency that, from a model construction perspective, seemed important to consider in this study.

Further, there was no follow-up or Wave 5 for the LTFC cohort; therefore, the data analyzed in this study include respondents' information from Waves 1 and 4. In order to make a causal assumption regarding the variables of interest using SEM, Wave 1 data are used to estimate the degree of Parental Closeness and Wave 4 data are used to estimate the degree of Problem Behaviors. Other data are explored using statistical procedures that are covered in the "Findings" section of this paper.

Background of the Study

In 1988, the Child Abuse Prevention and Treatment Act (CAPTA) was amended to establish a national data collection and analysis program through which child abuse and neglect reporting information is collected from all States (P.L. 93-247). The Secretary of the Department of Health and Human Services (DHHS) was mandated to oversee this collection. This data has been incorporated into the Child and Family Services Reviews (CFSR). The CFSR is responsible for ensuring conformity with the State plan requirements in titles IV-B and IV-E of the Social Security Act. In response, the DHHS established the National Child Abuse and Neglect Data System (NCANDS). This was a voluntary national reporting system, therefore not guaranteeing that all States were providing complete information, if any at all (US DHHS/ACF, 2008).

The Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (P.L. 104-193) authorized the DHHS to conduct a longitudinal study intended to answer a range of fundamental questions about the outcomes for abused and neglected children and their involvement in the child welfare system. The ensuing study, named the National Survey of Child and Adolescent Well-Being, or NSCAW, was designed by a

federal steering committee at DHHS with consultation from child development and child welfare experts. The aim of the study is finding information related to program, policy, and practice issues of concern to the federal, state, and child welfare agencies.

NSCAW is the first national study of child welfare to collect data from children, their birth and foster families, and the first to consider the interplay of factors related to child well-being (Wulczyn, et al., 2005). Other studies (e.g., the National Studies of Protective, Preventive and Reunification Services and the National Incidence Studies) have been national in scope; though they have involved sampling of agency files or information from professionals, they have not involved surveying children or families (Waldfoegel, 2000). In order to begin the data collection, researchers determined what constituted a legitimate report to Child Protective Service (CPS). CPS agencies have two approaches for responding to reports of suspected child abuse and neglect: first, the information is screened by the department and then it is screened for those needing investigation or assessment; second, the agency either investigates or pursues alternate response options. The purpose of the CPS investigation is to determine child maltreatment or maltreatment risk. At that time, interventions are determined and implemented.

In 2006, and based on a rate of 47.8 per 1,000 children, national estimates indicated that approximately 3.6 million children received an investigation or assessment related to allegations of maltreatment, with national estimates being based upon counting a child each time he or she was the subject of CPS intervention. Approximately one quarter (15.2%) of those children receiving investigations or services were determined to have been abused and/or neglected. During this same period, based upon a rate of 12.1

per 1,000 children, the 52 States reported that 905,000 children were victimized.

Therefore, the NSCAW cohort includes 6,228 children, ages birth to 14 (at the time of sampling), who had contact with the child welfare system within a 15-month period which began in October 1999. These children were selected from two groups:

- 5,501 interviewed from those who were a subject of child abuse or neglect investigations conducted by Child Protective Services (CPS) during the reference period (October 1999 - December 2000), referred to as the CPS sample;
- 727 from among children who had been in out-of-home care for approximately one year at the time of sampling; and whose placement had been preceded by an investigation of child abuse or neglect referred to the longer-term foster care (LTFC) sample.

These 6,228 children were selected from 92 Primary Sampling Units (PSUs) in 97 counties nationwide. The sample of investigated cases included both cases that received ongoing services and cases that did not receive services because they were either not substantiated or because it was determined that services were not required. This sample design required oversampling of specific groups:

- Infants, to ensure that there would be enough cases going through to permanency planning;
- sexual abuse cases, to ensure there would be enough cases to have sufficient statistical power to analyze this kind of abuse alone; and
- cases receiving ongoing services after investigation, in order to ensure adequate power to understand the process of services.

The age of children at investigation was capped at 14 to increase the likelihood that youth could be located for the duration of the study. Children who remained in the system and those who left the system were followed for the full study period; this included children in both the CPS and LTFC cohorts. The overall study design provides for:

- baseline face-to-face interviews or assessments with children; their parents or other permanent caregivers; non-parent adult caregivers (e.g., foster parents and custodial kin caregivers) if applicable; teachers (for school-aged children); and child welfare investigators;
- interim interviews at 12 months after the close of the investigation, assessment for children in the CPS cohort, or approximately 24 months after placement in out-of-home care for children in the LTFC cohort;
- face-to-face interviews or assessments with children; their parents or other permanent caregivers; non-parent adult caregivers (e.g., foster parents and custodial kin caregivers) if applicable; teachers (for school aged children); and child welfare workers at 18 months (Wave 3), at 36 months (Wave 4), and at 59-96 months (Wave 5) after the close of the investigation or assessment.

The target population for the NSCAW Longer Term Foster Care (LTFC) sample consists of children who had been in out-of-home care for approximately one year, and whose placement in out-of-home care was preceded by an investigation of child abuse or neglect or by a period of in-home services. In the case of the LTFC sample, Waves 2, 3, and 4 interviews were scheduled approximately 24, 30, and 48 months after the child was placed in out-of-home care, yielding four waves of data collection (US DHHS/ACF,

2002). Children in the NSCAW samples were not selected based on initial entry into CPS and may have experienced previous investigations and/or interventions (Dowd, et al., 2004).

Release of these data to the research community is quite restrictive. The General Use Release data used in this analysis are accessible by researchers, after the completion of the General Use Release order form; provision of the licensing agreement signed by the researcher, the institution, and authorized research staff; and certification of approval or review exemption by the researcher's Institutional Review Board (IRB). The General Release data exclude geographic and sampling strata identifiers and so limit the type of analysis that can be generated. The data have been assessed for disclosure risks, and some variables have been dropped or recoded to mitigate risks of participant re-identification. Data generated from surveys administered to birth mothers is only available in the Restricted Use Release data set (US DHHS/ACF, 2002). For this study, applications procedures were followed and the Internal Review Board for the University of Alabama approved the investigation protocol effective 04/16/2010. The General Use Release data were received April 30, 2010.

Approach

The National Survey of Child and Adolescent Well-Being (NSCAW) observations were selected using a complex sample design to include more cases of sexual abuse, etc., so that observations were selected with unequal probability. Sampling weights were calculated for use in analyses to correct for the effects of unequal probabilities of selection so that weighted analyses are necessary for unbiased parameter

estimation. According to the *NSCAW Statistics User's Manual*, “all children were followed at all waves, with the exception of especially strong refusals to future participation and children found to be deceased” (Biemer, Christ, Wheelless, & Wiesen, 2008, p. 21). At Wave 2, interviews were attempted with the current caregivers and services caseworkers of the 727 LTFC children in the Wave 1 cohort and are not included in this paper as children respondent to the scales on the latent variable “Parental Closeness” are of interest in the present analysis. Given that nonresponse occurred in all subsequent waves of data collection, the potential for nonresponse bias in the estimates for these Waves necessitated the researchers to make adjustments to Wave 1 weights to compensate for additional nonresponse at these later waves, including a weight constructed for analyzing children who responded to all three of Waves 1, 3, and 4. The following were considered when deciding on the weight variable to be used in this analysis:

- the longitudinal nature of the data when considering Wave 1 and 4 for changes over time in the variables of interest in this cross-sectional analysis;
- the stratum level of analysis as the recommended sample design specification for the NSCAW General Use Data is to specify a single stratum, nonclustered design as observations are treated as PSUs drawn from a single stratum;
- the use of only LTFC sample, their caregivers, and teachers; and,
- the structure of the analysis file as one record per child.

The correct type of weighted estimation was used in accordance with the *NSCAW Statistical User's Manual* (Biemer, et al., 2008) for the Wave 1 and Wave 4 NSCAW data analysis when using the PASW Statistics 18 statistical program for comparisons

between gender, ethnicity, and type of out-of-home care placement on the indicator variables. For the NCSAW data, missing data, or nonresponse, adjustments were made using the researchers' proprietary generalized exponential modeling (GEM) procedure with predictor variables for the nonresponse adjustment models, which included a variety of child, caregiver, and caseworker characteristics that were collected in Wave 1. Wave 4 adjustments for attrition were made using a weight that is included in the data package. As this is not a secondary analysis of longitudinal data and is, instead, a cross-sectional analysis measuring different constructs at two different points in time with the same sample as matched by their NSCAW ID number, when analyzing Wave 1 data, Wave 1 weights are used and when analyzing Wave 4 data, Wave 4 weights are used. However, weights are not used when measuring demographic data or scale scores for model analysis.

In terms of the statistical procedure for the principle analysis, structural equation modeling (SEM) was used to explore the constructs of parental closeness and problem behaviors for this sample ($n = 188$). Structural Equation Modeling is a quantitative approach to data analysis whereby variables of interest are arranged by theory into a model that suggests a hypothetical relationship. Indicators are observed variables, sometimes called manifest variables or reference variables, such as items in a survey instrument. Four or more indicator variables are recommended, and three indicator variables are acceptable and common practice; however, the prime consideration in selecting indicators is whether they are theoretically sound and reliably measured. By convention, indicators should have pattern coefficients (factor loadings) of .7 or higher on their latent factors. Latent variables are the unobserved variables, constructs, or factors

which are measured by their respective indicators. According to SEM researchers, the representation of latent variables based on their relation to observed indicator variables is one of the defining characteristics of SEM (Schumacker & Lomax, 2004). A four-step modeling approach (Schumaker & Lomax, 2004) was used in this analysis, which began with common factor analysis to establish the number of observed variables in the model and to explore how closely the latent construct described them. Second, Confirmatory factor analysis (CFA) was run to confirm the measurement model. Next, the structural model was tested to achieve the most parsimonious model.

To begin, a model was specified based on Attachment Theory (Bowlby, 1969, 1973, 1980; Ainsworth, Blehar, Waters, & Wall, 1978). The model suggests that parental closeness indicators in Wave 1 predict an inverse relationship for problem behavior indicators in Wave 4; thus, the hypothesized model. The variables in the model, “Parental Closeness” and “Problem Behaviors” are treated as latent variables (e.g., measured by indicators derived from the NSCAW survey scales). Using CFA, the pure measurement model from which the full structural equation model was constructed was built first, and as the fit of the measurement model was found acceptable, the second step of testing the structural model by comparing its fit with that of different structural models (e.g., with models generated by trimming or building, and lowering the significance level from $\alpha = .05$ to $\alpha = .01$) was undertaken. Model fit then measured the extent to which the covariances predicted by the hypothesized model correspond to the observed covariances in the data (Schumacker & Lomax, 2004). The research question the model addresses is:

For the children in this sample who are 11 years of age and older, are problem behaviors greater when caregiver/child relationships are weakest and, conversely, are problem behaviors lower when caregiver/child relationships are strongest?

The latent variables in the model are “Parental Closeness,” as represented by the survey items in the child respondent scales, “Closeness to Caregiver,” and “Relationship to Caregivers” (Connell, 1990). “Problem Behaviors” is represented by selected item scores on the Child Behavior Checklist Self-Report, Parent, and Teacher version (Achenbach, 1991a; Achenbach, 1991b; Achenbach, 1991c) and a Delinquency scale (Elliott & Ageton, 1980; US DHHS/ACF, 2003a), as research demonstrates an elevated risk of delinquency and criminality among maltreated individuals (Ryan & Testa, 2005; Smith & Thornberry, 1995; Widom, 2000; Zingraff, Leiter, Myers, & Johnsen, 1993). Behavior problems identified in childhood are one of the earliest signs of child maltreatment, especially difficulty with impulse control and aggressive behavior, and can interfere with peer acceptance (La Greca, 1997) and academic performance (Barriga et al., 2002). Given that behavior problems are often setting specific, multiple informants strengthen this measurement (US DHHS/ACF, 2003a).

