

©2009

Colleen Daly Martinez

ALL RIGHTS RESERVED

THE ROLE OF THE MOTHER-CHILD RELATIONSHIP IN CHILD SEXUAL
ABUSE: USING AN ATTACHMENT FRAMEWORK TO EXAMINE RISK

by

COLLEEN DALY MARTINEZ

A Dissertation submitted to the

Graduate School-New Brunswick

Rutgers, The State University of New Jersey

in partial fulfillment of the requirements

for the degree of

Doctor of Philosophy

Graduate Program in Social Work

written under the direction of

Judith C. Baer

and approved by

New Brunswick, New Jersey

May 2009

ABSTRACT OF THE DISSERTATION

The Role of The Mother-Child Relationship In Child Sexual Abuse: Using An

Attachment Framework To Examine Risk

By COLLEEN DALY MARTINEZ

Dissertation Director:

Judith C. Baer

Sexual abuse effects many children, and often has negative psychological and behavioral outcomes associated with it. Studies of sexual abuse often point to the mother as an important factor in risk for sexual abuse, as well as in disclosure and long-term recovery after sexual abuse. This study examines a model of risk for sexual abuse within an attachment framework, in order to determine if maternal sensitivity may be an important factor. This secondary analysis uses the National Survey of Child and Adolescent Wellbeing (NSCAW) Data, a nationally representative sample of children involved with child protective services (CPS) in the United States. 665 children ages 6-9.11 who were involved with CPS and living with their biological mothers at the time of data collection were the subjects of this cross-sectional study. Maternal variables including sensitivity as measured by items from the Home Observation for Measurement of the Environment (HOME) Inventory and child's sexual abuse status were examined using structural equation modeling. Factor analysis was employed to assess the validity of the maternal sensitivity construct. Structural regression analysis was used to test the predictive hypotheses. The model was compared between genders. Low maternal sensitivity was

hypothesized to have a positive association with child sexual abuse. Other maternal variables, including drug dependence, alcohol dependence, and poor mental health were hypothesized to have positive associations with low maternal sensitivity and sexual abuse status. Few of the hypothesized relationships were found, and the direction of some of the findings was opposite what was hypothesized. However, some of the hypothesized relationships were found and implications for practice and future research on risk for child sexual abuse are outlined. Maternal drug dependence was related to lower maternal sensitivity, and may be a particularly important risk factor for sexual abuse of boys. Maternal youth may be an important risk factor for sexual abuse of girls. Researchers are encouraged to examine direct, indirect, and total effects in order to gain a more comprehensive understanding of the relationships between variables. Additionally, researchers should examine risk for sexual abuse separately for boys and girls, as the dynamics may be different.

ACKNOWLEDGEMENT

Sincere thanks to: The Harold and Charlotte Fultz Family Foundation and the New York Foundling Vincent J. Fontana Center for Child Protection for their financial support. My chair Judith C. Baer, for her interest, mentoring, trust, and generosity. My committee; Judith C. Baer, Chien-Chung Huang, Harold I. Siegel, and Cassandra Simmel for their time, responsiveness and incredibly helpful feedback through the dissertation process. Lynn Agre, Soo Jung Jang, and Nancy Violette; their support and camaraderie helped me through some of the most challenging times. Mario Lopresti for his help with the most difficult work. Jacqueline Gill Ricciardi for always understanding. The people at Esopus, for everything. My clients and their families, who were the inspiration for this work. My husband Paul for his unconditional, enduring support and belief in me. My daughter Cecilia, for teaching me the most important thing; how to be mommy.

Table of Contents

ABSTRACT.....	ii
ACKNOWLEDGEMENT.....	iv
TABLE OF CONTENTS.....	v
CHAPTER 1: INTRODUCTION TO THE STUDY.....	1
Sexual abuse.....	1
Prevalence.....	1
Effects.....	1
Risk factors.....	2
The mother.....	2
Attachment theory.....	3
The Strange Situation.....	5
Validity.....	8
Neurodevelopmental research.....	8
Biological research.....	8
Universality.....	9
Stability.....	10
Outcomes.....	10
And abuse.....	10
Parenting dynamics and maltreatment.....	10
Introduction to literature review.....	12
Introduction to the study.....	13
Research objectives.....	15

CHAPTER 2: LITERATURE REVIEW.....	16
Common methodological issue.....	16
Maternal Sensitivity.....	20
Maternal alcohol and drug dependence.....	36
Maternal mental health.....	38
Maternal social support.....	41
Maternal education.....	43
Maternal age.....	44
Child's gender.....	44
Summary and conclusions.....	45
The aims of the present study.....	46
Hypotheses.....	48
 CHAPTER 3: METHODOLOGY.....	 49
Design.....	49
National Survey of Child and Adolescent Wellbeing (NSCAW)	49
Participants in NSCAW.....	49
Subjects.....	50
Procedure.....	50
Measures.....	53
Home Observation for Measurement of the Environment	
(HOME) Inventory.....	53

Social Support Questionnaire 3.....	55
Duke-UNC Functional Social Support Questionnaire.....	55
Short Form Health Survey-12 (SF-12).....	57
Composite International Diagnostic Interview- Short Form (CIDI-SF).....	58
Mother's education.....	59
Mother's employment status.....	59
Income.....	59
Partner status.....	60
Maternal age.....	59
Child's age.....	59
Gender.....	59
Child's race/ ethnicity.....	60
Sexual abuse status.....	60
Statistical method.....	61
Protection of subjects.....	61
 CHAPTER 4: RESULTS.....	 63
Data management and preparation.....	63
Missing values.....	63
Sexual abuse status.....	66
Intraclass correlation.....	71
Structural equation modeling.....	72

Goodness of fit indices.....	73
Factor analyses.....	73
CHAPTER 5: DISCUSSION.....	84
Power.....	84
Nature of the sample.....	84
Review of hypotheses.....	86
Limitations.....	92
Implications for attachment theory.....	94
Implications for practice.....	97
Implications for future research.....	98
Summary.....	98
APPENDICES.....	100
BIBLIOGRAPHY.....	119
CURRICULUM VITA.....	130

LIST OF TABLES

Table 1. Frequency distribution of study variables.....	64
Table 2. Frequency distribution of gender and sexual abuse status....	66
Table 3. Frequency distribution of sexual abuse status by report source.....	67
Table 4. Frequency distribution of study variables and sexual abuse status.....	68
Table 5. Weighted intercorrelations for HOME Inventory Items.....	70
Table 6. Weighted intercorrelations for predictor variables.....	70
Table 7. Goodness of fit indices for HOME-SF study selected items..	74
Table 8. Summary of items and standardized factor loadings for selected HOME-SF items 2 factor CFA.....	75

LIST OF FIGURES

Figure 1. Structural model of sexual abuse status.....	72
Figure 2. Final model for Sensitivity construct with significant ($p < .05$) standardized factor loadings and their standard errors.....	76
Figure 3. Trimmed structural model of sexual abuse status.....	77
Figure 4. Significant ($p < .05$) path coefficients in the combined genders structural equation model with Odds Ratio predicting sexual abuse status in parentheses.....	78
Figure 5. Significant ($p < .05$) path coefficients in the structural equation model for males with Odds Ratio predicting sexual abuse status in parentheses.....	80
Figure 6. Significant ($p < .05$) path coefficients in the structural equation model for females with Odds Ratio predicting sexual abuse status in parentheses.....	81

Introduction

While there is some evidence that the rate of child sexual abuse may be decreasing (Finklehor & Jones, 2006), it continues to be a substantial social problem. Prevalence estimates of child sexual abuse range from 12 to 35 percent of females, and from 4 to 9 percent of males (Putnam, 2003), with a meta analysis of community sample studies indicating that 1 in 6 females and 1 in 12 of males are sexually abused in childhood (Gorey & Leslie, 1997). Despite a possible decline, there were more than 83, 000 substantiated cases of child sexual abuse in 2005 (U.S. Department of Health & Human Services, Administration on Children, Youth and Families, 2007).

Effects of child sexual abuse include post traumatic stress symptoms (Briere, 1996; Deblinger, McLeer, Atkins, Ralphe & Foa, 1989), aggression, acting out behavioral problems, withdrawal (Friedrich, Urquiza, & Bielke, 1986), anxiety and sadness (Conte & Schuerman, 1987), sexual behavior problems (Friedrich, et al., 1986; Mannarino & Cohen, 1996), self injurious behavior, and suicidality (Herman, 1981). Victims of sexual abuse also experience more depression (Bagley & Ramsey, 1986; Mullen, Martin, Anderson, Romans, & Herbison, 1996; Peters, 1984), alcohol and drug abuse (Neumann, Houskamp, Pollack & Briere, 1996; Wilsnack, Vogeltanz, Klassen & Harris, 1997), relationship problems (Courtois, 1979, Neumann, et al., 1996), and victimization (Finklehor, 1984; Miller, 1978; Russell, 1986) in adulthood than those who were not abused as children. Most sexually abused children do not disclose their abuse in childhood (Finkelhor, et al., 1990; Fromuth, 1983; Russell, 1983), so there is often no intervention provided to child victims in dealing with their abuse.

The literature consistently points to a number of risk factors for child sexual abuse, including female gender (Elliot & Briere, 1994; Finklehor, 1984; McClosky, 1997), being a preadolescent (8-12) (Finklehor, 1984; Russell, 1983; Wyatt, 1985), having a disability (National Center on Child Abuse and Neglect, 1993), living without one biological parent (Finklehor & Baron, 1986; Finkelhor, et al., 1990), the presence of a stepfather in the home (Finklehor & Baron, 1986; Russell, 1984), and social isolation (Finklehor, 1984; Fromuth, 1983; Peters, 1984). The research is less conclusive on race (Finklehor & Baron, 1986), ethnicity (Elliot & Briere, 1994; Finklehor, 1984; Kercher & McShane, 1984; Russell 1986), socioeconomic status (Finklehor, 1984; Russell, 1983), and maternal education level (Finklehor, 1984).

Findings have been fairly consistent in the examination of the mother in sexual abuse risk. A number of maternal factors may be particularly important to the child's risk for sexual abuse. These include the mother being a sexual abuse victim herself (Avery, 2002; Goodwin, McCarthy & DiVasto, 1981; Leifer, Shapiro & Kassem, 1993; Oates, Tebbutt, Swanston & Lynch, 1998), being ill or disabled (Finklehor, 1984; Peters, 1984), and having alcohol or substance abuse (McCloskey & Bailey, 2000) problems. Another consistent finding is that having a distant relationship with mother is a significant risk factor for child sexual abuse (Landis, 1956; Finklehor, 1984; Peters; 1984).