Most research on attachment uses some form of scale that interprets attachment relationships as a style or category, such as secure, avoidant, or disorganized as identified in the introduction to this paper (Ainsworth, Bell, & Stayton, 1974; Ainsworth, et al., 1978; Main & Solomon, 1986; Mercer, 2006). In this study, however, the variable “Parental Closeness” will be treated as a latent variable determined by the scales that the research designers recommended (Connell, 1990; US DHHS/ACF, 2003a); this will not yield attachment styles or categories but will yield degrees of relationships between

adolescents and their primary caregivers. It is the degree or strength of this relationship (variance and covariance) that is tested with other variables to determine which variables' variances and covariances form the strongest relationship or "best fit" when compared with the hypothesized model.

The rationale for the sub-sample of LTFC respondents is that the sub-sample of $n = 188$ was obtained by careful consideration of the researchers' methodology for the construction of the survey. In other words, certain scales were administered to children at different ages and during different waves. For example, the scales Relationship with Caregiver(s), Closeness to Caregiver(s) (Connell, 1990), and the Delinquency Scale (Elliott & Ageton, 1980; US DHHS/ACF, 2003a) were administered to children who were at least 11 years of age (US DHHS/ACF, 2003a). In this analysis, the children in the NSCAW LTFC sample are at least 11 years of age at the beginning date of the investigation (e.g., Wave 1 age range is approximately 11-14) and, at the end of the 36 month study period, some of the children who were 14 at the beginning of data collection are at least 17 years of age. As the Delinquency Scale at Wave 4 introduced items to reflect involvement with the criminal justice system (e.g., number of arrests, reasons for recent arrest, etc.) (US DHHS/ACF, 2003a) that were not available in earlier waves of data collection, this analysis considers Wave 1 for the data on the latent variable "Parental Closeness" and Wave 4 for the data on the latent variable "Problem Behaviors."

Demographics

The completeness of some States' records affected the criteria for selecting these children. Therefore, children in the NSCAW LTFC sample were in out-of-home care at

the beginning and end of the study period, though they may not have been in out-of-home care continuously for the entire time. According to the NSCAW researchers, “Administrative records in many states and PSUs would not support the more rigorous definition” (DHHS/AFC, 2003a, p. 36). Consequently, children in the LTFC sample spent between 8 and 20 months in out-of-home care at the time of sampling. The subpopulation of $n = 188$ was derived by consideration of the researchers’ methodology for the construction of the longitudinal survey. Demographics for the subpopulation ($n = 188$) whose data are considered in this analysis are illustrated in Tables 2.1 and 2.2.

Table 2.1

Related to Primary Caregiver by Out-of-Home (OOH) Care Status

	Type of OOH Care Wave 1					Total
	Other	Foster Home	Kinship Care	Group Home	Residential	
	$n = 27$	$n = 87$	$n = 37$	$n = 15$	$n = 22$	$n = 188$
No	13.3%	44.1%	16.1%	5.9%	11.7%	91.1%
Yes	1.0%	2.1%	3.7%	2.1%	0.0%	8.9%

Of the children in this sample, nearly half live in foster homes and are not related to their primary caregiver; in fact, including kinship care, 91% of the children in this sample, at the time of this sampling, were not related to their caregiver. Within the age range of 11 to 16 years of age, 14-year-olds make up 25% of the youth in this sample. Black children appear to be represented in greater numbers than White children--40% compared with 35%, respectively ($n = 188$). More girls than boys live in kinship care,

(60% compared with 40%), and far more boys live in residential facilities than do girls--nearly 70% to 30% when compared to that subgroup of children who live in residential care (see Tables 2.2, 2.3, and 2.4).

Table 2.2

Type of Out-of-Home Care by Age

Age In Years	%	No Data	Foster Home	Kinship Care	Group Home	Residential	Other	Total
11	<i>n</i> = 19.1%	3	22	8	1	2	0	36
12	<i>n</i> = 18.6%	6	19	7	0	2	1	35
13	<i>n</i> = 21.8%	5	14	8	3	9	2	41
14	<i>n</i> = 25.0%	4	19	10	8	6	0	47
15	<i>n</i> = 14.9%	6	12	4	3	3	0	28
16	<i>n</i> = .5%	0	1	0	0	0	0	1
Total	<i>n</i> = 100%	24	87	37	15	22	3	188

Table 2.3

Type of Out-of-Home Care by Ethnicity

Ethnicity	%	No Data	Foster Home	Kinship Care	Group Home	Residential	Other	Total
Missing	$n =$ 5%	0	0	1	0	0	0	1
Black	$n =$ 40.4%	10	35	19	5	6	1	76
White	$n =$ 34.6%	7	33	10	7	7	1	65
Hispanic	$n =$ 13.3%	5	8	7	0	4	1	25
Other	$n =$ 11.2%	2	11	0	3	5	0	21
Total	$n =$ 100%	24	87	37	15	22	3	188

Table 2.4

Type of Out-of-Home Care by Gender

Gender	%	No Data	Foster Home	Kinship Care	Group Home	Residential	Other	Total
Male	<i>n</i> =	14	41	15	9	15	2	96
	% by type	58.3%	47.1%	40.5%	60.0%	68.2%	66.7%	51.1%
	<i>n</i> =	10	46	22	6	7	1	92
Female	% by type	41.7%	52.9%	59.5%	40.0%	31.8%	33.3%	48.9%
Total	<i>n</i> =	24	87	37	15	22	3	188
	100%							

Instrumentation

Measures selected for NSCAW were based on a variety of criteria, including the psychometric data available about their internal consistency reliability (e.g., Cronbach's alpha). The research designers caution that the internal consistency of a measure may vary with different respondents and test circumstances and that the relevant reliability estimate is the one obtained from the study sample at the baseline measure (see Tables 2.1, 2.2, and 2.3). Overall, internal consistency ranges from good ($\alpha = .70$) to high ($\alpha > .90$) for the majority of measures used with the population of children involved in the NSCAW study (US DHHS/ACF, 2003b).

Children have reported that the experience of being removed from their families can be a very difficult time for them (Johnson, Yoken, & Voss, 1995). An important

element of the NSCAW survey is that it gathered children's responses to questions about their perception of their emotional relationship to their caregivers as well as specific activities children and caregivers shared. Items from the Rochester Assessment Package for Schools–Student (RAPS) Relatedness scale (Connell, 1990) were used to measure relatedness to the caregiver for children aged 11 to 15 years. The RAPS includes items pertaining to how the child feels with the caregiver, the quality of involvement with the caregiver, the extent to which the child feels controlled by the caregiver, and the child's perception of clear caregiver expectations for behavior (Connell, 1991). There are two sets of questions, one for each caregiver. Four subscales were used for NSCAW: Parental Emotional Security, Involvement, Autonomy Support, and Structure. Children answered how true each statement was (1 = not at all true, 2 = not very true, 3 = sort of true, and 4 = very true). Parental Emotional Security items asked how true it was that the child felt good, mad, or happy with his or her caregiver. Involvement asked questions about the caregiver's interest in, time spent with, and things done to help the child. Autonomy Support inquired about the caregiver's trust of the child and whether the child was allowed to make his or her own decisions. Structure asked about the caregiver's fair treatment of the child, the caregiver's belief in the child's abilities, and the child's understanding of what the caregiver wants (Connell, 1991). Item scores range from 1 (most negative view of caregivers) to 4 (most positive view of caregivers).

While the Relatedness construct scale items focus on specific caregiver behaviors that demonstrate interest and engagement in the child's life (e.g., child went shopping with caregiver), Closeness scale items refer to the child's perception of the caregiver's emotional attachment to the child (e.g., child feels good with caregiver). The questions

were summed to create a closeness-to-caregiver score, ranging from 1 to 5, with higher scores indicating a higher degree of closeness (US DHHS/ACF, 2003a). In the interest of the theory-based construct of attachment as presented in this paper as a reciprocal relationship between a child and his/her primary caregiver (Bowlby, 1969, 1973, 1980), the set of items pertaining to only the primary caregiver was used in this analysis.

Three versions of The Child Behavior Checklist (CBCL) were used in the NSCAW study: the Youth Report Version, Caregiver Report Version, and the Teacher Report Version (Achenbach, 1991a; Achenbach, 1991b; Achenbach, 1991c; US DHHS/ACF, 2003a). The CBCL was “designed to provide standardized descriptions of behavior rather than diagnostic inferences” (Achenbach, 1991a, p. iii) about competencies, problem behaviors, and other problems. Items are on a 3-point Likert scale (0 = not true, 1 = somewhat or sometimes true, and 2 = very true or often true) with 113 items for 4 to 18 year-olds. The problem scale is composed of eight types (e.g., Withdrawn, Somatic Complaints, Anxious/Depressed, Social Problems, Thought Problems, Attention Problems, Delinquent Behavior, and Aggressive Behavior) and an Other Problems category with 33 items for the 4 to 18 year-olds. Externalizing Problems are comprised of the items in the Delinquent and Aggressive Behavior subscales and Internalizing Problems are comprised of the items in the Withdrawn, Somatic Complaints, and Anxious/Depressed subscales. A Total Problems score is calculated from the total of the subscales and Other Problems items (Achenbach, 1991a). The problem subscales were normed by gender and age, using a nationally representative sample of 2,368 children aged 4 to 18 years old who had not received mental health services or special remedial school classes in the previous 12 months (Achenbach,

1991a). Construct validity is good, as the problem subscales correlate fairly well (.59 to .88) with similar scales from other instruments (e.g., Parent Questionnaire, Quay-Peterson Revised Behavior Problem Checklist, and ACQ Behavior Checklist) (Achenbach, 1991a). Children classified as having clinical/borderline problem behaviors had scores 60 and above for Externalizing, Internalizing, and Total Problem behaviors. Reliability estimates from the NSCAW study are quite high ($\alpha < .94$) for the CBCL Wave 1 report (see Table 2.1) (Achenbach, 1991a; US DHHS/ACF, 2003a).

The Child Behavior Checklist Teacher's Report Form (CBCL-TRF) is almost identical to the CBCL, including the problem subscales and Other Problems items, with questions worded in such a way as to make them more appropriate for teacher response. The TRF also contains academic and adaptive functioning scales, though this information was not collected for NSCAW (US DHHS/ACF, 2001). The normative sample for the original Achenbach scale was composed of the 1,391 children who had not received mental health services or special remedial school classes within the past 12 months (Achenbach, 1991b). Construct validity was particularly good as indicated by TRF scale correlations with similar scales from other instruments. Cronbach's alpha for the entire sample averaged .97 for Total Problems, .96 for Internalizing Behaviors, and .91 for Externalizing Behaviors (Achenbach, 1991b).

The Child Behavior Checklist Youth Self-Report (CBCL-YSR) was designed to "obtain self-report of feelings and behavior in a standardized fashion for comparison with reports by normative groups of 11- to 18-year-olds" (Achenbach, 1991c, p. iii). The YSR is almost identical to the CBCL in content and structure, including the competence scales, problem subscales, and other problems. The normative sample was drawn from a group

of 1,719 children who completed the YSR. The normative sample is nationally representative and consisted of those children who were 11 to 18 years old when they completed the YSR and who had not received mental health services or special remedial school classes within the past 12 months (Achenbach, 1991c).

The Delinquency construct in NSCAW study was measured using the caregiver-reported Child Behavior Checklist Delinquency subscale (Achenbach, 1991a) and 72 items from the Self-Reported Delinquency (SRD) measure (Elliott & Ageton, 1980) from Wave 7 (1987) of the National Longitudinal Survey of Youth (NLSY) (DHHS/ACF, 2003b). For this analysis, the sub-scale items from the CBCL on Delinquency are included in the CBCL measures and not considered as a separate factor. Items from the Self-Reported Delinquency (SRD) were used in the NSCAW study to gather information from child respondents 11 years of age and older about the commitment of violent and nonviolent delinquent acts over the 6 months prior to their interview and asked about specific delinquent acts and the frequency (1 = once to 5 = 5 or more times). Items from the SRD measure were grouped based on the total number and frequency of violent and nonviolent delinquent acts engaged in during the previous 6 months. Out of the 36 possible activities, 28 are classified as nonviolent, 7 as violent; one question asks about any arrests in the prior 6 months. For each behavior engaged in, youths were also asked about the frequency of each delinquent act (1 = once to 5 = five or more times). A mean frequency score for violent and nonviolent behavior was computed for all youth by averaging the frequency items for 7 violent and 28 nonviolent behaviors, with scores ranging from 0 to 5. In the NSCAW study, internal consistency of the SRD was reported to be high ($\alpha = .98$) (US DHHS/ACF, 2003b, p. 54), although an earlier study, Huizinga

and Elliott (1986) reports 22 estimates of test-retest reliability, across indexes and frequency scores, and found the mean reliability coefficient to be slightly lower ($\alpha = .74$). Interestingly, Huizinga and Elliott also reported no consistent differences across gender, race, class, place of residence, or delinquency level in terms of test-retest reliabilities (Huizinga & Elliott, 1986) while the NSCAW Wave 1 findings report that children in group homes have almost five times the odds of children living at home and not receiving services of having committed at least one violent act in the prior 6 months. Additionally, in the NSCAW Wave 1 analysis, 20% of youths aged 11 and older reported engaging in at least one violent act within the prior 6 months (US DHHS/ACF, 2003b, p. 186).

The findings presented in the next chapter follow the four-step modeling process, which includes factor analysis of the indicator variables (scale and subscale scores) to determine the “best fit” indicators to represent the latent variables “Parental Closeness” and “Problem Behaviors.” The hypothesized model suggests that parental closeness indicators in Wave 1 predict an inverse relationship for problem behavior indicators in Wave 4. In order to achieve the best path model for each latent variable, CFA was conducted based on the factor loadings of the scale scores and sub-scale scores from the factor analysis. Once the fit of the measurement model was found acceptable, the next step was the construction of the structural model by comparing the structural model fit with that of different structural models (e.g., with models generated by trimming or building, and lowering the significance level from $\alpha = .05$ to $\alpha = .01$). The “best fit” model then measured the extent to which the covariances predicted by the hypothesized model correspond to the observed covariances in the data (Schumacker & Lomax, 2004).

The findings address the research question: *For the children in this sample who are 11 years of age and older, are problem behaviors greater when caregiver/child relationships are weakest and, conversely, are problem behaviors lower when caregiver/child relationships are strongest, such that, ultimately, do caregiver/child relationships predict problem behaviors at a later point in time?*

CHAPTER 3

FINDINGS

A structural equation modeling (SEM) analysis of the relationship between the latent variables “Parental Closeness” and “Problem Behaviors” was undertaken using the LISREL statistical program, Version 8.8 (LISREL 8.8) (Jöreskog & Sörbom, 2004). The advantages of SEM compared to multiple regression include: more flexible assumptions allowing interpretation even with probable multicollinearity; use of confirmatory factor analysis to reduce measurement error by having multiple indicators per latent variable; the ability of testing models overall rather than coefficients individually; the ability to model mediating variables; the ability to model error terms; the ability to test coefficients across multiple between-subjects groups; and the ability to handle difficult data (e.g., non-normal data and missing data). SEM allows parameter estimation; determination of confidence intervals and of standard errors of parameter estimates; and quantifies how well a model describes the data, testing models overall rather than coefficients individually. In addition, estimation of an effect on the means or on the variance of a variable necessitates the use of raw data; using raw data allows a more efficient handling of missing data (Kline, 1998).

Factor analysis is used to uncover the latent structure (dimensions) of a set of variables, and in this analysis, confirmatory factor analysis (CFA) was used in the structural equation modeling process. In essence, CFA is a tool to determine if the

number of factors and the loadings of measured (indicator) variables conform, or fit, to what is expected based on pre-established theory. For example, indicator variables (e.g., the Closeness to Caregiver and Relatedness to Caregiver scales) are selected on the basis of prior theory, and factor analysis is used to determine if these observed variables load as predicted on the expected number of factors or latent variables (e.g., Parental Closeness). For this analysis, common factor analysis was used to allow an examination of factor loadings of indicator variables to determine if they load on latent variables (factors) as predicted by the hypothesized model before CFA was used for the pathway analysis (e.g., indicator variables representing the latent variables in a simplified one factor model for each of the latent variables). In this common factor analysis, maximum likelihood estimate method was used and all analysis used Varimax rotation. Missing data in the factor analysis used listwise substitution, as sample size is a concern when running factor analysis. Reporting SEM results varies widely among researchers, but standard reporting conventions developed by the American Psychological Association (2002, [APA]) have been followed.

Model Specification and Model Identification

Model Specification involves using relevant theory, research, and information to develop the theoretical model (Schumacker & Lomax, 2004) and the assumptions have been met for this analysis including adequate sample size ($n = 188$), interval data, multivariate normality, and maximum likelihood estimation. This analysis began by deciding which observed variables to include and which to exclude in the model that would best represent the latent variables of interest, “Parental Closeness” and “Problem

Behaviors,” respectively. As a starting point, one may assume, based on Attachment Theory, that the latent variable “Parental Closeness” would be inversely correlated to the latent variable “Problem Behaviors.” The research question is modeled by the hypothesized model and attempts to answer this question: *For the children in this sample who are 11 years of age and older, are problem behaviors greater when caregiver/child relationships are weakest and, conversely, are problem behaviors lower when caregiver/child relationships are strongest, such that, ultimately, do caregiver/child relationships predict problem behaviors at a later point in time?*

Theory informs us that attachment relationships are necessary for healthy development. Research informs us that older children remain in out-of-home care longer (US DHHS/ACF, 2010); experience more placement instability (Newton, Litrownik, & Landsverk, 2000; Ryan & Testa, 2005); have increased problem behaviors (Carlson, 1998; Lyons-Ruth, 2003; Ogawa, Sroufe, Weinfeld, Carlson, & Egeland, 1997; Sroufe, Egeland, Carlson, & Collins, 2005); and have more psychiatric problems than their at home counterparts (McMillen et al., 2005). Thus, we can hypothesize that the data will demonstrate an inverse relationship between the latent variables, “Parental Closeness” and “Problem Behaviors.” To discover if this measurement model is at least one of the models that best explains these data, one must specify the model and include all relevant parameters, or variables, so that the model will not be misspecified; conversely, a model can be misspecified if an unimportant parameter were included in the model, or both conditions can apply (e.g., omission of important variables and inclusion of irrelevant ones) to a misspecified model. Therefore, a thorough examination of all potentially

relevant parameters from a priori research and the NSCAW data was necessary to begin the process of SEM as shown in Figure 3.1.

Although the NSCAW researchers had conducted factor analysis, CFA, and created subscales and scale totals, as this study focuses on a subpopulation of the larger sample ($n = 188$), it was necessary to check the means, reliability measurements, and factor loadings for each item and subscale in this current analysis. Each indicator variable was examined using both reliability estimates and factor analysis prior to CFA. Table 3.1 gives means and reliability scores by youth, caregiver, and teacher respondents. The assumptions of factor analysis have been met for this study (e.g., linear relationships, interval or near-interval data, untruncated variables, lack of high multicollinearity, and multivariate normality for purposes of significance testing) (Stephens, 2002). Factor analysis generates a table in which the rows are the observed raw indicator variables and the columns are the factors or latent variables that explain as much of the variance in these variables as possible. The cells in the table are factor loadings, and the meaning of the factors can be inferred by which variables are most heavily loaded on which factors. In other words, all factor loadings greater than .7 that appear on the column under Component 1 should, in theory, represent an element of a construct that could be described or defined by these factors. For example, three items of an intelligence scale should factor on the same component and, if they represent the construct “Intelligence,” should factor at approximately .7 or higher. Other items may factor lower and they might be measures of another construct, perhaps measuring aptitude. The hypothesized SEM demonstrates the theoretical model for latent variables and their indicator variables, derived in part, by high factor loadings (see Figure 3.1).

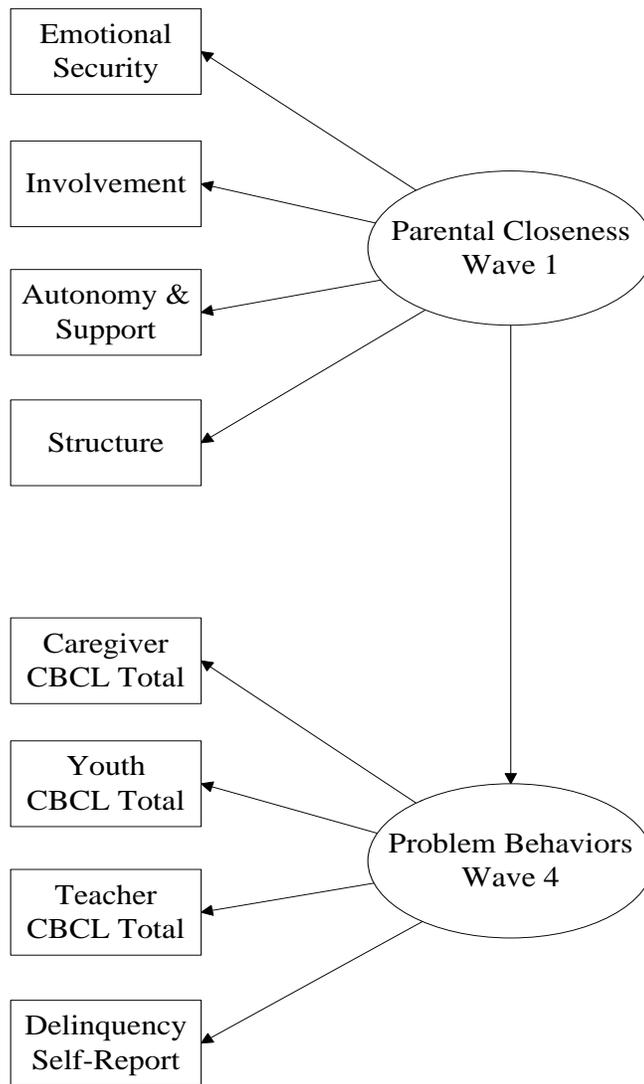


Figure 3.1 Hypothetical Structural Equation Model

Table 3.1

Latent and Manifest (Observed) Variables

Latent Variable	Manifest Variable	Respondent	Information Gathered	Indicator Means	α
*Parental Closeness	Emotional Security, Involvement, Autonomy & Support, and Structure	Child	Relationship with primary caregiver	$M = 3.3, SD = .727$; $M = 3.2, SD = .670$; $M = 3.15, SD = .786$; $M = 3.2, SD = .743$, respectively.	.88
**Problem Behaviors	Caregiver CBCL	Caregiver	Behavior problems	$M = 45.96, SD = 32.07$.90
**Problem Behaviors	Teacher CBCL-TR	Teacher	Behavior now or in the past 2 months	$M = 34.35, SD = 28.03$.86
**Problem Behaviors	CBCL-YSR	Child	Magnitude of aggression and impulse control	$M = 44.82, SD = 22.92$.87
**Problem Behaviors	SR-Delinquency	Child	Delinquent activities	$M = 3.78, SD = 7.01$.81

*indicates exogenous or independent variable

** indicates endogenous or dependent variable

The items from the Wave 1 NSCAW data that represented observations of the latent variable “Parental Closeness” were evaluated, including those items that were part of the child interview from Wave 1 that asks specifically about the child’s perception of his/her relationship with the primary caregiver. Each item was evaluated using reliability procedures. Next, further reliability estimates were run, with good reliability for the combined indicators ($n = 4$; $\alpha = .824$; $M = 12.86$; $SD = 2.392$), for the four subscales that became the observed variables for Parental Closeness: Emotional Security ($M = 3.3$, $SD = .727$); Involvement ($M = 3.2$, $SD = .670$); Autonomy and Support ($M = 3.15$, $SD = .786$); and Structure ($M = 3.2$, $SD = .743$). The items factored into four factors as expected, therefore, these four subscales are included in the CFA model as shown in Table 3.2. Inter-item correlation for the four variables ranged from $r(150) = .445$ to $.614$, with $p < .001$ indicating multicollinearity was not likely occurring.