The mother appears to be important, as well, after a child has reported sexual abuse. A number of studies have identified that maternal support after disclosure is an important factor in the child's recovery from abuse (Conte & Berliner, 1988; Everson, Hunter, Runyan, Edelsohn & Coulter, 1989; Paredes, Leifer & Kilbane, 2001). Maternal support has been associated with a child's ability to disclose sexual abuse (Elliot &

Briere; 1994, Lawson & Chaffin, 1992) and treatment outcome (Everson, et al., 1989). However, researchers in this area have pointed out that these variables may all be measuring the same construct (Finklehor & Baron, 1986). It has been suggested that because the findings are consistent, the research should move beyond exploring these specific variables, and begin to explore the possible underlying psychological or process issues (Bifulco, Moran, Ball, Jacobs, Baines, Bunn & Cavagin, 2002; Finklehor & Baron, 1986). For example, Finkelhor and Baron (1986) postulate that perhaps a child with poor parental relationships is more needy, therefore vulnerable, and less likely to ask for parental assistance when needed. A child who feels more needy of attention and receives less support from parents might be more vulnerable to inappropriate advances than a child who is less needy and feels supported by parents. Others state that while research into identifying risk factors is valuable, many of the risk factors identified are not malleable, and that future research should identify risk factors that can be altered by treatment (Conte & Schuerman, 1987).

Attachment theory can provide a useful framework for examining risk for sexual abuse when exploring the importance of the relationship with the mother, as well as providing a valuable lens for prevention and clinical intervention.

It is important to note that exploring the relationship with the mother in examining risk for child sexual abuse in no way means to imply that the mother is responsible for the child's victimization. Only the child abuser should hold responsibility for the abuse inflicted. Blame should not be placed on a non-offending mother, who is in a way a victim of the abuse herself. It is, however, believed that the mother, through her

relationship with the child, can facilitate the development of a child who is more vulnerable or less vulnerable to child sexual abuse.

Attachment Theory

John Bowlby postulated that the child's first relationship lays the foundation for future interpersonal relationships (1969/1982, 1973, 1980). Bowlby believed that sucking, clinging, crying, smiling, and following are behaviors exhibited by the infant that contribute to attachment with the mother. Bowlby noted that the primary attachment figure does not need to be the mother; it can be any adult that fills the role of primary caregiver for the child. Typically, though, this is the mother. For the purposes of this paper, the terms mother and caregiver will be used interchangeably. This set of behaviors that the child exhibits, which is instinctual and biologically based, is called attachment behavior. Attachment behavior is exhibited by a child in order to draw the mother near and to prompt caregiving behavior. Between the age of 9-18 months, this behavioral system of communication becomes so sophisticated that the child's need for closeness is maintained. Bowlby hypothesized that without such behaviors, the human infant would not be able to survive. He adds that while attachment behavior serves its most vital function in infancy, it adapts and develops, continuing to be a natural and necessary tool throughout life (Bowlby, 1958).

Attachment, according to Bowlby, is the relationship between child and mother that is formed and maintained by attachment behavior. The function of attachment is to protect the infant from harm. This attachment relationship between mother and child is thought to be a reciprocal process; the child signals a need through crying or other attachment behavior, and the mother responds (Lieberman & Zeanah, 1999). The mother

may respond in an attentive and sensitive manner, or in a resentful, or even angry manner. Her response to the child is influenced by many factors, including her own experiences of attachment relationships when she was a child. Bowlby believed that regardless of the quality of caregiving, the child will attach. Whether the child will be securely or insecurely attached is determined by the quality and consistency of the care provided by the mother. The caregiving relationship, whether it is responsive, attuned and empathic or erratic, harsh and neglectful, helps the child develop his or her own sense of self, others and the world. The product of a healthy attachment in infancy is a secure relationship between child and mother, one in which the child feels confident enough that the mother is a “secure base” (Bowlby, 1977). The child who has a secure base can stray away and explore the world, knowing that when needed, the child can return to the protective mother. The secure mother encourages the child to explore, while maintaining a protective watch, and intervenes when needed. The child develops through these experiences a sense of competence, worth and security (Bowlby, 1977). In contrast, when anxious models of self, other and the world are internalized, unhealthy relationship patterns will follow. The child will perceive the world as unsafe, others as undependable, and self as unworthy. Over time, these “internal working models” become relatively fixed and are reenacted in relationships with others (Bowlby, 1969/1982).

Although Ainsworth and associates’ work originally focused on the mother-infant relationship in the home (Ainsworth, Blehar, Waters, & Wall, 1978), the Strange Situation (Ainsworth & Wittig, 1969) is the most well known assessment of attachment (Pederson, 1990). This laboratory procedure is used to assess the 12 to 18-month-old child’s attachment to a parent, and to categorize the child’s attachment to that parent into

an attachment style. The Strange Situation is a 21-minute series of circumstances that are increasingly stressful to the child, including being in unfamiliar surroundings, having parent leave, being exposed to a stranger, and having parent return. Based on how the child reacts to this stress, observing and recording their attachment and exploratory behavior, children are classified into one of three patterns of response to the parent's return; insecure-avoidant (Pattern A), securely attached (Pattern B), and insecure-resistant/ambivalent (Pattern C). Main and Solomon (1986) developed a fourth category of attachment style, the disorganized/disoriented anxious attachment (Pattern D).

In exploring the relationship between maternal behavior in infancy, and toddlers' patterns of reactions in the Strange Situation, Ainsworth found that children with mothers who were supportive and responsive in infancy became securely attached (Pattern B). They sought contact with or greeted their mother after separation, and sought contact when distressed. At 12 months these children used their mothers as a secure base; there was a "happy balance between exploration and attachment" (Bowlby, 1969/1982, p.338). These children cried less often, developed more complex communication with their mothers and were more cooperative.

The anxiously attached children's responses varied. They appeared afraid and insecure. They did not explore freely, nor did they seem to enjoy contact with their mother. Mothers of the insecure, anxious-avoidant group (Pattern A) were less emotionally expressive and less physically responsive to their infants. At 12 months, anxious-avoidant children ignored or avoided their mothers after separation and showed little preference to mother over a stranger. These children exhibited more anger and aggression toward their mothers than the securely attached. They appeared to feel

conflicted between approach and avoidance of the mother, often following when the mother left, but not welcoming her back. Mothers of the anxious-resistant group (Pattern c) exhibited role reversal and inconsistency in their caregiving. At 12 months, the anxious-resistant children sought contact and exhibited tantrums upon their mothers' return, were needier of attention, and were resistant and angry when directed away from their mother.

According to Ainsworth (1985), securely attached children develop an internal working model of the caregiver that is responsive and accessible. Anxious-resistant children develop a model of the caregiver as inconsistently responsive. Anxious-avoidant children develop a model of the caregiver as rejecting. Ainsworth found that these internalized working models remained relatively stable over the months of her study.

Caregiving responses in disorganized attachment are simultaneously comforting and anxiety producing. The child needs the caregiver but is afraid of her responses. As a result, the child is apprehensive and anxious. Upon the parent's return after separation in the Strange Situation, the child appears to be "dazed" and unresponsive (Main, Kaplan & Cassidy, 1985, p.79). Main and Cassidy (1988) hypothesized that the disorganized/disoriented parent has unresolved trauma issues that affect their ability to provide care. Disorganized attachment is found more often in children who have experienced long and/or frequent separations from their caregivers (Solomon & George, 1999), caregiving by mentally ill mothers (Jacobsen & Miller, 1999), and abuse (Carlson, Cicchetti, Barnett & Braunwald, 1989).

Validity of Attachment Theory

Findings from neurodevelopmental research bolster Bowlby's hypothesis that attachment is biologically driven. Perry and associates (2002) studied early neglectful caregiving experiences and their effects on neurodevelopmental processes, finding that the brain is altered by adverse experiences; which can lead to life long problems in cognitive, social and emotional functioning. In order to determine if there is a difference in physiological response to separation, researchers have examined biological indicators of arousal in securely and insecurely attached subjects. A number of studies have found that heart rates differ by attachment style in the Strange Situation (Donovan & Leavitt, 1985; Spangler & Grossman, 1993; Sroufe & Waters, 1977). For example, Sroufe and Waters found that all of their study children's heart rates (HR) elevated at separation from caregiver, but securely attached children's HR recovered more quickly upon reunion, and insecurely attached children's HR remained elevated over a longer period of time, even in anxious-avoidant children who did not appear to be upset by their separation. Studies examining cortisol response in the Strange Situation have been less conclusive, but this may be due to methodology. Cortisol hormones are produced in response to stress and anxiety. Gunnar, Mengelsdorf, Larson & Hertsgaard (1989) found no difference in cortisol responses, however, they tested at different time frames, which can effect the results. Others have found differences in cortisol level between attachment styles in the Strange Situation (Hertsgaard, Gunnar, Erickson & Nachmias, 1995; Nachmias, Gunnar, Mangelsdorf, Parritz & Buss, 1996; Spangler & Grossman, 1993). Spangler and Grossman found differences between secure and insecure children in cortisol levels 30 minutes after the Strange Situation.

Through international and domestic research, Mary Ainsworth (1985) found that although there are cultural differences in childcare practices, which affect reactions to separation, attachment behavior is universal. She also found that observations of mother-child interactions in the first 3 months could predict the child's reaction to a separation at 12 months.

Mothers' behavior is generally found to be the primary influencer of attachment (Belsky & Isabella, 1988; van Ijzendoorn, Goldberg, Kroonenberg & Frenkel, 1992). In Ainsworth and associates' original research, they found that mother's behavior in the child's first year was most predictive of child's later attachment (1978). Maternal behavior was rated by an observer on four scales; sensitivity versus insensitivity, acceptance versus rejection, cooperation versus interference, and psychological accessibility versus ignoring. Each was significant in predicting attachment, while sensitivity was most significant in predicting secure attachment, and it covaried with each of remaining scales (Ainsworth, Bell & Stayton, 1974). Subsequent research continues to strongly point to mothers' parenting behavior in shaping child's attachment (Bates, Maslin & Frankel, 1985; deWolff & van Ijzendoorn, 1997; Egeland & Farber, 1984; Grossman, Grossman, Gottfried, Spangler, Suess & Unzer, 1985). Maternal sensitivity is often found to be the most important contributor to attachment security (Isabella, 1995; Lamb, 1985; Thompson, 1998). However, studies indicate that the child's temperament, whether a child is generally content, irritable, or difficult may also be an important contribution to the attachment process, and therefore, in the formation of attachment style (Goldsmith & Alansky, 1987).