Table 3.2

Factor Loadings for the Sub-scale Indicators of Parental Closeness

Indicators	Factors			
	1	2	3	4
Emotional Security	.191	.909	.278	.243
Involvement	.191	.285	.900	.268
Autonomy Support	.941	.177	.174	.231
Structure	.270	.260	.280	.884

*Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.*

For the eight sub-scales in the Caregiver Report on Youth Problem Behaviors, reliability estimates were good ($\alpha = .86$). Sub-scale statistics indicated a range in means from the lowest mean score ($M = 1.5, SD = 2.06$) for Somatic Complaints to the highest mean score ($M = 11.83, SD = 9.16$) for Aggressive Behavior. Not surprisingly, Item-Total statistics indicate an improvement in the reliability estimate if those items were removed from the scale ($\alpha = .898$ and $.904$, respectively). For the eight sub-scales in the Teacher Report on Youth Problem Behaviors, reliability estimates were good ($\alpha = .875$). Item statistics indicated a range in means from the lowest mean score ($M = 1.16, SD = 1.88$) for Somatic Complaints to the highest mean score ($M = 9.49, SD = 8.90$) for Aggressive Behavior. Interestingly, Item-Total statistics indicate only a .001 improvement in the reliability estimate if Somatic Complaints was removed from the scale ($\alpha = .876$). For the eight sub-scales in the Youth Report on Youth Problem Behaviors, reliability estimates were good ($\alpha = .873$). Sub-scale statistics indicated a range in means from the lowest mean score ($M = 1.68, SD = 2.04$) for Somatic Complaints to the highest mean score ($M = 9.91, SD = 5.58$) for Aggressive Behavior. Again, Item-Total statistics indicate an improvement in the reliability estimate if Somatic Complaints, Aggressive Behavior, and Withdrawn were removed from the scale ($\alpha = .881, \alpha = .880, \alpha = .877$, respectively). Even with this change, the improvement is minimal and a factor analysis was run to find out how heavily or weakly these items loaded on what was suspected to be a two-component factor analysis.

For the eight sub-scales in the Caregiver Report on Youth Problem Behaviors, factor analysis extracted two factors with Component 1 explaining 47% of the variance among the variables (e.g., sub-scale items Withdrawn, Anxious/Depressed, Social

Problems, Thought Problems, Attention Problems, Delinquent Behavior, and Aggressive Behavior) and Component 2 (Somatic Complaints) explaining 25% of the variance. All the variables loaded from moderate to heavy (.600 to .834) on the first factor with only Somatic Complaints loading quite heavily (.886) on the second factor as shown in Table 3.3. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy test is .867, which is considered adequate for these data. Bartlett's Test of Sphericity, which tests the null hypothesis that the correlation matrix is an identity matrix, is acceptable and the null hypothesis is rejected, $\chi^2(2) = 841.301, p < .001$.

Table 3.3

Factor Loadings for Caregiver Report on Youth Problem Behaviors

Indicators	Factors	
	1	2
Withdrawn	.600	.524
Somatic Complaints	.096	.886
Anxious/Depressed	.674	.552
Social Problems	.603	.497
Thought Problems	.762	.382
Attention Problems	.773	.427
Delinquent Behavior	.813	.023
Aggressive Behavior	.834	.208

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

For the eight sub-scales in the Teacher Report on Youth Problem Behaviors, factor analysis extracted two factors, with Component 1 (e.g., sub-scale items Social Problems, Thought Problems, Attention Problems, Delinquent Behavior, and Aggressive Behavior) explaining 40% of the variance among the sub-scale items, and Component 2 (e.g., items Somatic Complaints and Anxious/Depressed) explaining 35% of the variance among the sub-scales. Three of the more “externalizing” behavior sub-scales loaded from moderate to heavy on the first factor loading (.664, .892, and .921) with Somatic Complaints and Anxious/Depressed loading well on the second factor (.748 and .754) as shown in Table 3.4. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy test is .814, which is considered adequate for these data. Bartlett’s Test of Sphericity, which tests the null hypothesis that the correlation matrix is an identity matrix, is acceptable and the null hypothesis is rejected, $\chi^2 (2) = 381.842, p < .001$.

Table 3.4

Factor Loadings for Teacher Report on Youth Problem Behaviors

Indicators	Factors	
	1	2
Withdrawn	.219	.840
Somatic Complaints	.056	.748
Anxious/Depressed	.443	.754
Social Problems	.612	.562
Thought Problems	.677	.506
Attention Problems	.664	.577
Delinquent Behavior	.892	.089
Aggressive Behavior	.921	.181

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

For the eight sub-scales in the Youth Report on Youth Problem Behaviors, factor analysis extracted two factors, with Component 1 explaining 37% of the variance among the items (e.g., sub-scale items Social Problems, Thought Problems, Attention Problems, Delinquent Behavior, and Aggressive Behavior) and Component 2 explaining 26% of the variance of the items (e.g., sub-scale items Withdrawn, Somatic Complaints, and Anxious/Depressed). The sub-scale item factor analysis revealed that all of the more “externalizing” behavior sub-scales loaded from moderate to heavy (.647, .807, and .864) on the first factor, with three of the “internalizing” behavior variables loading well on the

second factor (.683, .710, and .807) as shown in Table 3.5. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy test is .861, which is considered adequate for these data. Bartlett's Test of Sphericity, which tests the null hypothesis that the correlation matrix is an identity matrix, is acceptable and the null hypothesis is rejected, $\chi^2(2) = 534.389$, $p < .001$.

Table 3.5

Factor Loadings for Youth Report on Youth Problem Behaviors

Indicators	Factors	
	1	2
Withdrawn	.208	.807
Somatic Complaints	.160	.683
Anxious/Depressed	.475	.710
Social Problems	.583	.438
Thought Problems	.735	.220
Attention Problems	.807	.313
Delinquent Behavior	.647	.284
Aggressive Behavior	.864	.138

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

The Delinquency Scale, separated into its nine subscales, describing a range of offenses, had a good reliability estimate ($\alpha = .805$) with a mean range of < 1 for all subscales except for Status Offenses ($M = 1.20$, $SD = 2.406$). The Delinquency Scale

indicated a two-factor component analysis with Component 1 accounting for 33% of the variance among the variables and Component 2 accounting for 24% of the variance among the sub-scale items. Interestingly, as Table 3.6 shows, the sub-scales' factor loadings do not necessarily differentiate in any meaningful way. For example, Component 1 factors that load well include Illegal Service (.828), Felony Assault (.767), Status Offenses (.703), and Public Disorder (.695). The sub-scales Fraud (.873) might be expected to factor load with Illegal Services or Status Offenses; however, it loads well on the second Component along with Felony Theft (.778). The Kaiser-Meyer-Olkin Measure of Sampling Adequacy test is .782, which is considered adequate for these data. Bartlett's Test of Sphericity, which tests the null hypothesis that the correlation matrix is an identity matrix, is acceptable and the null hypothesis is rejected, $\chi^2(2) = 471.937, p < .001$.

Table 3.6

Factor Loadings for Delinquency Self-Report

Indicators	Factors	
	1	2
Felony Theft	.310	.770
Robbery	.256	.530
Fraud	.002	.887
Illegal Services	.829	.014
Property Damage	.632	.234
Public Disorder	.698	.390
Status Offenses	.706	.272

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

However, when the sub-scales that factored $< .7$ were removed, the factor loadings appeared more logical as Table 3.7 demonstrates. The modified Delinquency Scale indicated a two-factor component analysis, with Component 1 accounting for 41% of the variance among the variables and Component 2 accounting for 28% of the variance among the sub-scales. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy test is .717, which is considered adequate for these data. Bartlett's Test of Sphericity, which tests the null hypothesis that the correlation matrix is an identity matrix, is acceptable and the null hypothesis is rejected, $\chi^2(2) = 313.905, p < .001$. Interestingly, the removal of

these low factoring sub-scales did not improve the Cronbach's alpha, $\alpha = .772$, for this modified Delinquency scale.

Table 3.7

Factor Loadings for the Modified Delinquency Self-Report

Indicators	Factors	
	1	2
Felony Assault	.784	.091
Felony Theft	.318	.821
Fraud	.044	.905
Illegal Services	.850	.034
Public Disorder	.716	.351
Status Offenses	.729	.251

*Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.*

Taken together, these tests provide a minimum standard, which should be passed before a CFA, can be conducted. Although “Parental Closeness” sub-scales appeared to factor in accordance with expectations, the sub-scales related to the latent variable “Problem Behaviors” did not factor as expected, with factor loadings for “internalizing” and “externalizing” behaviors not falling neatly into the two components. However, none of the loadings were quite so low as to suggest the removal of the sub-scales from the larger dichotomous scale (e.g., internalizing versus externalizing behaviors), except perhaps Social Problems on the Youth Report (.583). The decision was made, based

largely on the reliability of the sub-scales and their importance in describing behavior problems, to continue on with the CFA with the unmodified Delinquency scale, and the inclusion of the three CBCLs into their “internalizing” and “externalizing” sub-scales as these data did suggest two components, although not a perfect factor loading component match according to the sub-scale dichotomy (e.g., internalizing versus externalizing behaviors). Nevertheless, these data provide the minimum requirements to perform the next step in the four-step modeling process, which is to test the latent variable pathways using CFA.

Model Estimation and Model Testing

For the full SEM, it was hypothesized that it is a two-construct, eight-indicator recursive model with an inverse correlation between the exogenous and endogenous variables which attempts to model the research question: *For the children in this sample who are 11 years of age and older, are problem behaviors greater when caregiver/child relationships are weakest and, conversely, are problem behaviors lower when caregiver/child relationships are strongest, such that, ultimately, do caregiver/child relationships predict problem behaviors at a later point in time?*

Estimation of the model began with inputting the data file from *PASW Statistics 18* for the 188 observations. Once the data were uploaded into *LISREL 8.8*, CFA was run with the pathway models for each latent variable. The first analysis was the CFA for the one factor model for the “Parental Closeness” latent with the four indicator variables: Emotional Security, Involvement, Autonomy and Support, and Structure. The results from this one factor model indicate that with the adequate reliability and fit, these data for

the 188 children in out-of-home care fit this one factor measurement model. Table 3.8 gives the necessary statistics for model fit.

Table 3.8

Measurement Model One Factor for Parental Closeness

Variable	Loading	R^2	t -value
Emotional Security	.54	.56	11.01**
Involvement	.54	.60	11.54**
Autonomy and Support	.49	.40	8.83**
Structure	.59	.64	12.03**
Chi-square (df; p)	5.04 (2; $p = .089$)		
†NFI; GFI; CFI	.99; .99; .99		
††RMSEA (CI)	0.09 (0.0 ; 0.19)		

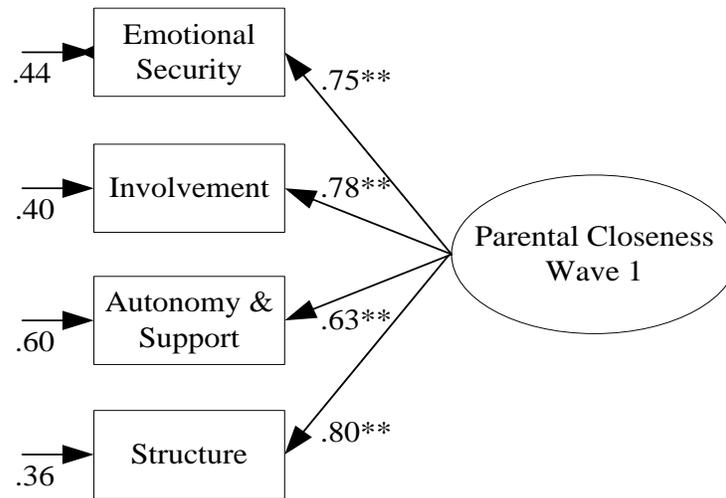
†The goodness of fit indices should be as close to 1 as possible.

††The Root Mean Square Error of Approximation should be close to zero.

** Significant at $\alpha = .01, p \leq .05$.

According to the t values, all indicator paths are significant at $p < .01$. With moderate to good factor loadings and reliability estimates, and a nonsignificant chi-square statistic, these measures indicate a good model fit to the sample variance-covariance matrix ($\chi^2 = 5.04, df = 2, p = .089$). This one factor model (Figure 3.2) is introduced to the final model with the latent variable “Parental Closeness” represented by the four indicator variables (see Table 3.9).

(Standardized Solution, $N = 188$)



** Significant at $\alpha = .01$, $p \leq .05$.

Figure 3.2 One Factor Model of Parental Closeness

As the factor analysis indicated, there was something unusual occurring with the subscale Somatic on all versions of the CBCL. Instead of using the total of all subscale scores, it seemed logical to use the two subscales for each respondent (e.g., Internalizing and Externalizing) while keeping the Delinquency scale, making the next step an analysis of a one-factor model with seven-indicator variables. Table 3.3 shows the next step in the process of model construction and model trimming.