Researchers have found that these working models are relatively stable in the short term (6-8 months), with attachment styles remaining the same over time in as many as 80 to 96% of children (Main & Weston, 1981; Waters, 1978). In a study of attachment stability over a long period, 64% of subjects had the same attachment style at 12 months and 21 years (Waters, Merrick, Treboux, Corwell, & Albersheim, 2000). However, a number of studies have found that attachment style is malleable to changes in caregiver stress, availability, and responsiveness (Thompson, Lamb & Estes, 1982; Vaughn, Egeland, Sroufe & Waters, 1979).

There may be cognitive, behavioral, and emotional outcomes associated with anxious or insecure attachment styles. Findings indicate that anxiously attached children are less socially and cognitively adapted (Main, 1981), less competent, have poorer interpersonal skills (Sroufe, 1988, 1983, 1982), are less enthusiastic, persistent and compliant in problem solving (Matas, Arend & Sroufe, 1978) and exhibit more depressive symptoms (Garber, Cohen, Bacon, Egeland & Sroufe, 1985) than their securely attached counterparts. Troy and Sroufe (1987) examined exploitation and victimization between children and found that securely attached children did not victimize or become the targets of victimization by their peers. Anxious-avoidant children were more likely to victimize, and both anxious-avoidant and anxious-resistant children were likely to be targets of their peers' victimization.

Attachment Theory and Abuse

Attachment theory may be relevant in understanding the intergenerational transmission of abuse (Morton & Brown, 1998; Zuravin, 1996). Dozier, Stovall & Albus (1999) discuss the theoretical link between disorganized attachment in infancy and

dissociation in adulthood, which may be an important vehicle for the intergenerational transmission of abuse. Zeanah and Zeanah (1989) and Alexander (1992) apply attachment theory specifically to the study of the intergenerational transmission of sexual abuse. They each propose that abusive behavior is not transmitted through generations, but that a style of parent-child interaction that precedes abuse is transmitted. Zeanah and Zeanah (1989) discuss three organizing themes that characterize insecure adults' internal working models; rejection (associated with avoidant attachment), role reversal (resistant attachment), and fear (disorganized attachment). The processes, dynamics and consequences of rejection and role reversal are well documented in child abuse and maltreatment literature (Zeanah & Zeanah, 1989). Through the experience of rejection by the caregiver, the child must become independent prematurely, learning that they must take care of their own needs (Main & Goldwyn, n.d., cited in Zeanah & Zeanah, 1989). Therefore, a child who has developed an avoidant attachment may be less able to defend himself or to seek help from others when threatened (Alexander, 1992). In role reversal, the child must take on the responsibility for the parent's happiness and well being. The parent's needs must come first (Main & Goldwyn, n.d., cited in Zeanah & Zeanah 1989). The resistant child might therefore be more emotionally needy and vulnerable to manipulation (Alexander, 1992). Families characterized by parents' unresolved trauma and fear may not have the capacity to teach children healthy and effective coping (Alexander, 1992). Alexander proposes that,

A disturbance in attachment in any or all relevant family members is likely to be associated with diminished capacity to meet one's needs in appropriate ways, to monitor oneself and others, and to seek help to stop the abuse. Thus, insecure

attachment may either help set the stage for sexually abusive behavior or may interfere with its termination (1992, p.189).

Bolen (2000, 2002) discusses the potential value of using attachment theory to study sexual abuse, but expresses concerns about its misuse. She points to the role of the literature in influencing political and social responses to sexual abuse, and highlights how Freudian and family systems theories have led to mother-blaming, particularly in intra-familial sexual abuse. In focusing specifically on family dynamics, Bolen is concerned that important societal factors, such as the subordination of women, the sexualization of young females and glamorization of violence in the media, that might contribute to child sexual abuse are ignored, and that placing responsibility on the abuser is circumvented.

Introduction to Literature Review

A search of the literature on risk for child sexual abuse victimization was conducted. The goal was to locate studies that examined factors associated with mothers and sexual abuse of children. The search terms were child sexual abuse and risk. Ovid Medline, Wilson Web, Science Direct, PsychInfo, Proquest, Dissertations and Thesis, and Child Abuse, Child Welfare and Adoption databases were searched. There was no restriction on publication dates. Titles were first reviewed to determine if the paper explored risk for child sexual abuse victimization. Abstracts were read if titles appeared applicable. All books and published articles found in the electronic search were obtained. Only dissertations that could be obtained via Rutgers University library system were included. These publications were read. A publication was kept for this review if the study examined risk factors for child sexual abuse victimization, used a non-abused comparison group, was conducted in a developed country, and specifically examined

variables related to the mother. Variables related to the mother included both measures specifically completed by the mother (i.e., Mother's Parenting Stress Inventory scores), and measures about the mother (i.e., Child's report of the quality of her relationship with her mother). Herman's (1981/2000) study of father-daughter incest was not kept for this review because of the nature of the comparison group. The comparison women in her sample were daughters of "seductive" fathers, who did not have genital contact with their daughters, but did interact with their daughters in a sexualized manner, including exposing themselves, and showing their daughters pornography. Because this group is not clearly a non-abused group, this study was not kept.

What follows in Chapter 2 is a critical review of the literature on maternal factors associated with risk for child sexual abuse that are relevant to the current project. The studies found use a variety of samples, including randomly selected adults, college student volunteers, identified victims, high risk children and adolescents, and randomly selected children. Each used a non-abused comparison group. There are retrospective studies of adults abused as children, correlational studies of child victims, and longitudinal studies. Data collection types include record review, child completed interviews, questionnaires and measures, mother completed interviews and measures, and observation of maternal behavior. Studies that are relevant to the constructs and variables examined in this project will be reviewed with a discussion of the design and findings.

The Research Project

This study explores risk for child sexual abuse within an attachment framework. According to attachment theory, the primary attachment figure, usually the mother, provides the child with a sense of security and provides the child with a safe base from

which to explore the world. Children who are able to form a secure attachment can stray from the mother, returning when in need of protection or comfort. Children who form an insecure attachment may be unable to explore, or may not be effective in eliciting the help of the mother when in need. Secure attachment provides a healthy foundation upon which subsequent development continues. Studies have determined that as they mature securely attached children have better social and problem solving skills than insecurely attached children. In this context, attachment may prove to be an important underlying process in understanding why some children are able to resist grooming behaviors, while others are not, why some children are sexually abused while others are not, and why some mothers can be supportive of their children after sexual abuse disclosures, while others cannot.

This study explores a number of variables within the context of attachment in order to explore the dynamics of risk. A deeper understanding of the dynamics and processes that increase risk can facilitate the development of preventive intervention, as well as improved post disclosure intervention for the abused child and family.

Variables that relate to the mother and the mother-child relationship are examined to determine if there is a correlation with these factors and risk of sexual abuse, in a representative sample of children involved with child protective service agencies in the United States. It was anticipated that a number of these variables would be related to risk for sexual abuse, and that a combination of the variables would contribute significantly to a model that can predict risk. While the examination of risk factors for child sexual abuse is not a new area of exploration, this project is theoretically driven, and it may begin to illuminate the underlying processes that influence children's risk.

This is an ex post facto study, using the National Survey of Child and Adolescent Wellbeing (NSCAW) data. The sample is girls and boys aged 6 to 9.11 years whose permanent caregiver is the biological mother, from the Child Protective Services (CPS) sample of children at Wave 1, Baseline.

The research objectives are:

- Determine if maternal sensitivity is related to the occurrence of child sexual abuse.
- Determine if maternal social support is related to the occurrence of child sexual abuse.
- Determine if maternal mental health is related to the occurrence of child sexual abuse.
- Determine if maternal alcohol dependence is related to the occurrence of child sexual abuse.
- Determine if maternal drug dependence is related to the occurrence of child sexual abuse.
- Determine if maternal social support, mental health, alcohol and drug dependence are related to maternal sensitivity.
- Explore the relationship between a number of indicators of maternal sensitivity.
- Explore the effects of demographic variables in the model.
- Determine how well this model predicts the likelihood of a child being sexually abused.
- Compare differences in the model between genders.

Chapter Two

The body of literature on child sexual abuse risk is large and many studies have explored the importance of the mother in risk for child sexual abuse. This review will only include studies that are specifically relevant to the variables examined in the current study.

There are a number of methodological issues that apply to most of the studies. These issues will be discussed first. Following that, specific studies, including their methodological issues and findings will be reviewed.

An issue that could potentially affect every study of sexual abuse is underreporting. The failure to report abuse that has occurred can be a problem regardless of who the informant is, whether the sample is comprised of individual children, adolescents or adults, parents and other caregivers, or protective service caseworkers. For many reasons, most victims of child sexual abuse usually do not disclose their abuse (Smith, Letourneau, Saunders, Kilpatrick, Resnick & Best, 2000). Those who do disclose often do so in adulthood (Berliner & Conte, 1995; Russell, 1983). Studies that ask individuals about their history of sexual abuse may suffer from the fact that victims do not want to disclose their abuse, they may not consider themselves to have been abused, or they may not actually remember the abuse.

Further, underreporting can also be an issue when parents or caregivers are respondents. Parents often do not know about their children's abuse, so they assume none has occurred. Even when children do disclose abuse, or it is otherwise discovered, parents may not believe that it occurred. Even if the abuse is known and believed, parents may not report their child's abuse to a researcher. They may be reluctant to

discuss such a sensitive topic, or may feel their child's sexual abuse reflects negatively upon them as parents. In cases where abuse is intrafamilial, parents may not want to implicate themselves.

Finally, the accuracy of caseworker reports may suffer from report, investigation, or substantiation bias (Brown, Cohen, Johnson & Salzinger, 1998; National Center for Child Abuse and Neglect, 1988). These forms of bias exist because all of the necessary steps in identifying and proving child abuse require some level of individual judgment, from the decision to report, investigate, and substantiate. Studies show that having multiple informants and asking multiple questions can improve the accuracy of identifying victimization (Brown, et al., 1998; Peters, Wyatt & Finkelhor, 1986). Even with these efforts, it is likely that non-abused comparison groups actually contain unidentified sexual abuse victims, thereby reducing the ability to detect actual between-group differences.

Another important source of potential bias in abuse research on children is the fact that supportive parents are probably more likely to consent to the child's, or their own, participation in research. As has been discussed previously, the belief and support of mothers is an important factor in recovery from abuse. Therefore, sexually abused children participating in research may be healthier than the general population of sexually abused children, due to the fact that their parents believe them and support them regarding the abuse. The same might also be true of mothers who participate in research.