Table 3.9

Measurement Model One Factor for Problem Behaviors

Variable	Loading	R^2
Delinquency	.56	.0024
Caregiver Report External Behaviors	9.83	1.00
Caregiver Report Internal Behaviors	9.83	1.00
Youth Report External Behaviors	1.19	.024
Youth Report Internal Behaviors	.38	.0034
Teacher Report External Behaviors	4.39	.38
Teacher Report Internal Behaviors	1.27	.05
Chi-square (df; p)	356.80 (14; $p = .89$)	
*NFI; GFI; CFI	.21; .20; .64	
**RMSEA (CI)	0.30 (0.27 ; 0.33)	

**The goodness of fit indices should be as close to 1 as possible.*

***The Root Mean Square Error of Approximation should be close to zero.*

The model fit indices suggested that a few of the indicators were not reliable representations of the factor, as suggested by the variance in their factor loadings and the lack of good model fit approximations ($\chi^2 = 358.8$, $df = 14$, $p = .89$; NFI = .21, GFI = .20, and CFI = .64). The next step in model testing was to eliminate the variables with the lowest factor loadings and nonsignificant paths at $\alpha = .05$, Delinquency and Youth Report Internal Behaviors, in turn. The next one-factor model was slightly better with five indicator variables, however, the model fit indices suggest that a few of the indicators were not reliable representations of the factor, as suggested by the variance in their factor loadings, they were only moderately acceptable model fit approximations ($\chi^2 = 98.6$, $df =$

5, $p = .53$; GFI = .71, NFI = .71, CFI = .81, and RMSEA = .33). The next step was to remove any variable that caused too much variance and factor loaded poorly leaving three indicator variables: Caregiver Report Internal Behaviors, Youth Report External Behaviors, and Teacher Report External Behaviors (see Table 3.4). The results were good and supported the earlier factor analysis, making a more parsimonious one factor model as Figure 3.3 demonstrates.

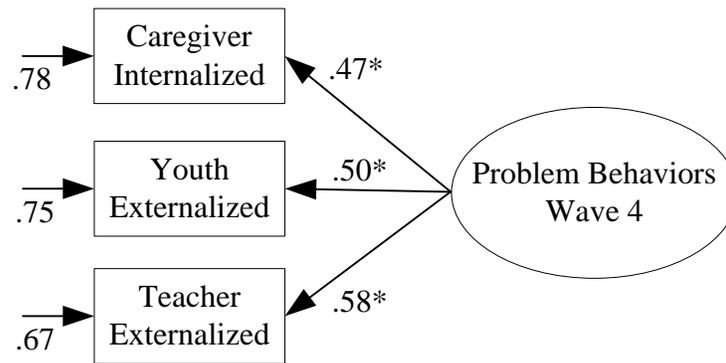
Table 3.10

Measurement Model One Factor for Problem Behaviors Trimmed

Variable	Loading	R^2	t -value
Caregiver Report Internal Behaviors	3.68	.21	4.21*
Youth Report External Behaviors	3.43	.25	4.37*
Teacher Report External Behaviors	4.16	.35	4.57*
Chi-square (df; p)	0 (0; $p = 1.00$)		
Model Saturated			

*Significant at $\alpha = .05$.

(Standardized Solution, $N = 188$)



*Significant at $\alpha = .05$.

Figure 3.3 One Factor Model of Problem Behaviors

The next one-factor model produced no degrees of freedom, indicating a fully saturated model. At this point, with no new information on how to improve this one factor model, this fully saturated model was incorporated into the full structural model in the final model analysis.

Model Modification and Final Model

For the final model construction, both two factors models, Parental Closeness and Problem Behaviors, were combined with a structural path between the endogenous and exogenous variables with the goal of finding the most parsimonious and best fit by the indices model. Gender was added as a dichotomous latent variable, with arrows going to both latent variables, with poor results; and the model would not converge. Ethnicity was treated in the same way, but as an ordinal variable with similar results and the model did not converge. The data, however, shows no statistically significant difference between girls and boys or between ethnic/racial groups in terms of the variables of interest either

in this analysis or in the larger study analysis conducted by the NSCAW researchers (Webb, et al., 2009; DHHS/AFC, 2008). However, the model that best reflects both theory and research is also the most parsimonious and is represented by a two-construct, seven-indicator recursive model with an inverse correlation between the exogenous and endogenous variables, as demonstrated in Table 3.11 and Figure 3.4, with no mediating or moderating variables in this analysis.

Table 3.11

Structural Model Two Factor for Parental Closeness and Problem Behaviors

Variable	Loading	R ²	t
Emotional Security	.54	.56	11.01**
Involvement	.54	.60	11.54**
Autonomy and Support	.49	.40	8.83**
Structure	.59	.64	12.03**
Caregiver Report Internal Behaviors	3.79	.22	4.21*
Youth Report External Behaviors	3.44	.25	4.37*
Teacher Report External Behaviors	4.08	.33	4.57*
Chi-square (df; p)	9.45 (13; p = .74)		
†NFI; GFI; CFI	.98; .99; 1.0		
††RMSEA (CI)	0.00 (0.00 ; 0.53)		

†The goodness of fit indices should be as close to 1 as possible.

††The Root Mean Square Error of Approximation should be close to zero.

*Significant at $p \leq .05$, **significant at $p \leq .01$.

The covariance matrix explains the direction of the indicators and gives some support to the hypothesis that experiences and perceptions about caregivers explain some of the variance in problem behaviors (Table 3.12). The Correlation Matrix indicates that Parental Closeness and Problem Behaviors are moderately inversely correlated at $r(186) = -.25, t = -2.25$, which is significant at $\alpha = .05$. These findings give some support to the hypothesis that perceptions of caregivers might have an influence on behaviors three years later for this population of youth ($n = 188$) in out-of-home care.

Table 3.12

Covariance Matrix for Parental Closeness and Problem Behaviors

	Emotion	Involv	Aut/Supp	Struct	CGInt	YRExt	TrExt
Emotion	0.52						
Involv	0.31	0.48					
AutSupp	0.25	0.24	0.61				
Struct	0.31	0.31	0.32	0.54			
CGInt	-0.74	-0.64	-0.43	-0.64	65.90		
YRExt	-0.40	-0.64	-0.63	-0.22	12.67	48.24	
TrExt	-0.52	-0.42	-0.65	-0.53	15.34	14.31	49.8

In order to model a causal relationship between the latent variables, a directional arrow from Parental Closeness to Problem Behaviors was drawn with the results providing some support for the hypothesized model insomuch as “Parental Closeness” does appear to predict “Problem Behaviors” ($p < .05$); however, the “Problem Behavior” indicators were not what were suggested in the hypothesized model as presented in Table

3.13 with the factor loadings for the indicators rather low as shown in Figure 3.4. The indicators for “Problem Behaviors” might suggest an area for concern when using the CBCL as a measure of problem behaviors with this population.

Table 3.13

Structural Model for Causal Pathway for Parental Closeness and Problem Behaviors

Variable	Loading	R ²	t
Emotional Security	.54	.56	11.04**
Involvement	.54	.60	11.58**
Autonomy and Support	.49	.40	8.05**
Structure	.59	.64	11.99**
Caregiver Report Internal Behaviors	3.79	.22	Not significant
Youth Report External Behaviors	3.44	.25	3.17*
Teacher Report External Behaviors	4.08	.33	3.05*
Chi-square (df; p)	9.45 (13; p = .74)		
†NFI; GFI; CFI	.98; .99; 1.0		
††RMSEA (CI)	0.00 (0.00 ; 0.53)		

†The goodness of fit indices should be as close to 1 as possible.

††The Root Mean Square Error of Approximation should be close to zero.

*Significant at $p \leq .05$, **significant at $p \leq .0$

(Standardized Solution, $N = 188$)

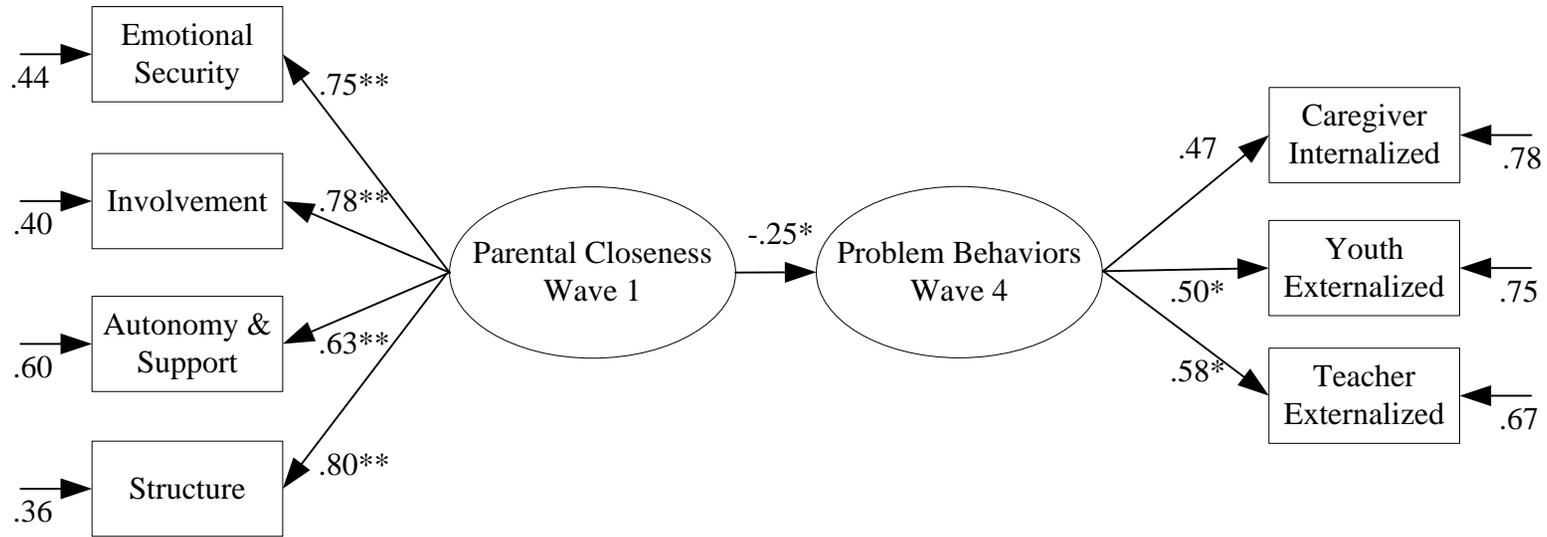


Figure 3.4. SEM Causal Pathway for Parental Closeness and Problem Behaviors. Emotional Security, Involvement, Autonomy & Support, and Structure are all indicators of the youth's perception of closeness to their primary caregivers in Wave 1. Caregiver Internalized, Youth Externalized, and Teacher Externalized are all indicators of behavior problems the youths were identified as having in Wave 4. Parental Closeness is the latent variable representing how close youths feel to their primary caregiver. Problem Behaviors is the latent variable representing the problems the youths have experienced during the past six months. Relationships are significant at $p \leq .05^*$ and significant at $p \leq .01^{**}$.

Interestingly, the caregiver reports of internalizing behaviors variable becomes a nonsignificant pathway when the causal arrow is added to the model. All other indicator variables stay relatively unaltered with some slight nonsignificant variation. For the final model, a nonsignificant chi-square statistic indicates a good model fit to the sample variance-covariance matrix ($\chi^2 = 9.35$, $df = 13$, $p = .74$). Several of the other model fit indices for the final model indicate a good data-to-model fit, thus confirming the final model (e.g., GFI = .99, NFI = .98, CFI = 1.0, and RMSEA = 0.0). Given that a causal relationship model is logical as a temporal difference is occurring, this last model proves to be the final model. No other post-hoc modifications were indicated or conducted because of the good fit of the data to this model. The direct effects appear to be that Parental Closeness in Wave 1 related inversely to Problem Behaviors in Wave 4 (standardized coefficient = -.25) and can be said to predict a statistically significant portion of the variance in the model ($p < .05$).

CHAPTER 4

DISCUSSION

The advantage of performing a secondary analysis is that one can spend the time it would usually take to conduct a study and gather data, to challenge oneself to construct a hypothesis that may have meaning to the current researcher, but may not have been at the heart of the research designers' mission. Further, as one develops this hypothesis, adding research from the literature, one may experience a sense of uncertainty, wondering whether the data will demonstrate this idea. Theory, past studies, and current indicators support the notion that, yes, indeed, a child's attachment to their primary caregiver can and probably does influence his or her behavior. The logic behind this analysis stemmed from research nearly seventy years old in Bowlby's (1969) description of his retrospective study of the forty thieves and their delinquency due to the maternal deprivation these youth experienced in their early childhood. Since that time, an abundance of research has supported his theory, adding depth to the body of knowledge researchers can tap into to gain insight into human behavior and, in particular, the importance of the caregiver/child bond.

While the final model (Figure 3.4) demonstrated a small picture of a causal linkage between children's perceptions of caring from their caregiver, their relationship with their primary caregiver, for the children in this study, is really still quite mysterious. A clue about child and caregiver relationships in out-of-home care may lie in the behavior of the variable Somatic Complaints as reported by the primary caregiver,

teacher, and child and how, ultimately, “Caregiver Internalized” behavior, of which Somatic Complaints is a part, became a nonsignificant pathway in the final model. This study revealed, quite surprisingly, that, while on one hand, children and their teachers reported higher scores on the subscales related to externalized behavior, caregivers reported higher subscale scores on internalized behaviors, specifically, Somatic Complaints. Research suggests that somatic complaints have a high comorbidity with other psychiatric disorders (Campo & Fritsch, 1994; Frick, O’Brien, Wootton, & McBurnett, 1994; Walker & Greene, 1989), and scores on the Somatic Complaints subscale are higher for children who report more symptoms of psychiatric concerns (Hudziak, Copeland, Stanger, & Wadsworth, 2004). There are gender differences as somatic complaints have been strongly associated with emotional disorders in girls and with disruptive behavior disorders in boys (Egger, Costello, Erkanli, & Angold, 1999). This connection warrants further investigation, especially with children in out-of-home care and their caregivers, as children who have suffered maltreatment may manifest their distress in a somatic, psychiatric, and behavioral manner.

Additionally, “Problem Behaviors,” as reported by the caregiver, teacher, and youth in this study varied considerably and this variability may have led this researcher to an inconclusive result regarding the path analysis of this latent variable. This researcher suspects that, perhaps, as caregivers become more familiar with the children in their care, they may become more responsive to those “internalizing” complaints, while teachers may be more aware of the “externalizing” behaviors as those may cause classroom disruptions. Certainly, the differences in these reports should be considered in more depth in a later analysis.

Implications for Research, Policy, and Practice

It is crucial to note the preliminary nature of the present results and the need for replication in order to better understand the relationships between caregivers and children in their care. However, in terms of future research, this study can be extended in several important ways; the addition of mediating and moderating variables, such as caregiver anxiety/depression, number of child out-home-placements, gender, and ethnicity, could strengthen the model and provide more specific direction for policy and practice.

Ultimately, policy should continue to make changes towards meeting the emotional needs of children in out-of-home care by attempting to place them with the best available caregiver. Perhaps screening for attachment-related issues for both child and out-of-home care provider could facilitate a better match to enhance this emotional relationship between the caregiver/child dyad. However, improved screening cannot resolve the issue if effective interventions are not in place. Children with known behavior problems are difficult to place and may face greater placement disruptions, thus adding to their existing problem behaviors (Aarons, et al., 2010). How to effectively deal with youth behavior problems is one of the many challenges our child welfare system faces. Foster parent training and support as offered in the Multidimensional Treatment Foster care model may offer help to meet this need in the child welfare system (Fisher & Chamberlain, 2000). Additionally, child welfare workers can be made more aware of the importance of caregiver/child attachment relationships, and attempt to reduce the number of transitions a child in out-of-home care may endure.

In terms of practice, it is important to note that this research supports the theoretical assumption that attachment relationships can and do influence the behaviors

of children in out-of-home care. Thus, this researcher recommends focusing on helping caregivers in providing training on attachment relationships and managing problem behaviors; helping children manage their behavior while encouraging emotional stability within their out-of-home placement; and providing child welfare workers with training on attachment-related issues so that they can become equipped to assess attachment relationships. With the high rates of mental health service utilization by the children in out-of-home care due to behavior problems, it is crucial to consider the prior attachment relationships these children may have had with birth parents and other kin prior to placement in out-of-home care, and preserve that which may be destroyed. To date, few interventions focus on preventing attachment disorganization and most attachment-based interventions do not report effects on disorganized attachment (Bakermans-Kranenburg, van IJzendoorn, & Juffer, 2003). As mentioned in this paper previously, research has shown that disorganized attachment is a predictor of psychopathology; therefore, it is essential to evaluate attachment-based interventions for their effectiveness in prevention of attachment disorganization. Encouraging current primary caregivers to develop healthy emotional relationships with the children in their care can potentially improve their behavioral and relationships outcomes with a special emphasis on caregiver sensitivity.

Finally, this current study demonstrates that the perceptions of children and youth regarding their relationship with their current primary caregiver may buffer the symptoms associated with problem behaviors. It may also be the case that, from a practice perspective, youth benefit from other sources of interpersonal support in addition to professional services, such as supportive relationships and activities with other relatives,

school personal, peer support groups, and involvement in community groups. Such relationships may help to enhance a secure base with others besides birth parents, and may reduce problem behaviors.

Limitations

The various factors that may have affected the finding of this study include: the use of secondary data for the purpose of having a large enough sample to run SEM analysis; the need for an improved measurement scale for problem behaviors; a more reliable self report measure for delinquency; and standard measures that gather specific information about attachment styles for both youth and caregivers with an emphasis on disorganized attachment history and caregiver sensitivity. While a secondary data analyst cannot control the scales used to measure the constructs under investigation, improvements in these measures could allow for a more thorough investigation of the hypothesis, specifically, the effects of early disorganized attachment relationships, current primary caregiver relationships, and later problem behaviors.

While the research on attachment is vast, the NSCAW data set initially confusing, and the sampling procedure overwhelming, once past the initial anxieties upon receipt of these data, it proves to be a rich resource from which one can draw much information. The lack of generalizability to youth who have not had the experience of living in out-of-home care is a key limitation and one must always be cautious when generalizing to other populations, even children in out-of-home care. In addition, the reliability of the instruments and the high attrition rate in some of the key variables in this analysis (e.g., the Teacher Report CBCL) are cause for wariness when considering the final analysis.

Another limitation that is yet to be resolved in this larger study is the comparison between the two groups: those children who have had a numerous protective factors throughout their lives and those who have not had the same experiences with a primary caregiver who was neither frightened nor frightening. It is regrettable that standard measures were not used to gather specific data about attachment relationships; however, comparisons can be made with the numerous questions about caregiver relationships.

Further, moderating and mediating variables were not examined in this study, and there may be differential effects for children who live in different placement settings, for example. Additionally, future studies should address the issue of caregiver/child relationships as predictive of problem behaviors with larger samples to determine if effects are found to be statistically and clinically meaningful. Finally, it is the ultimate desire of this researcher that the research concerning vulnerable populations is taken into consideration by policy makers. It is with all hopes that the larger scope of this information be treated as evidence for modification of the child welfare policies in the US to take into account, not only the physical safety of children, but the emotional impact of caregiver privation and caregiver deprivation for the children in out-of-home care.

REFERENCES

- Aarons, G. A., James, S., Monn, A. R., Raghavan, R., Wells, R. S., & Leslie, L. K. (2010). Behavior problems and placement change in a national child welfare sample: A prospective study. *Journal of the American Academy of Child & Adolescent Psychiatry, 49*(1), 11-12.
- Achenbach, T. M. (1991a). *Manual for the child behavior checklist 4 - 18 and 1991 profile*. Burlington, VT: University of Vermont Department of Psychiatry.
- Achenbach, T. M. (1991b). *Manual for the teacher's report form and 1991 profile*. Burlington, VT: University of Vermont Department of Psychiatry.
- Achenbach, T. (1991c). *Manual for the youth self-report and 1991 profile*. Burlington, VT: University of Vermont Department of Psychiatry.
- Adoption Assistance and Child Welfare Act of 1980, P.L. 96-272. 94 Stat. 500.
- Adoption and Safe Families Act of 1997, P.L. 105-89. 111 Stat. 2115.
- Ainsworth, M. D. S. 1985. Attachment across the life span. *Bulletin of the New York Academy of Medicine, 61*, 792–812.
- Ainsworth, M. D. S., Bell, S. M., & Stayton, D. J. (1974). Infant-mother attachment. In M. P. M. Richards (Ed.), *Integration of a child into a social world*. Cambridge, England: Cambridge University Press.
- Ainsworth, M. D. S., Blehar, M., Waters, E., & Wall, S. (1978). *Patterns of attachment: A psychological study of the strange situation*. Hillsdale, NJ: Erlbaum.
- Allen, M., and Bissell, M. (2004). *Safety and Stability for Foster Children: The Policy Context, 14*(1), 49-72. Washington, DC: Children's Defense Fund.
- Allen, J. P., Hauser, S. T., & Borman-Spurrell, E. (1996). Attachment insecurity and related sequelae of severe adolescent psychopathology: An eleven-year follow-up study. *Journal of Consulting and Clinical Psychology, 64*, 254–263.
- American Psychological Association. (2002). *Publication manual of the American Psychological Association* (5th ed.). Washington, DC: Author.

- Bakermans-Kranenburg, M. J., van IJzendoorn, M. H., & Juffer, F. (2003). Less is more: Meta-analyses of sensitivity and attachment interventions in early childhood. *Psychological Bulletin*, *129*(2), 195-215.
- Barber, J. G., Delfabbro, P. H., & Cooper, L. L. (2001). The predictors of unsuccessful transition to foster care. *The Journal of Child Psychology and Psychiatry*, *42*, 785-790.
- Barriga, A. Q., Doran, J. W., Newell, S. B., Morrison, E. M., Barbetti, V., & Robbins, B. D. (2002). Relationships between Problem Behaviors and Academic Achievement in Adolescents: The Unique Role of Attention Problems. *Journal of Emotional and Behavioral Disorders*, *10*(4), 233-240.
- Barth, R. P., Courtney, M., Berrick, J. D., & Albert, V. (1994). *Pathways through child welfare services: From child abuse to permanency planning*. New York: Aldine de Gruyter.
- Barth, R. P., Weigensberg, E. C., Fisher, P. A., Fetrow, B., & Green, R. L. (2008). Reentry of elementary aged children following reunification from foster care. *Children and Youth Services Review*, *30*(4), 353-364.
- Beckett, C., Castle, J., Rutter, M., & Sonuga-Barke, E. J. (2010). Institutional deprivation, specific cognitive functions, and scholastic achievement: English and Romanian adoptee (era) study findings. *Monographs of the Society for Research in Child Development*, *75*(1), 125-142.
- Biringen, Z. (1994). Attachment theory and research: Application to clinical practice. *American Journal of Orthopsychiatry*, *64*(3) 404-420.
- Bowlby, J. (1952). *Maternal Care and Mental Health: A Report Prepared on Behalf of the World Health Organization as a Contribution to the United Nations Programme for the Welfare of Homeless Children* (2nd ed.). Geneva: World Health Organization.
- Bowlby, J. (1969). *Attachment and loss. Vol. I. Attachment*. New York: Basic Books.
- Bowlby, J. (1973). *Attachment and loss. Vol. 2: Separation: Anxiety and Anger*. New York: Basic Books.
- Bowlby, J. (1980). *Attachment and loss. Vol. 3: Loss, sadness and depression*. New York: Basic Books.
- Bretherton, I. & Munholland, K. A. (2008). Internal working models and attachment relationships: Elaborating a central construct in attachment theory. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of Attachment: Theory, Research, and Clinical Applications* (2nd ed.) (pp. 102-127). New York, NY: Guilford Press.