An issue related to reporting is the difficulty in defining what actually constitutes sexual abuse. Child sexual abuse can range from exposing a child to pornography and sexualized conversation, to adult-child genital penetration. Age of victim, age of

perpetrator (adolescent/adult), difference in age between victim and perpetrator, intra and extrafamilial sexual contact issues, and differing state laws about age of consent all make a standard definition of child sexual abuse elusive. Studies vary in how they define sexual abuse, and how they define their abused and non-abused comparison groups. More rigorous studies do not ask about sexual abuse per se, but ask specific behavioral questions about sexual experiences. Removing the need for respondent interpretation is likely to produce more accurate identification of child sexual abuse. The definitional issues in child sexual abuse can lead back to, as previously discussed, weaknesses related to the ability or inability to detect actual group differences. Additionally, when group assignment across studies is based on differing definitions of child sexual abuse, this makes interpretation, application of the findings, and meta-analysis more difficult.

Studies that specifically examine the importance of the mother in risk for child sexual abuse face another important methodological issue, the fact that an individual's perception or assessment of their mother may be affected by their experience of victimization. Child sexual abuse victims may be different from non-victims in how they respond to questions about their mothers. For example, although a victim's mother may be as protective as a non-victim's mother, the victim of child sexual abuse may recall her mother as less protective, because of her experience of abuse. The converse may also be true. Similarly, mothers' responses may be affected by their knowledge of their children's abuse. They may be more likely to describe their child's behavior in negative ways because of the abuse disclosure, or the opposite may be true.

An issue that logically follows is that most studies of sexual abuse are cross-sectional and retrospective. Issues of recall are a problem here, and without longitudinal

study, causality and even precedence, cannot be determined. For example, it is not possible to determine if a correlation between mother's report of high stress and the occurrence of child sexual abuse is causal, or even which came first. It is possible that mother's high stress affects the occurrence of child sexual abuse in some way, and it is also possible that the disclosure of sexual abuse affects the mother's report of high stress.

While some of the studies use multivariate analyses, there is always the chance that important variables are missed. This follows the previous issue, in that an identified correlation may be spurious. In complex psychosocial research of this kind, even theory driven research, it is impossible to measure and control for all variables. Thus, even with a longitudinal finding that mother's high stress in wave 1 is positively correlated with occurrence of child sexual abuse at wave 2, it cannot be concluded that high stress caused, or even contributed to later abuse.

The sexually abused samples used in this area of research are relatively small, and with that comes a number of problems, including lack of statistical power. Small samples may not be large enough to be able to detect differences that exist. Representativeness of these samples is also a concern. Samples are mostly non-random, and many are not racially or socioeconomically diverse. Sampling bias regarding sexual abuse status is of concern, as those individuals who are most relevant to the researcher may choose not to participate because of their sensitivity to the topic. Even the population based random samples may miss important groups of child sexual abuse victims, including those who have entered prisons or other institutions (Bolen, 1998).

Most studies in the area of sexual abuse either only attempt to recruit female respondents, or if they do have male respondents, fail to examine the effect of gender in

their analysis. While some studies do consider the child victims' age and gender in exploring risk, none of the studies explores differences in the effects of other variables, based on age and gender. This may be an important area for further study, as risk factors may be interrelated with one another. Age and gender may be important moderators in the examination of risk. For example, mothers' substance abuse may have more of an effect on girls' risk for child sexual abuse victimization than boys', or more of an effect at a certain age.

Now as the overall methodological issues have been introduced, individual studies will now be discussed. What follows is a list of the variables examined in the present study. Previous studies relevant to these variables will be reviewed. As many of the studies examine a number of variables relevant to this study, and to minimize redundancy, studies will be discussed in detail only once, the first time they are presented. Except where indicated, all differences reported are statistically significant.

Maternal Sensitivity

Mullen, Martin, Anderson, Romans and Herbison (1993) examined risk factors for and outcomes of child sexual abuse in a group of 1,376 randomly sampled New Zealand women under 65. Participants completed questionnaires that included questions about childhood abuse. Later, all women who reported sexual abuse (n=298) in their questionnaire were selected as the abused group, and a random sample of 298 of the remaining women were selected as the comparison group. A number of women's group status changed as a result of the interviews, for example, two participants reported sexual abuse on their questionnaires, but later in interview denied such a history. A few women reported sexual abuse in their questionnaires, but were re-assigned to the comparison

group because their experiences did not meet the researchers' criteria for child sexual abuse. From the group of 1,376 who originally completed questionnaires, 32% met the criteria for child sexual abuse under age 16. Sexual abuse ranged from non-contact abusive experiences to penetration. Women who reported their mothers as low on care and high on control on the Parental Bonding Instrument were more likely to have been sexually abused.

Fleming, Mullen and Bammer (1997) examined the relationship between child sexual abuse and alcohol abuse in a community sample of Australian women. Risk factors for child sexual abuse were also explored. Australian voter rolls were randomly sampled and a questionnaire was sent to 6,000 women. 3,958 completed questionnaires were returned. Based on an alcohol abuse screening tool, respondents were classified as having an alcohol problem or not. A sample of all of the women with alcohol problems and a comparison group were then kept for further examination (n=710). Sexual abuse status was based on respondents' reports of sexual experiences before age 16. All women who reported having sexual experiences before age 16 were asked a number of follow up questions including the age of the other person involved, relationship to the person, and questions about duration, frequency and force, to determine if abusive experiences had occurred. A respondent was considered to have been sexually abused if she had any sexual experience before age 12 with a person 5 years or more older, or any sexual experience between age 12 and 16 with a person 5 or more years older unless it was wanted or not upsetting. Only contact experiences were considered in the abuse determination.

Twenty percent of women in this sample were determined to have been sexually abused as children. The researchers used chi square analysis to examine risk factors for sexual abuse. Unfortunately, only those factors that were found to be significant were detailed in the publication, so we cannot know what was not found to be significant. Women who reported their mothers as being less caring were more likely to have been sexually abused, as were those who reported their mothers were more overprotective and controlling.

Peters (1984) examined risk factors for child sexual abuse in a sample of 122 women in Los Angeles County. The participants were part of a larger random sample of African American and Caucasian women who had participated in a previous study on victimization experiences. Women completed interviews and questionnaires on family history and psychosocial functioning during this second study. Sexual abuse status was based on responses in the previous interviews. Sexual abuse was defined as unwanted contact or non-contact sexual behavior. Three participants were removed from the study due to symptoms of severe mental illness. Of the 119 remaining participants, 60% had experienced sexual abuse. Participants were asked to rate the quality of their relationship with their mother, based on support, emotional availability and affection. Using t-tests, Peters found that sexually abused women reported poorer quality of relationship with mothers in childhood and adolescence than non-abused women. Unfortunately, some of the women were not primarily cared for by their biological mothers either in childhood or adolescence, so their responses were about another female caretaker, and these results were pooled together. This may affect the validity of the results, however, it could be argued that if the mother is not the primary female caregiver,

then there may be a poorer relationship with the mother anyway. In discriminant function analysis on childhood variables, close relationship with mother in childhood was found to have a negative correlation with sexual abuse. In multiple regression analysis, distant relationship with mother in adolescence was the most important predictor of childhood sexual abuse.

Judson Landis's (1956) study was innovative, in that he examined risk for child sexual abuse in the 1950's. With a college student sample, Landis gathered qualitative and quantitative data through questionnaires on the family history and sexual abuse experiences of 1,800 men and women. Landis' definition of sexual abuse is broad, ranging from exposure to penetration. Unfortunately, reflective of the societal beliefs at the time, homosexual approaches were also included as experiences of "sexual deviation". He gathered information on experiences occurring from childhood and into adulthood, so the results also contain information on adult sexual victimization that mostly consisted of exhibitionism experienced by women and homosexual approaches experienced by men. In this sample of middle to upper middle class men and women attending college in the 1950's, thirty five percent of the women and thirty percent of the men reported sexual victimization. Over eighty percent of the "deviate experiences" reported by males were homosexual approaches, so the argument can be made that the results specific to men are not valid, as homosexual approaches (without age specification) are not necessarily abusive. Therefore, the results for men will not be discussed in this review.

While the findings specific to women are not as relevant today, as the sample is so unique, and with the definitional problems for the abuse classification, Landis' study is

still interesting and innovative for the time. He attempted to examine the dynamics of abusive relationships to understand why many victims comply with the abuse, as well as why many victims do not disclose. He also explored risk factors related to the mother-child relationship. In his analysis of risk factors, Landis compared a group of 500 victims and a comparison group of 450 respondents. Landis found that for girls, close relationship with mother prior to age 15 was negatively correlated with the occurrence of sexual abuse. Interested in understanding the dynamics more, Landis further examined the girls' relationship with mother using chi square analysis to compare three groups: non-abused, victims of exhibitionism, and all other victims. Those women who reported being the victims of more intimate abuse reported significantly more distant relationships with their mothers than did those who were not abused and those who experienced exhibitionism, which in this sample was perpetrated mostly by strangers.

Finkelhor (1980) explored risk factors for childhood sexual abuse in a sample of 796 college students at six New England colleges and universities. Students were asked to complete questionnaires in the classroom setting. Sexual abuse status was determined by a number of screening questions. A respondent was considered to have been sexually abused if they reported as a child being 12 or under and having had a sexual experience with someone five years older, or as an adolescent 13 to 16 having had a sexual experience with someone at least 10 years older, without consent. Sexually abusive experiences ranged from exposure to penetration. In this sample, 19% of the women and 9% of the males had been sexually victimized. Using chi square analysis, Finkelhor examined a number of risk factors and their relationship to the occurrence of childhood sexual abuse. For girls in this sample, Finkelhor found that mother's general inadequacy,

and being violent toward child or father was not a significant risk factor for child sexual abuse. The following were found to be positively associated with the occurrence of child sexual abuse: not being emotionally close with mother, mother not being affectionate toward child, and mother spanking the child after age 12.

Fromuth (1983) examined correlates of and long term impact of sexual abuse in a sample of 482 female students at Auburn University. Undergraduate psychology student volunteers received credit for completing questionnaires about their sexual experiences and current functioning. Sexual abuse was defined as physical contact of a sexual nature, exposure, or requests for sexual behavior by someone much older. For children 12 and under, the abuser had to be at least 16, and at least 5 years older. For 13-16 year olds, the abuser had to be at least 10 years older. In this mostly white, middle class sample, 22% of women met the criteria for child sexual abuse. Fromuth examined a number of family variables to explore risk. In chi square analysis, she found that a relationship that was not close to mother at age 12 was not correlated with the occurrence of sexual abuse. Fromuth found a positive correlation between the occurrence of sexual abuse and mother being verbally abusive at age 12. A negative correlation was found between the occurrence of sexual abuse and the following items: "Mother understood you", "mother talked to you when you had a problem", and "mother was responsive to your emotional needs" at age 12. No significant relationship was found between the occurrence of sexual abuse and: "Mother treated you as if you were important", "mother played with you", "mother kissed you", and "mother hugged you". If the sample had been larger and more representative, these items may have reached significance, as each of them showed trends toward significance in the direction that would be predicted by attachment theory.