- Campo, J. V., & Fritsch, S. L. (1994). Somatization in children and adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry*, 33(9), 1223-1235.
- Carlson, E. (1998). A prospective, longitudinal study of disorganized/disoriented attachment. *Child Development*, 69, 1107-28.
- Carpenter, S. C., Clyman, R. B., Davidson, A. J., & Steiner, J. F. (2001). The association of foster care or kinship care with adolescent sexual behavior and first pregnancy. *Pediatrics*, 108(3), 1-6.
- Child Abuse Prevention and Treatment Act, 1974 (P.L. 93-247).
- Connell, J. P. (1990). Context, self, and action: A motivational analysis of self-system processes across the life span. In D. Cicchetti & M. Beeghly (Eds.), *The Self in Transition* (pp. 61-97). Chicago: University of Chicago Press.
- Cooper, C. S., Peterson, N. L., & Meier, J. H. (1987). Variables associated with disrupted placement in a select sample of abused and neglected children. *Child Abuse & Neglect*, 11, 75-86.
- De Wolff, M., & van Ijzendoorn, M. (1997). Sensitivity and attachment: A meta-analysis on parental antecedents of infant attachment. *Child Development*, 68, 571-591.
- Deklyen, M., & Greenberg, M. T. (2008). Attachment and psychopathology in childhood. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (2nd ed.), pp. 637-665. New York: The Guilford Press.
- Dore, M. M., & Eisner, E. (1993). Child-related dimensions of placement stability in treatment foster care. *Child & Adolescent Social Work Journal*, 10, 301-317.
- Dowd, K., Kinsey, S., Wheelless, S., Thissen, R., Richardson, J., Suresh... Lytle, T. (2004). *National Survey of Child and Adolescent Well-Being: Combined waves 1-4 Data File User's Manual—Restricted Release*. Ithaca, NY: National Data Archive on Child Abuse and Neglect.
- Dozier, M., Stovall, K., Albus, K., & Bates, B. (2001). Attachment for infants in foster care: The role of caregiver state of mind. *Child Development*, 72, 1467-1477.
- Egger, H. L., Costello, J. E., Erkanli, A., & Angold, A. (1999). Psychopathology in children and adolescents: stomach aches, musculoskeletal pains, and headaches. *Journal of the American Academy of Child and Adolescent Psychiatry*, 38(7), 852-860.

- Egeland, B., & Sroufe, L. A. (1981). Attachment and early maltreatment. *Child Development, 52*, 44-52.
- Elliott, D. S., & Ageton, S. S. (1980). Reconciling race and class differences in self-reported and official estimates of delinquency. *American Sociological Review, 45*, 95-110.
- Erickson, M., Sroufe, A., & Egeland, B. (1985). The relationship between quality of attachment and behavior problems in preschool in a high-risk sample. In I. Bretherton and E. Waters (Eds.), *Growing points of attachment theory and research. Monographs of the Society for Research in Child Development, 50*, 147-166.
- Fein, E., Maluccio, A. N., Hamilton, V. J., & Ward, D. E. (1983). After foster care: Outcomes of permanency planning for children. *Child Welfare, 62*, 485-558.
- Fisher, P. A. & Chamberlain, P. (2000). Multidimensional treatment foster care: A program for intensive parenting, family support, and skill building. *Journal of Emotional and Behavioral Disorders, 8*(3), 155-164.
- Frick, P. J., O'Brien, B. S., Wootton, J. M., & McBurnett, K. (1994). Psychopathy and conduct problems in children. *Journal of Abnormal Psychology, 103*, 700-707.
- Fostering Connections to Success and Increasing Adoptions Act of 2008, P.L. 110-351.
- Gean, M., Gillmore, J., & Dowler, J. (1985). Infants and toddlers in supervised custody: A pilot study for visitation. *Journal of the American Academy of Child Psychiatry, 24*, 5, 608-612.
- Hartnett, M. A., Leathers, S., Falconnier, L., & Testa, M. (1999). *Placement stability study*. Urbana, IL: Children and Family Research Center.
- Hodges, J., & Tizard, B. (1989a). IQ and behavioral adjustment of ex-institutional adolescents. *Journal of Child Psychology & Psychiatry & Allied Disciplines, 30*, 53-75.
- Hodges, J., & Tizard, B. (1989b). Social and family relationships of ex-institutional adolescents. *Journal of Child Psychology & Psychiatry & Allied Disciplines, 30*, 77-97.
- Hudziak, J. J., Copeland, W., Stanger, C., & Wadsworth, M. (2004). Screening for DSM-IV externalizing disorders with the Child Behavior Checklist: A receiver operating characteristic analysis. *Journal of Child Psychology and Psychiatry, 45*(7), 1299-1307.

- Huizinga, D., & Elliott, D. S. (1986). Reassessing the reliability and validity of self report delinquent measures. *Journal of Quantitative Criminology*, 2(4), 293–327.
- IJzendoorn, M. H. & DeWolff, M. S. (1997). In search of the absent father: Meta-analysis of infant-father attachment: A rejoinder to our discussants. *Child Development*, 68, 604-609.
- IJzendoorn, M. H., Kroonenberg, P. M. (1988). Cross-Cultural patterns of attachment: A meta-analysis of the strange situation, *Child Development*, 59(1), 147-156.
- IJzendoorn, M. H., & Sagi-Schwartz, A. (2008). Cross cultural patterns of attachment: Universal and contextual dimensions. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of Attachment: Theory, Research, and Clinical Applications* (pp. 880-905). New York: Guilford Press.
- IJzendoorn, M. H., Schuengel, C., & Bakersman-Kranenburg, M. J. (1999). Disorganized attachment in early childhood: Meta-analysis of precursors, concomitants, and sequelae, *Development and Psychopathology*, 11, 225–249.
- Johnson, P. R., Yoken, C., and Voss, R. (1995). Family foster care placement: The child's perspective. *Child Welfare*, 74, 959-974.
- Jonson-Reid, M., & Barth, R. (2000). From maltreatment to juvenile incarceration: The role of child welfare services. *Child Abuse and Neglect*, 24, 505-20.
- Jöreskog, K. G., & Sörbom, D. (2006). LISREL 8.8 for Windows [Computer software]. Lincolnwood, IL: Scientific Software International, Inc.
- Juffer, F., Bakermans-Kranenburg, M. J., & Van IJzendoorn, M. H. (2005). The importance of parenting in the development of disorganized attachment: Evidence from a preventive intervention study in adoptive families. *Journal of Child Psychology and Psychiatry*, 46, 263-274.
- Katz, L., & Robinson, C. (1991). Foster care drift: a risk-assessment matrix. *Child Welfare*, 70(3), 347-58.
- Klein, M. (1952/1995). Some theoretical conclusions regarding the emotional life of the infant. In D. E. Scharff (Ed.), *Object relations theory and practice: An introduction* (pp. 98-122). Northvale: Jason Aronson.
- Kline, R. B. (1998). *Principles and practice of structural equation modeling*. NY: Guilford Press.
- LaFreniere, P. J., & Sroufe, L. A. (1985). Profiles of peer competence in the preschool: Interrelations among measures, influence of social ecology, and relation to attachment history. *Developmental Psychology*, 21, 56-66.

- La Greca, A. M. (1997). Children's problems with friends. *Psychotherapy in Practice*, 3(1), 21-41.
- Leslie, L. K., Landsverk, J., Ezzet-Lofstrom, R., Tschann, J. M., Slymen, D. S., & Garland, A. (2000). Children in foster care: Factors influencing mental health services utilization. *Child Abuse & Neglect*, 24, 465-476.
- Lieberman, M., Doyle, A.B., & Markiewicz, D. (1999). Attachment to mother and father: Links to peer relations in childhood. *Child Development*, 70, 202-213.
- Lyons-Ruth, K. (2003). Dissociation and the Parent-Infant Dialogue: A Longitudinal Perspective from Attachment Research. *Journal of the American Psychoanalytic Association*, 51, 883-911.
- Lyons-Ruth, K., Alpern, L., & Repacholi, B. (1993). Disorganized infant attachment classification and maternal psychosocial problems as predictors of hostile-aggressive behavior in the preschool classroom. *Child Development*, 64, 572-585.
- Lyons-Ruth, K., Bronfman, E., & Parsons, E. (1999). Atypical attachment in infancy and early childhood among children at developmental risk. IV. Maternal frightened, frightening, or atypical behaviour and disorganized infant attachment patterns. *Monographs of the Society for Research in Child Development*, 64(3), 67-96.
- Lyons-Ruth, K., Easterbrooks, A., & Cibelli, C. (1997). Infants at social risk: Relations among infant maltreatment, maternal behavior, and infant attachment behavior. *Developmental Psychology*, 33, 681-692.
- Lyons-Ruth, K., Repacholi, B., McLeod, S., & Silva, E. (1991). Disorganized attachment behavior in infancy: Short-term stability, maternal and infant correlates and risk-related sub-types. *Development and Psychopathology*, 3, 207-266.
- McMillen, J. C., Scott, L., Zima, B., Auslander, W., Munson, M. R., Ollie, M., & Spitznagel, E. (2005). Prevalence of psychiatric disorders among older youths in the foster care system. *Journal of the American Academy of Child and Adolescent Psychiatry*, 44(1), 88-95.
- Main, M., & Hesse, E. (1990). Parents' unresolved traumatic experiences are related to infant disorganized attachment status: Is frightened/frightening parental behavior the linking mechanism? In M. T. Greenberg, D. Cicchetti, & E. M. Cummings (Eds.), *Attachment in the Preschool Years: Theory, Research, and Intervention* (pp. 161-182). Chicago, IL: University of Chicago Press.
- Main, M., Kaplan, N., & Cassidy, J. (1985). Security in infancy, childhood, and adulthood: A move to the level of representation. In I. Bretherton & E. Waters (Eds.), *Growing points in attachment theory and research. Monographs of the Society for Research in Child Development*, 50, 66-106.

- Main, M., & Solomon, J. (1986). Discovery of an insecure-disorganized/disoriented attachment pattern: Procedures, findings and implications for the classification of behavior. In T. B. Brazelton & M. Yogman (Eds.), *Affective Development in Infancy* (pp. 95-124). Norwood, NJ: Ablex.
- Main, M., & Weston, D. (1981). Security of attachment to mother and father: Related to conflict behavior and readiness to establish new relationships. *Child Development, 52*, 932-940.
- Marcus, R. F. (1991). The attachments of children in foster care. *Genetic, social & general psychology monographs, 117*(4), 367 – 394.
- Mercer, J. (2006). *Understanding attachment*. Westport, CT: Praeger.
- Merz, E. C., & McCall, R. B. (2010). Behavior Problems in Children Adopted from Psychosocially Depriving Institutions. *Journal of Abnormal Child Psychology, 38*(4), 459-70.
- Moretti, M. M., & Holland, R. (2003). The journey of adolescence: Transitions in self within the context of attachment relationships. In S. Johnson & V. Whiffen (Eds.), *Clinical Applications of Attachment Theory* (pp. 234-257). New York: Guilford.
- Newton, R., Litrownik, A., & Landsverk, J. (2000). Children and youth in foster care: Disentangling the relationship between problem behaviors and number of placements. *Child Abuse and Neglect, 24*(10), 1363-74.
- Ogawa, J., Sroufe, L. A., Weinfield, N. S., Carlson, E., & Egeland, B. (1997). Development and the fragmented self: A longitudinal study of dissociative symptomatology in a nonclinical sample. *Development and Psychopathology, 9*, 855-1164.
- Palmer, S. (1996). Placement stability and inclusive practice in foster care: An empirical study. *Children & Youth Services Review, 18*(7), 589-601.
- Pardeck, J. T. (1984). Multiple placement of children in foster family care: An empirical analysis. *Social Work, 29*, 506-509.
- Paterson, J., Pryor, J., Field, J. (1995). Adolescent attachment to parents and friends in relation to aspects of self-esteem. *Journal of Youth and Adolescence, 24*, 365-376.
- Pilowsky, D. J., & Kates, W. G. (1996). Foster children in acute crisis: Assessing critical aspects of attachment. *Journal of the American Academy of Child and Adolescent Psychiatry, 35*(8), 1095-1097.

- Rubin, D., O'Reilly, A., Luan, X., & Localio, A. (2007). The impact of placement stability on behavioral well-being for children in foster care. *Pediatrics*, *119*, 336–344.
- Rutter, M. (1981). *Maternal Deprivation Reassessed* (2nd ed.). Harmondsworth: Penguin.
- Rutter, M., & the English and Romanian Adoptees (ERA) Study Team (1998). Developmental catch-up, and deficit, following adoption after severe global early privation. *Journal of Child Psychology and Psychiatry*, *39*(4), 465-476.
- Ryan, J. P., & Testa, M. F. (2005). Child maltreatment and juvenile delinquency: Investigating the role of placement and placement instability. *Children and Youth Services Review*, *27*(3), 227-249.
- Schumacker, R. E., & Lomax, R. G. (2004). *A beginner's guide to structural equation modeling* (2nd ed.). Mahwah, NJ: Lawrence Erlbaum Associates.
- Smith, C., & Thornberry, T. P. (1995). The relationship between childhood maltreatment and adolescent involvement in delinquency. *Criminology*, *33*, 451–481.
- Smith, D. K., Stormshak, E., Chamberlain, P., & Whaley, R. B. (2001). Placement disruption in treatment foster care. *Journal of Emotional & Behavioral Disorders*, *9*(3), 200-205.
- Smyke, A. T., Zeanah, C. H., Fox, N. A., Nelson, C. A., & Guthrie, D. (2010). Placement in foster care enhances quality of attachment among young institutionalized children. *Child Development*, *(81)*1, 212-223.
- Sroufe, L. A. (1983). Infant-caregiver attachment and patterns of adaptation in preschool: The roots of maladaptation and competence. In M. Perlmutter (Ed.), *Minnesota Symposium in Child Psychology*, *16*, pp. 41-83. Hillsdale, NJ: Erlbaum Associates.
- Sroufe, L. A., Egeland, B., Carlson, E. A., & Collins, W. A. (2005). *The development of the person*. New York: The Guilford Press.
- Stevens, J. (2002). *Applied multivariate statistics for the social sciences*. (4th ed.). New Jersey: Lawrence Erlbaum Associates.
- Taussig, H., Clyman, R., & Landsverk, J. (2001). Children who return home from foster care: A 6-year prospective study of behavioral health outcomes in adolescence. *Pediatrics*, *108*, 62-68.
- Tizard, B., & Hodges, J. (1978). The effect of early institutional rearing on the development of eight-year-old children. *Journal of Child Psychology & Psychiatry & Allied Disciplines*, *19*, 99-188.

- Tizard, B., & Rees, J. (1975). The effect of early institutional rearing on the behavior problems and affectional relationships of four-year-old children. *Journal of Child Psychology & Psychiatry & Allied Disciplines*, 16, 61-73.
- US Department of Health & Human Services/Administration for Children and Families. (2007). *A Report to Congress on Barriers and Success Factors in Adoptions from Foster Care: Perspectives of Families and Staff*. Washington, DC: DHHS. Retrieved from: <http://www.acf.hhs.gov/programs/cb/pubs/barriers/>
- US Department of Health and Human Services/Administration for Children and Families. (2009a). *AFCARS, Trends in Foster Care and Adoption—FY 2002-FY 2008*. Washington, DC: DHHS. Retrieved from: http://www.acf.hhs.gov/programs/cb/stats_research/afcars/trends.htm
- US Department of Health and Human Services/Administration for Children and Families. (2009b). *AFCARS Report - Preliminary FY 2008 Estimates as of October 2009*. Washington, DC: DHHS. Retrieved from: http://www.acf.hhs.gov/programs/cb/stats_research/afcars/tar/report16.htm#
- US Department of Health & Human Services/Administration for Children and Families. (2010). *Abuse, Neglect, Adoption & Foster Care Research: National Survey of Child and Adolescent Well-Being (NSCAW), 1997-2010*. Washington, DC: DHHS. Retrieved from: http://www.acf.hhs.gov/programs/opre/abuse_neglect/nscaw/
- US Department of Health and Human Services/Administration for Children and Families. (2009c). *Children's Bureau: Federal Guidance*. Washington, DC: DHHS. Retrieved from: <http://www.acf.hhs.gov/programs/cb/systems/afcars/fedguid.htm>
- US Department of Health & Human Services/Administration for Children and Families. (2003a). *Child, Family, and Caseworker Constructs, Their Rationale and the Source in NSCAW Data Collection: National Survey of Child and Adolescent Well-Being (NSCAW), 1997-2010*. Washington, DC: DHHS. Retrieved from: http://www.acf.hhs.gov/programs/opre/abuse_neglect/nscaw/instruments/nscaw_data_collection.html
- US Department of Health & Human Services/Administration for Children and Families. (2008). *Child Maltreatment 2006, National Survey of Child and Adolescent Well-Being*. Washington, DC: DHHS. Retrieved from: <http://www.acf.hhs.gov/programs/cb/pubs/cm06/index.htm>
- US Department of Health & Human Services/Administration for Children and Families. (2002). *Introduction to the Wave 1 General and Restricted Use Releases: National Survey on Child and Adolescent Well-Being (NSCAW), 1997-2010*. Washington, DC: DHHS. Retrieved from: http://www.ndacan.cornell.edu/NDACAN/Datasets/UserGuidePDFs/092_Intro_to_NSCAW_Wave_1.pdf

US Department of Health and Human Services/Administration for Children, Youth and Families. (2001). *National Survey of Child and Adolescent Well-Being: One Year in Foster Care Report*. Washington, DC: DHHS. Retrieved from: http://www.acf.hhs.gov/programs/opre/abuse_neglect/nscaw/reports/nscaw_oyfc/oyfc_report.pdf

US Department of Health & Human Services/Administration for Children and Families. (2010b). *Overview of NSCAW Child Instrument Module: National Survey of Child and Adolescent Well-Being (NSCAW), 1997-2010*, Washington, DC: DHHS. Retrieved from: http://www.acf.hhs.gov/programs/opre/abuse_neglect/nscaw/instruments/nscaw_child_instru.html

US Department of Health & Human Services/Administration for Children and Families. (2010c). *Overview of NSCAW Current Caregiver Instrument Module: National Survey of Child and Adolescent Well-Being (NSCAW), 1997-2010*. Washington, DC: DHHS. Retrieved from: http://www.acf.hhs.gov/programs/opre/abuse_neglect/nscaw/instruments/nscaw_instru_module.html

US Department of Health & Human Services/Administration for Children and Families. (2010d). *Overview of NSCAW Teacher Instrument Module: National Survey of Child and Adolescent Well-Being (NSCAW), 1997-2010*. Washington, DC: DHHS. Retrieved from: http://www.acf.hhs.gov/programs/opre/abuse_neglect/nscaw/instruments/nscaw_teacher_survey.html

US Department of Health & Human Services/Administration for Children and Families. (2003b). *Reliability of NSCAW Measures: National Survey of Child and Adolescent Well-Being (NSCAW), 1997-2010*. Washington, DC: DHHS. Retrieved from: http://www.acf.hhs.gov/programs/opre/abuse_neglect/nscaw/reports/cps_sample/cps_appb_tab1.html

Waldfoegel, J. (2000). Child welfare research: How adequate are the data? *Children and Youth Services Review*, 22(10), 705-741.

Walker, L. S., & Greene, J. W. (1989). Children with recurrent abdominal pain and their parents: More somatic complaints, anxiety, and depression than other patient families? *Journal of Pediatric Psychology*, 14(2), 231-243.

Wall, A. E. (2004). *Problem Behaviors in Maltreated Children and Youth: Influential Child, Peer, and Caregiver Characteristics, Final Report*. Washington, DC: US Department of Justice.

- Webb, M. B., Dowd, K., Harden, B. J., Landsverk, J., & Testa, M. (2009). *Child Welfare and Child Well-Being: New Perspectives from the National Survey of Child and Adolescent Well-Being*. New York: Oxford University Press.
- Winnicott, D. W. (1965). *The maturational processes and the facilitating environment*. New York: International Universities Press.
- Widom, C. S. (2000). Understanding the consequences for childhood victimization. In M. D. Robert & M. Reese (Eds.), *Treatment of child abuse* (pp. 339–361). Baltimore: Johns Hopkins University Press.
- Wulczyn, F., Kogan, J., & Harden, B. J. (2003). Placement stability and movement trajectories. *Social Service Review*, 77(2), 212-236.
- Wulczyn, F., Barth, R. P., Yuan, Y., Harden, B. J., Landsverk, J. (2005). *Beyond common sense: Child welfare, child well-being, and the evidence for policy reform*. Chicago: Chapin Hall Center for Children.
- Zeanah, C. H., Jr., Shah, P. (2005). Attachment and its impact on child development: Comments on van IJzendoorn, Grossmann and Grossmann, and Hennighausen and Lyons-Ruth. In R. E. Tremblay, R. G. Barr, R. Peters (Eds.), *Encyclopedia on Early Childhood Development* (pp. 1-6). Montreal, Quebec: Centre of Excellence for Early Childhood Development; 1-6. Retrieved on 5/12/2008 from: <http://www.child-encyclopedia.com/documents/Zeanah-ShahANGxp.pdf>
- Zingraff, M. T., Leiter, J., Myers, K. A., & Johnsen, M. C. (1993). Child maltreatment and youthful problem behavior. *Criminology*, 31, 173–202.

APPENDIX A

Attachment Behaviors According to Style

Attachment Style Secure

Child: The child protests the caregiver's departure and quiets promptly on the caregiver's return, accepting comfort from him/her and returning to exploration or play.

Caregiver: The caregiver responds promptly and consistently to the emotional and the physical needs of the child. The caregiver helps the child regulate the anxiety of separation and the child uses the caregiver as a secure base in the home environment.

Attachment Style Avoidant

Child: The child shows little to no signs of distress at the caregiver's departure, a lack of willingness to explore the toys, and little to no visible response to the caregiver's return.

Caregiver: The caregiver shows little response to the child when distressed. He/she discourages the child from crying and encourages independence and exploration.

Attachment Style Ambivalent

Child: The child shows sadness upon the caregiver's departure, the ability to be picked up by the stranger, and even warms to the stranger. On the caregiver's return, displays signs of anger, and reluctance to warm to him/her and return to play. The ambivalently attached child may display role reversal with the caregiver.

Caregiver: The caregiver is inconsistent with the child (e.g., appropriate some of the time and at other times neglectful). The ambivalent child becomes preoccupied with the caregiver's availability, lacking a secure base.

Attachment Style Disorganized

Child: Upon the caregiver's return after separation, the child presents with behaviors such as freezing for several seconds or rocking. Children are also given a classification of secure, ambivalent, or avoidant based on their overall reunion behavior.

Caregiver: This can be associated with frightened/disoriented behavior, intrusiveness/negativity and withdrawal, role/boundary confusion, affective communication errors, and child maltreatment.

APPENDIX B

Characteristics of Attachment

	Attachment in Childhood	Attachment in Adulthood
Secure	<ol style="list-style-type: none"> 1. able to separate from caregivers 2. seek comfort from caregivers when frightened 3. return of caregivers is met with positive emotions 4. prefers caregivers to strangers 	<ol style="list-style-type: none"> 1. able to have trusting, long-lasting relationships 2. tends to have good self-esteem 3. comfortable sharing feelings with friends and partners 4. seeks out social support
Ambivalent	<ol style="list-style-type: none"> 1. may be wary of strangers 2. becomes greatly distressed when the caregiver leaves 3. does not appear to be comforted by the return of the caregiver 	<ol style="list-style-type: none"> 1. reluctant to become close to others 2. worries that their partner does not love them enough 3. become very distraught when relationships end
Avoidant	<ol style="list-style-type: none"> 1. may avoid caregivers 2. does not seek comfort or contact from caregivers 3. shows little or no preference between caregiver and stranger 	<ol style="list-style-type: none"> 1. problems with intimacy 2. invests little emotion in social and romantic relationships 3. unable/unwilling to share thoughts/feelings with others
Disorganized	<ol style="list-style-type: none"> 1. displays both avoidant and resistant behaviors with caregivers 2. may take on role as “parentified child” 3. may act as caregiver to parent 	<ol style="list-style-type: none"> 1. has problems with intimacy 2. may become “clingy” or preoccupied with romantic interest 3. displays lack of concern for others thoughts or feelings