Fergusson, Lynskey, and Horwood (1996) examined prevalence and risk for child sexual abuse using data from a longitudinal study in New Zealand. Data were collected on a birth cohort of 1,265 children at many points between birth and 16 years. Among the many measures, children completed a measure on parental bonding, care and protection at age 16. Interviews at age 18 regarding childhood experiences of abuse and current mental health were completed on 1,019 of the original sample. The means of identifying sexual abuse victims were thorough and inclusive. Participants were interviewed in depth by female interviewers, and asked if they had experienced any of 15 unwanted sexual activities, ranging from non-contact sexual experiences to penetration. Any affirmative answers were followed up with further questions. Respondents were considered to have been sexually abused if they reported any unwanted sexual experience. In this sample, 17.3% of the females, and 3.4% of the males reported experiencing at least one incident of sexual abuse before age 16. The researchers examined severity of abuse (none, non-contact, contact, and intercourse) and its association with a number of variables using chi-square analysis. Those whose mothers scored in the highest quartile in overprotection were more likely to have been abused, and more severely abused. Additionally, those whose mothers scored in the lowest quartile of maternal care were more likely to have been abused, and more seriously abused.

Pianta, Egeland, and Erickson (1989) examined risk for child sexual abuse in a longitudinal study of 267 women and their children considered to be at high risk for maltreatment due to socioeconomic disadvantage. Pregnant women were recruited through prenatal clinics. Mothers were mostly young, less educated, and single, with pregnancies that had not been planned. Data were first collected during pregnancy, and

then at many phases through the first six years of the child's life. Based on the quality of caregiving and mother's parenting behavior at two years of age, children were assigned into groups; those who had experienced physical abuse, neglect, and psychologically unavailable mothers. Children who did not experience any of these adverse conditions were assigned to the control group. At age six, there were 11 children reported by mothers and CPS as having been sexually abused. Pianta and associates examined the relationship between a number of variables and abuse status. Mothers of non-victims were found to be more responsive and more involved with their 30 month old children based on items from the HOME Inventory, than mothers of sexual abuse victims. No difference was found between groups on items related to the avoidance of restrictions.

Paveza (1998) examined risk for father-daughter child sexual abuse in a sample of 34 mothers of identified victims, and a randomly selected group of 68 comparison group members. The sample size was the minimum required to detect between group differences, as determined by an earlier power analysis. This study examined father-daughter or stepfather-stepdaughter sexual abuse, however due to IRB requirements, comparison group members were not specifically asked if their daughters had been sexually abused by their husbands. They were, however, informed that father-daughter sexual abuse was the topic of study. The researcher assumed that if contacted, those individuals whose daughters were victimized by their fathers would have removed themselves from the study during the opportunities to opt out. Sexual abuse ranged from exposure of genitals to intercourse. Mothers were the respondents in this study, completing a questionnaire via mail. Cases and comparison group members were matched only on the fact that all victims were abused between ages 5-18 in intact

families, so all comparison group members had to currently have a daughter aged 5-18, and be intact. All of the victims were receiving treatment related to the abuse. Ninety percent of the sample was Caucasian, and all lived in two Midwestern states.

Upon initial analysis, the researcher kept all variables with a correlation to sexual abuse, and dropped the rest from further analysis. Unfortunately, the reader is not informed of what variables in the initial analysis were dropped, only which ones remained significant. In the final logistic regression analysis, mother-daughter closeness, as rated by the mother was one of the four significant variables contributing to risk. The other significant variables were marital satisfaction (OR 7.19), spouse had been violent (OR 6.51), and income (6.37). Mothers who reported a distant relationship with their daughter were 11.61 times more to have a daughter who was sexually victimized by her father. Mother's violence toward daughter was not significant.

Although the sample is relatively small, the researcher made efforts to ensure a minimum necessary sample size. Limitations related to generalizeability are the primary issues with this study, not only because of the limitation of sexual abuse to father-daughter sexual abuse, in a particular region, but also to a clinical sample. Sexual abuse victims in treatment, particularly those abused within the family, who actually receive clinical intervention, are a very specific group, and the results can only be generalized to them.

Campbell (1994) specifically sought to examine maternal risk factors for child sexual abuse using a North Carolina sample of identified female victims in treatment and a community volunteer comparison group reporting no history of sexual abuse. The sample consisted of 46 mothers of victims, and 46 mothers of school aged children who

volunteered after responding to an advertisement. Respondents completed a number of measures on demographic factors, social support, childrearing attitudes, and parenting style. Campbell found that mothers of victims scored higher on a childrearing attitude rejection scale. Upon further analysis of the rejection scale, Campbell found that the mothers of victims responded differently, agreeing more than mothers of non-victims, on three items; “child does not get along with other children”, “mother should stop breastfeeding as soon as possible”, and “it is good for a child to be separated from its mother from time to time”, and disagreed more on, “mother should overemphasize danger.”

Lewin and Bergin (2001) examined maternal mental health and attachment behaviors as risk factors for child sexual abuse in a Midwestern American sample of mothers who had children between 6 and 48 months of age who were recruited from hospital clinics. Abused children were referred for medical examination by CPS or the police. The comparison group mothers were aware that they were to represent a group of typical mothers in a study of child sexual abuse. Unfortunately, further information about how sexual abuse status was determined or defined was not found in the publication of this study. The abused and comparison groups were matched on a number of demographic variables. Twenty seven mothers of sexual abuse victims and twenty seven comparison group mothers completed instruments and participated in videotaped play sessions with their children. This study is rare in that it specifically examined attachment behaviors based on Ainsworth et al.’s (1978) dimensions of maternal behavior. The coders were trained and blind to group membership. Well validated measures of anxiety and depression were also used. Lewin and Bergin found that mothers

of non-victims scored significantly higher on all four attachment measures; acceptance, sensitivity, cooperation, and accessibility, indicating that mothers of non-victims had more optimal parental interactions with their children than mothers of victims.

Sypeck (2004) examined correlates and outcomes of child sexual abuse in a sample of Metropolitan District of Columbia area girls aged 6-16. Forty nine sexual abuse victims were referred by local CPS agencies, and fifty four comparison group girls were recruited through newspapers, agencies, and word of mouth in the same neighborhoods where the victims resided. Only girls, who had recently disclosed substantiated incidents of sexual abuse, which included genital contact by a family member were included in the sample. The comparison group members were screened for abuse, and if they or anyone in the family had experienced sexual abuse, they were not included. Sypeck's sample was 49% Caucasian, 47% African American, 4% Hispanic, and 1% Asian American. The group was economically diverse as well. Sypeck's study is unique in that she used observational data and explored mother-child interactions as correlates of sexual abuse. Data were collected in two situations where attachment behavior was elicited. First, mothers and daughters were asked to complete a challenging task together, an Etch A Sketch drawing where each individual worked only one knob. Second, daughters had blood drawn for the purposes of analyzing maturational development, in the absence of their mothers. Their reunions were subsequently observed. These two situations provided the opportunity to observe the nature of the mother child interactions including dynamics of power and control, affective interactions, girl's comfort seeking behavior, mother's responsiveness, and her ability to provide comfort to her stressed daughter. The behaviors were coded, and girls were then

classified based on their attachment style to their mother. In this sample, Sypeck found that the sexually abused girls were more likely to have an insecure attachment style than non-victims.

Mian, Marton, LeBaron and Birtwistle (2000) examined risk for sexual abuse in a sample of very young Canadian girls. Participants were recruited through a major hospital. Sexual abuse victims were referred to a specialized abuse program, while the comparison group members were seen in the emergency room, or by pediatricians in the hospital. All girls, who were seen at the hospital over a two year period, and who met the age criteria, were considered for the study. For the abuse group, only girls aged three to five who had been evaluated within six weeks of their disclosure, and whose sexual abuse allegation had been validated were considered for the study. The sexual abuse allegation had to include specific details of physical contact. Twenty-five percent of victims could not participate because their abuse was not validated, another 25% did not participate due to lack of parental consent. From an original pool of 260 girls, the final sample consisted of 70 abused and 42 non-abused girls. The researchers examined demographic risk factors as well as mothers' perception of the child as potentially being associated with sexual abuse. In comparing victims of intrafamilial abuse, victims of extrafamilial abuse and non-victims, the researchers found that mothers of intrafamilial abuse victims perceived their daughters more negatively than mothers of non-victims. Differences were found despite the fact that half of the identified victims were dropped from the study. Had those victims been kept in the study, differences between the other groups may have been found.

Bergner, Delgado, and Graybill (1994) examined risk for sexual abuse using a college student sample. In their replication of Finkelhor's (1979) study, 411 female Midwestern college students completed questionnaires. The respondents were 84.4% Caucasian, 9.2% African American, and 1.9% Hispanic women. The respondents were self selected volunteers, who, when signing up, were warned that questions would be of a sensitive nature. Later, a pre-questionnaire discussion with an investigator warned that questions could be of a sexual nature. All of the women who originally signed up agreed to complete the questionnaires, although they were informed they could withdraw and still receive participation credit. This study employed Finkelhor's Risk Factor Questionnaire (1979), and a modified version of Finkelhor's prevalence instrument (1980). The criteria to determine sexual abuse status in this study was, as in Finkelhor's study, a child 12 or under who had a sexual experience with someone five years older, or an adolescent 13 to 16 who had a sexual experience with someone at least 10 years older, and did not consent. A sexual experience, in line with Finkelhor's criteria, could include non-contact abuse such as exposure and taking nude photographs. For initial analysis, the researchers also considered the issue of force in determining sexual abuse status. If a respondent had a sexual experience in which force was used, even if the age difference did not meet Finkelhor's criteria, she was considered abused. With this extended criteria, 31.6% of the respondents were classified as sexually abused. The further analysis was only completed on the original 24.3% who were classified according to Finkelhor's criteria, in order to replicate his study. The researchers found that lack of closeness with mother was not a significant risk factor in this sample.

The researchers made efforts to ensure truthful responses by the respondents, including developing rapport before administering questionnaires, as well as outlining the importance of the research a number of times through the process. All of the respondents answered all of the questionnaires completely with the exception of some questions about parents' finances, which some respondents felt they didn't have the information to answer honestly. The means of determining sexual abuse status is objective, and the criteria are inclusive. The sample, is limited by the fact that the respondents are self-selected, and women, however, there is some racial and ethnic diversity.

Brown, Cohen, Johnson and Salzinger's (1998) longitudinal study followed randomly selected mother and child respondent pairs over 17 years. Risk factor data were obtained via interview of mothers and children when children were between 6 and 14 years of age. After the children turned 18, data on abuse status was collected from respondents, and from state records. The sample consists of 644 Upstate New York families with children who were aged 1-10 at initial contact. The sample is 52% females, 91% Caucasian, 8% African American, and includes rural, suburban, and city dwellers. Only cases of substantiated sexual abuse were recorded in state records. Respondents were asked if "any older person (not a boy/girlfriend) ever touched them or played with them sexually or forced them to touch the older person before age 18, and if so, how often" (Brown, et al., 1998, p.1068). Respondents were classified as having been sexually abused if they reported having such an experience more than twice in their life, or if their state records reflected substantiated sexual abuse. According to the researchers' self-report criteria, eighteen of the respondents had been sexually abused. Official records documented seven cases of sexual abuse. Unfortunately, it cannot be

found in the publication whether the self reported abuse cases and the documented abuse cases overlapped. Through logistic regression analysis, the researchers found no association between separation from mother, mother's dissatisfaction with the child, low maternal warmth, or low maternal involvement and the occurrence of child sexual abuse.

The researchers made efforts to accurately identify sexual abuse using multiple informants, however the criteria may have been too stringent to correctly classify all actual cases of sexual abuse. It is unclear why the decision was made to require more than two incidents of abusive sexual contact to qualify as sexual abuse. It is possible that if the sample of abused respondents was larger, or if the sexual abuse definition was more inclusive, more of the variables might have shown a significant relationship. This study is also strong in that it examined many possible risk factors, on many levels, including the child, mother, mother-child relationship, and demographic levels, as well as using both the mother and the child as data sources.

Lipovsky, Saunders and Hanson (1992) examined risk for intrafamilial child sexual abuse in a clinical sample. Families were referred to the study by various professional sources, including community mental health and a United States Navy service agency. The sample included both military and civilian families. In each family, the father was in treatment for sexually abusing one of the children. The sample was mostly Caucasian and middle class. Data were collected via questionnaire from abusers, mothers, 36 victims and 41 non-abused siblings during the treatment intake process. Abuse ranged from fondling to intercourse. This study used a number of well validated instruments in the data collection process, including the Child's Attitude toward Mother (CAM) scale. The CAM is used to detect relationship problems between child and

mother. The researchers found no difference in the CAM between victims and non-victims, however, had the sample been larger, significant differences may have been identified, as analysis indicated a trend toward significance. This sample is unique in that the victims being studied all have abusers who are acknowledging their abusive behavior and participating in treatment. The results, therefore, are not generalizable to victims who have not disclosed, and to those whose abusers do not acknowledge the abuse.

Gruber and Jones (1983) examined risk for sexual abuse in a sample of poor, rural Caucasian adolescent girls in residential treatment due to delinquent behaviors. The sample of 41 girls consisted of 20 girls who reported forced sexual experiences while living with their parents before residential placement, and 21 who reported no history of forced sexual experiences. Respondents completed interviews about family deviant behavior, family environment, family relationships, and their own behavior. Unfortunately the researchers did not report in the publication how they obtained information from the respondents on sexual abuse history, so it is not clear how sexual abuse status was elicited or determined. Gruber and Jones found no association between the occurrence of child sexual abuse and quality of relationship with mother. This finding may be due to the nature of the sample. It is possible that in a sample of high risk adolescent girls, the rate of poor relations with mother would be elevated. Further multivariate analysis was completed to address issues of multicollinearity. In stepwise discriminant analysis, a combination of variables including poor relations with mother significantly discriminated between victims and non-victims. Surprisingly, poor relations

with mother was negatively correlated with the occurrence of sexual abuse. This finding may also be due to the particular nature of the sample.

Maternal Alcohol and Drug Dependence

In their sample of Australian women, Fleming, Mullen and Bammer (1997) found that mother being alcoholic was positively correlated with the occurrence of child sexual abuse. Fromuth (1983) found that mother drinking heavily when the respondent was 12 years old was positively correlated with the occurrence of sexual abuse in her sample of female Auburn University students. In their longitudinal study of randomly sampled mother-child pairs, Brown, Cohen, Johnson and Salzinger (1998) found that maternal sociopathy; having drug, alcohol, or police involvement, was positively associated with the occurrence of sexual abuse.

Leifer, Kilbane, Jacobsen and Grossman (2004) examined risk for child sexual abuse in a sample of children, their mothers, and their grandmothers. Risk factors explored included the attachment relationships between grandmother, mother, and child. The sample consisted of 199 urban, disadvantaged, African American boys and girls aged 4 to 12 recruited through hospital clinics. The sexually abused group consisted of 99 children whose sexual abuse by a family member at least 5 years older had been substantiated. The abuse had to occur within six months of data collection, and had to include at least genital contact. The comparison group of 100 children had no history of physical or sexual abuse of the child or any sibling, no history of separation of more than six months between child and mother, no serious illness in mother or child, and the child had to be living with the biological mother. One hundred six maternal grandmothers also participated in the research. The researchers used a number of well-validated measures to

gather data, and they also explored intergenerational attachment and discontinuity issues in risk for sexual abuse for the first time. Mothers of victims were more likely to have substance abuse problems than mothers of non-victims in this sample.

Ryan, Kilmer, Cauce, Watanabe, and Hoyt (2000) examined family characteristics and their relationship with sexual abuse in a sample of 239 homeless adolescents in Seattle. The participants were aged 13 to 20, and 57% Caucasian. The adolescents reported being homeless for varying reasons including family conflict, violence, and abuse. The researchers used a number of reliable and valid measures to obtain information. Abuse history, obtained via interview, was elicited from a main query, and follow up probes. A respondent had to report being either touched sexually or raped by an adult or a person 5 years older than them, or that a sexual incident led to a CPS report in order to meet the criteria for sexual abuse. According to these criteria, 42% of respondents were considered sexually abused. The researchers found a positive correlation between maternal drug and alcohol problems and the occurrence of child sexual abuse using chi square analysis.

In their sample of very young Canadian girls, Mian et al. (1994) found that mothers of victims were more likely to abuse alcohol than mothers of non-victims.

However, in his New England college student sample, Finkelhor (1980) found that for girls, mother's drinking alcohol often was not associated with the occurrence of child sexual abuse.

Gale, Thompson, Moran, and Sack (1988) examined risk factors for sexual and physical abuse in a clinical sample of children younger than seven. A review was completed on 202 clinical records of children who were seen for outpatient services in a

Portland clinic. Thirty seven sexually abused, 35 physically abused and 130 assumed non-abused children comprised the sample. The sample consisted of all boys and girls under age 7 who were seen in a clinic during a two year period, and was mostly Caucasian and low income. The sexually abused children were either referred for clinical services because of an abuse investigation, or they disclosed sexual abuse in the course of treatment. Sexual abuse experiences ranged from exposure to penetration, by both adolescent and adult perpetrators. Demographic, family structure and behavioral data were collected in the review. The researchers found no difference across groups in mother's history of drug abuse.

Maternal Mental Health

In Mullen et al.'s (1993) sample of New Zealand women, logistic regression analysis showed that maternal mental health problems increased risk for child sexual abuse. In their sample of Australian women, Fleming, Mullen, and Bammer (1997) found that the mother having poor mental health was positively correlated with the occurrence of child sexual abuse. Further multiple regression analysis determined that having a mother that was mentally ill remained a significant factor controlling for other demographic and behavioral variables. These studies all relied on respondents' assessments of their mothers' mental health.

Fromuth (1983) found that the items "mother was often tense, nervous, and worried", and "mother had emotional problems" when the respondent was 12 years old were positively correlated with the occurrence of sexual abuse in her Auburn University sample of women. In her sample of North Carolina mothers, Campbell (1994) found through discriminant function analysis a number of variables could distinguish mothers

of victims from mothers of non-victims. These included mother's coping, where mothers of non-victims had better ratings than mothers of victims.

In multivariate analysis of their Midwestern American clinic sample, Lewin and Bergin (2001) found that the abused and comparison group differed on both state and trait anxiety, and depression, with mothers of victims reporting worse functioning. The researchers note that while elevated maternal state anxiety and depression might be expected after a child's disclosure of sexual abuse, trait anxiety is a long term stable measure of anxiety, indicating that mothers of victims likely had higher levels of anxiety than mothers of non victims prior to abuse disclosure.

Paradise, Rose, Sleeper, and Nathanson (1994) examined correlates of child sexual abuse in a sample of children aged 4-12 who were seen at hospitals in two major Northeastern American cities. Children were eligible for the study if they were seen at a hospital within 8 weeks of their disclosure, and if their parents could be interviewed within 8 weeks of the hospital contact. The comparison group was selected from medical services in the same hospitals. These parents were informed not to participate if they had any suspicion that their child had been sexually abused. Children were considered sexually abused if they had been touched in a sexual manner by an adult, if they had been touched by another child in a sexual way that was unwanted, or if they had a sexually transmitted disease (STD). Including the last group, children who may not have disclosed, but had physical evidence of sexual abuse, makes the results of this study more generalizable.

As was discussed earlier, most victims of sexual abuse do not disclose in childhood (Finkelhor, et al., 1990; Fromuth, 1983; Russell, 1983; Smith, et al., 2000).

Being aware of the limitations of using CPS findings as a determination of abuse status, the researchers chose not to use that in their criteria. They did, however, rate cases of sexual abuse as definite, probable, possible, or uncertain, based on the legal, physical and disclosure information available to them. Uncertain cases were kept only if police or CPS handled them as legitimate cases of abuse. Parents of 154 sexual abuse victims and 53 comparison group children were interviewed and completed questionnaires. Almost 30% of victim parents refused to participate in the study. Participants were mostly African American, some Caucasian, and few were recorded as either Hispanic or other. Most of the children came from low income families. Using chi square analysis, the researchers determined that the seriousness of mother's psychiatric symptoms was positively correlated with the occurrence of child sexual abuse.

In Pianta, et al.'s (1989) sample of high risk mothers, mothers of sexual abuse victims scored as more tense, angry, depressed, and confused than those of non-victims. No difference was found between groups on vigor, fatigue, or anxiety.

In their disadvantaged, urban, African American sample, Leifer et al. (2004) found that mothers of victims were more likely to report trauma related symptoms than mothers of non-victims, while no difference was found between groups in their report of emotional problems.

Muram, Rosenthal, and Beck (1994) examined personality profiles in mothers of victims and mothers of non-victims in Tennessee. Sixty five mothers of victims of documented sexual abuse referred by CPS and sixty five comparison group mothers whose children attended a clinic completed personality and interest questionnaires. The brief publication on the study gives no further detail on the nature of the sexual abuse.

Mothers all had daughters between the ages of two and ten. In multiple regression analysis, the researchers found that mothers of victims were less impulsive than mothers of non-victims, and no different from mothers of non-victims in their proneness to anxiety under stress.

Walsh, MacMillan and Jamieson (2002) examined risk factors for child sexual abuse in a random sample of 9,953 Ontario residents over age 15. Participants completed in person interviews, however, child abuse history was gathered via a paper and pencil questionnaire. Questions about unwanted sexual experiences ranging from exposure to “sexual attack” experienced in childhood elicited information about abuse. The respondents were 55% female. Twelve percent of the women and four percent of the men in this sample reported experiences of sexual abuse. Using logistic regression analysis, the researchers found no significant difference in risk for abuse based on mother having a psychiatric disorder.

Gale, Thompson, Moran, and Sack (1988) found no difference in their Portland clinic sample of young children in mother’s history of psychiatric hospitalization.

Maternal Social Support

Compared to the control group, mothers of sexually abused children in Pianta et al.’s (1989) sample of high risk women reported less emotional support at all five waves of data collection.

In her sample of North Carolina mothers, Campbell (1994) found through discriminant function analysis a number of variables could distinguish mothers of victims from mothers of non-victims, including mother’s emotional needs met, quantity of social

supports, and satisfaction with social support. Mothers of non-victims had higher ratings on each of these variables.

Leifer et al. (2004) found in their urban African American sample that mothers of victims reported having fewer supports than mothers of non-victims; however the groups did not differ based on type and amount of support received. Mothers of victims were also less likely to report having positive relationships with their own mothers.

Bifulco, Moran, Ball, Jacobs, Baines, Bunn, and Cagavin (2002) examined the intergenerational transmission of depressive disorders and psychosocial adversity in a disadvantaged London sample of mother-child pairs. A random sample of working class mothers with children aged 16-25 was recruited for this sample, through medical practitioners. A second demographically matched sample was then collected, and women, who exhibited at least one vulnerability factor, were selected for comparison with the initial random sample. Psychological vulnerability was based on poor self esteem, relationship conflict, and lack of support. Mothers completed interviews, and a year later, sons and daughters were then located and interviewed. Fifty-six percent of the women's children completed interviews, including questions about the nature of sexual experiences. Sexual abuse was dichotomized into two categories: severe abuse and no abuse. Largely only those who had serious, ongoing sexual contact with a known adult or relative were placed into the sexually abused category. In logistic regression analysis, no difference was found in occurrence of sexual abuse between children of vulnerable mothers and children of comparison mothers. If any differences between sexually abused and non-sexually abused children in this sample actually existed, the method of assigning the children to sexual abuse status groups likely removed the ability to detect

these differences. This study does have the strength that the sample includes men; however, its lack of ability to distinguish between victims of sexual abuse and non-victims makes the results of little use in this review.

Maternal Education

Of the eight studies found that examined maternal education and risk for sexual abuse, half had significant findings of mothers of victims being less educated than mothers of non victims. In his New England college student sample, Finkelhor (1980) found for girls, mother's not completing high school was positively associated with the occurrence of child sexual abuse. In Fergusson, et al.'s (1996) New Zealand longitudinal study, maternal education was found to have a significant negative correlation with occurrence and seriousness of sexual abuse. In their Midwestern American clinic sample, Lewin and Bergin (2001) found that maternal education was negatively correlated with the occurrence of child sexual abuse. In their sample of very young Canadian girls, Mian et al. (1994) found that mothers of victims were less educated than mothers of non-victims.

Bergner et al. (1994) found that mother not completing high school was not a significant risk factor for sexual abuse in their female college student sample. Landis (1956) found no difference in maternal education in his sample of 1950's female college students. Leifer et al. (2004) found that mothers of non-abused children were more likely to have a high school diploma than mothers of sexual abuse victims, using chi square analysis. In multivariate analysis, maternal education was not a significant predictor of child sexual abuse. The difference in educational attainment of the mothers in Paradise et al.'s (1994) Northeastern American sample was not statistically significant.

Maternal Age

Of the three studies that examined maternal age and risk for child sexual abuse, two found a relationship. Brown, Cohen, Johnson, and Salzinger's (1998) longitudinal study of randomly sampled mother-child pairs found a positive association between maternal youth and occurrence of sexual abuse. In their study of very young Canadian girls, Mian et al. (1994) found that mothers of victims were younger than mothers of non-victims. Maternal age was not a significant variable in Paveza's (1998) study of father-daughter sexual abuse.

Child's Gender

Finkelhor, Hotaling, Lewis and Smith's (1990) study is a rare study, one that explored gender differences and risk for child sexual abuse. Theirs was a random sample of American adults in all 50 states, those with listed and non-listed telephone numbers. Telephone interviews were completed with 2,626 respondents. Sexual abuse status was determined by responses to four broad questions about unwanted sexual behaviors experienced at age 18 or younger, which ranged from exposure to penetration. A respondent who answered yes to any question was considered to have been sexually abused. In their sample 27% of women and 16% of men were sexually abused. The researchers explored gender differences and risk factors using chi square analysis. For both males and females, separation from a natural parent for a major part of their childhood was positively associated with risk for child sexual abuse. For females, risk was increased in any family situation except living with natural mother and father. Importantly, the risk of sexual abuse for females increased when a stepfather entered the home, but not for boys. For males, risk was seriously increased in only two situations;

living alone with mother, or living with two non-natural parents. This study is strong in that the sample is diverse, random, and large, and the method of identifying sexual abuse is comprehensive.

Summary and conclusions

Many studies have examined children's relationships with mothers, and other variables relevant to maternal sensitivity as risk factors for child sexual abuse. Few of the studies are explicitly theoretically driven. Sample sizes vary, but the sexually abused samples tend to be small. About half of the studies have used either random or college samples, the remainder tend to be sampled from clinical or high risk groups. Definition of sexual abuse and the accurate identification of sexual abuse victims are issues in the literature. Only about 10% of the studies used multiple informants to identify abuse victims. Slightly more than half used multivariate analysis.

Most studies have used self report data, either respondents' recollections of their mothers or their relationship with their mother, or mothers' parenting attitudes and feelings toward their children, to assess the mother-child relationship. A few have used objective data collected from the observation of mothers interacting with their children. Most of the studies reviewed have significant findings. Largely the research appears to indicate that mothers who have closer, more positive relationships with their children are less likely to have children who are sexually abused. There are a few exceptions to this, however, and one study that found that daughters who reported poorer relationships with their mothers were less likely to have been sexually abused (Gruber & Jones, 1983). Each study has its limitations and strengths. Overall, the studies that use random samples, have larger sample sizes and reasonable criteria for sexual abuse status tend to

find a negative relationship between maternal sensitivity and the occurrence of child sexual abuse.

Studies that examine mothers' alcohol and drug abuse predominantly indicate that maternal substance abuse is a risk factor for child sexual abuse. In the area of maternal mental health, researchers have examined maternal anxiety, depression, coping, psychiatric symptoms and psychiatric hospitalization as risk factors. This area appears to be less conclusive, but a majority of the studies do indicate a correlation between maternal mental health and child sexual abuse. Most of the studies that examine maternal social support find that quality and quantity of social support have a negative correlation with child sexual abuse.

The research on maternal education is inconclusive; half of the studies indicate a negative correlation between maternal education and sexual abuse, and half report no relationship. Few studies have examined maternal age and risk for sexual abuse, but two of the three found did find that mothers of victims were younger than mothers of non-victims.

Most studies of risk for sexual abuse either include only females in their sample, or study both genders but do not explore gender differences in risk. Approximately half of the studies in this review used samples that contained males; however, only one of the studies actually presented findings about risk factors for sexual abuse specific to boys.

The present study

In an effort to expand upon the existing knowledge base on child sexual abuse, this theoretically driven study explores a number of variables within the context of attachment in order to explore the dynamics of risk. It is an attempt to better understand the

importance of the mother-child relationship in child sexual abuse. With the goal of informing clinical practice, the majority of the variables under examination are malleable to treatment. To improve upon the generalizeability of previous studies, a nationally representative sample of children known to CPS is used. In order to maximize the ability to detect group differences, sexually abused children were oversampled for this dataset. To improve upon the ability to identify sexual abuse victims, multiple sources are used to indicate sexual abuse status. This study is one of only a few that uses both self report and observational data as indicators of maternal sensitivity. Efforts were made to explore risk in a developmentally and gender sensitive way, so that we may better understand how maternal factors effect risk for boys as well as girls, and at different ages. Children aged 6-9.11 are included in the sample, as items from the HOME Inventory Middle Childhood version will be used as indicators of maternal sensitivity. The HOME Inventory was administered with children 0-9.11, however there are three different versions that vary in terms of the items and the subscales. The Middle Childhood version was chosen for two reasons; first, because the age group overlaps with the known highest risk age range for girls to be sexually abused. Second, selecting the oldest group increases the possibility of having more sexual abuse victims identified in the sample.

Due to the nature of the sample, the study is not a comparison between sexually abused children and non abused children. The entire sample of children in this study has experienced some type of maltreatment, including neglect, physical abuse, psychological maltreatment, and sexual abuse. Therefore, comparisons are between maltreated children who have been sexually abused, and maltreated children who have not been sexually abused. The sample is likely to contain more children who have either been sexually

abused within the family, or have not been optimally protected by the family, as evidenced by CPS being involved. However, this study does not attempt to exclude children who have been sexually abused outside the family. The purpose is to examine children who have experienced sexual abuse regardless of whom the perpetrator was.

The hypotheses were:

Low maternal sensitivity will be positively associated with the occurrence of child sexual abuse.

Low maternal social support will be positively associated with the occurrence of child sexual abuse.

Poor maternal mental health will be positively associated with the occurrence of child sexual abuse.

Maternal alcohol dependence will be positively associated with the occurrence of child sexual abuse.

Maternal drug dependence will be positively associated with the occurrence of child sexual abuse.

Low maternal social support, poor mental health, alcohol and drug dependence will be negatively associated with maternal sensitivity.

Indicators of maternal sensitivity will be positively associated with one another.

Structural equation modeling and factor analysis were used to determine if the maternal factors reflect the theoretical and conceptual model in the study population. Path analysis was used to investigate the predictive hypotheses.

Chapter Three

Design

The present study is a secondary analysis of the National Survey of Child and Adolescent Wellbeing (NSCAW), Restricted Release Data, consisting of a between subjects, correlational, survey research design.

Participants in NSCAW

The NSCAW is the first nationally representative survey of children ages 0-14 involved with Child Protective Services (CPS) in the United States. The NSCAW researchers used a two stage stratified sampling design. The first stage in sampling was selecting Primary Sampling Units (PSU). PSU's were stratified based on region, state and urbanicity. In general, a PSU is a CPS agency that covers one county. After the stratified agencies were randomly sampled, cases were stratified and sampled. Infants, children receiving ongoing CPS services, children in out of home placement, and sexually abused children were oversampled in order to ensure adequate sample size for analysis. Families that were the subject of completed investigations between October, 1999 and December, 2000 made up the sampling frame. Only one child per family was chosen for the study. Cases were randomly sampled until enough cases in each strata were identified (NSCAW Research Group, 2002).

With the exception of one issue, the NSCAW sample is generalizeable to all children age 0-14 who were the subject of a CPS investigation. In some states, IRB rules and state law required that the CPS agency obtain family consent before the NSCAW researchers could contact the family. This was an issue in 14 of the original 110 agencies

recruited. After time consuming and costly attempts to obtain consent were unsuccessful, it was determined that the costs outweighed the benefits of including those states, so they were then excluded from the sample and replaced. Therefore, the data are actually only generalizable to children who live in states that do not require active consent for researchers to contact subjects (Biemer & Christ, 2005; NSCAW Research Group, 2002). Although the NSCAW is a longitudinal survey, and data have been collected at five points in time, only Wave 1 data are used in this study, as reports from the NDACAN have indicated that due to the methods used to identify the need for caseworker interviews in subsequent waves, as well as the failure of caseworker interviews to obtain information about re-reports accurately, subsequent allegations and reports of child abuse are underreported in the dataset (National Data Archive on Child Abuse and Neglect, 2007). There are 5501 children ages 0-14 in the CPS sample.

Subjects

The present study examines only those boys and girls aged 6 years to 9 years 11 months, as items from the HOME Inventory-Short Form Middle Childhood version will be used as indicators of maternal sensitivity. Additionally, only children whose caregiver is the biological mother are included as this study's focus is specifically on the child and mother. Thus, the total n for the study is 779.

Procedure

NSCAW researchers made efforts to educate CPS agencies nationwide about the project, well in advance of agency sampling. After agencies were sampled, recruitment

team members worked closely with agencies in order to facilitate agreements to participate in the project. In the end, only a few counties did not participate, and they were replaced by similar counties.

Interviews of respondents were completed by field representatives (FRs), who came from diverse career paths; some were experienced teachers, social workers, and others who had experience working with children. Others were experienced interviewers, who had demonstrated success in obtaining cooperation from research participants. All FRs completed an extensive 12 day training, including video and in person demonstrations on administering assessments and on using the technology employed in the data collection. Before completing their first interviews, FRs completed practice assessments and were retrained if their scores were not satisfactory. Computer-Aided Recording Interviewing (CARI) technology, where interviews could be (unknown to the interviewer or research participant) audio recorded for later review was also used in the data collection, in order to evaluate FR performance. In data collection, participants were asked to consent to the use of CARI, and could still participate in the research even if they refused CARI. Field Representatives were also trained, monitored, and supervised on gaining cooperation from potential participants.

Field representatives contacted caseworkers soon after each case was sampled. Initial telephone contact was made with the goal of engaging the caseworker (CW). The FR discussed the importance of the research, the flexibility the FR had in scheduling, and the short duration of the interview. After the telephone contact, the FR sent a letter to the CW confirming their appointment and a brochure about the research. Reminder calls were made the day before the appointments to confirm. Caseworkers were interviewed

as soon as possible after the investigations were completed. The initial goal was to have interviews completed within 10 days of the close of the investigation. In many cases the interviews were conducted between 12 and 16 weeks after. Much of the delay had to do with rescheduling interviews to accommodate the unpredictable and demanding workloads of the CWs.

Fifteen to thirty minute interviews of caseworkers were completed in the agency offices, using Computer-Assisted Person Interview (CAPI) technology. With CAPI, the FR follows the computer program in questioning the respondent, and then enters responses into the computer. CAPI technology ensures that interviews are standardized, and that the data are recorded. Caseworkers were asked to have the case records with them for the interview. The goals of the interview were to gather detailed data on the investigation and the CWs assessment of risk.

Mothers were contacted via mail and telephone by FRs to inform them about the research project, and to obtain their consent and were provided with \$50 in exchange for their participation. Spanish speaking FRs were used when needed. In home interviews of mothers were completed with CAPI technology. Goals of the interview with mother included gathering information on: the child's health and mental health, the family, their experiences with CPS, and services received. Questions of a more sensitive nature were addressed with the use of Audio-Computer Assisted Self-Interviewing (A-CASI) technology. With A-CASI, respondents wear headphones and listen to pre-recorded questions, then enter their responses into a laptop computer (NSCAW Research Group, 2002). Respondents control the volume level of the headphones, and complete a number of practice questions with the support of the FR if needed in order to acquaint them with

the technology. A-CASI is used to minimize the effects of social desirability bias, where people respond to items based on their social desirability, rather than truthfully (Podsakoff, MacKenzie, Lee & Podsakoff, 2003). Interviews were conducted approximately 90 days after the investigations began, and lasted between 70 and 150 minutes.

In preparing the data for distribution, the NSCAW researchers made efforts to clean the data. These efforts include recoding to identify the reason for missingness including: refused, not administered, and inadvertent skip. In addition, the researchers also created a number of derived and recoded variables. Derived variables were created to synthesize information across interviews, to ensure that vital variables were not left with missing values, and to make some key information more easily accessible to researchers. Examples include creating a variable Child's Age in Years, based on the child's age in months and days, and Child's Gender, ensuring no missing values by synthesizing responses from the child, the caregiver, and the caseworker. In order to minimize missing values in the current study, derived variables were used when possible.

Measures

Maternal sensitivity. The Home Observation for Measurement of the Environment (HOME) Inventory is a structured assessment with both observational and self report items used to evaluate the quality of cognitive stimulation and emotional support provided to a child in the home environment. Administration of the inventory is structured, with scoring of most items being binary (yes/no). Being partly an

observational instrument, a challenge of using the HOME is that many items cannot be completed if the mother is not observed interacting with the child.

The HOME has been developed and adapted to specifically examine the environment of children in different age groups, children with disabilities, and children in child care settings (Caldwell & Bradley, 2003). The HOME Inventory has been used domestically, and internationally, both clinically and as a research tool. Scores from the HOME have been found to correlate with cognitive, social, and physical outcomes, in European American, Hispanic and African American families (Elardo & Bradley, 1981; Sugland, Zaslow, Smith, Brooks-Gunn, Coates, Blumenthal, Moore, Griffin & Bradley, 1995). Correlations of .2 to .6 have been found between the HOME and maternal education and socioeconomic status (Elardo & Bradley, 1981). Average interrater reliability of the HOME across studies is 89.6% (Elardo & Bradley, 1981). Test retest reliability (6 months to 24 months) is .62 (Caldwell and Bradley, 1979). The HOME has a number of factor analytically derived subscales. The subscales in the Middle Childhood version are; responsiveness, encouragement of maturity, emotional climate, learning materials and opportunities, enrichment, family companionship, family integration, and physical environment.

The HOME-Short Form (SF) was adapted for use in the National Longitudinal Study of Youth (NLSY), and has been administered biannually in that project since 1986 (Ferron, Ng'Andu & Garrett, 1994). Bettye Caldwell and Robert Bradley worked with NLSY researchers to shorten the HOME using data from published and unpublished research on the instrument (Baker, Keck, Mott & Quinlan, 1993). The HOME-SF, which contains both interview and observational items, has been used extensively in published

research on children (Mott, 2004). NLSY researchers derived subscales for the HOME-SF using factor analysis. The emotional support and cognitive stimulation subscales are frequently used in published research (Mott, 2004). The cognitive stimulation subscale includes items about the physical environment and stimulating experiences of the child. The emotional support subscale includes items about the manner and frequency in which the mother and father interact with the child. In NLSY, Cronbach's alpha for emotional support was .61, cognitive stimulation was .67 (Baker, et al., 1993). In NSCAW, Cronbach's alpha on both subscales was .48 (Dowd, et al., 2004). Using the HOME-SF to examine maternal responsiveness, Cooley and Unger (1991) use the HOME-SF emotional support subscale, after removing items pertaining to partner support and father involvement. The alpha reliability coefficient of their maternal responsiveness subscale was .59.

Items from Middle Childhood (6-9.11 years) version of the HOME-SF, the emotional support subscale minus the items on partner support and father involvement were used as indicators of maternal sensitivity. The set of items, which examine discipline, the encouragement of personal responsibility, and responsiveness is attached as Appendix A. The study variables are Encourage, Answer, Converse, Positive, Introduce, Self Care, Pick Up, Tolerate, No Spank, and Get Together. Variables were coded 0 and 1, with a value of 1 being the better value in terms of sensitivity.

Maternal social support. Number of social supports and level of satisfaction with social support were elicited via an adaptation of the Social Support Questionnaire 3 (SSQ3) Saranson, Levine, Basham & Saranson, 1983) and the Duke-UNC Functional Social

Support Questionnaire (FSSQ) (Broadhead, Gehlbach, de Gruy & Kaplan, 1988). The social support module developed by NSCAW researchers is attached as Appendix B.

The FSSQ lists support in five areas; confidant support, affective support, instrumental support, visits, and praise, and asks respondents to rate on a Likert scale, their satisfaction with how much of that type of support they receive. Test-retest reliability (2 week) for the FSSQ is .66. Significant correlations were found in a study comparing FSSQ items to the Duke-UNC Health Profile (DUHP) Social Function subscale and the Rand Health Insurance Experiment (RAIE) Social Contacts, Social Activities, and Group Participation subscales, well validated measures of social functioning (Broadhead, et al., 1988).

The social support module developed by NSCAW researchers does not include any items from the SSQ3, but it uses the SSQ3 format of asking respondents about satisfaction with social support received, and the number of people providing social support. SSQ3 developers have found that both satisfaction with social support and number of social supports correlate negatively with depression and anxiety, while only the number of supports correlates with extraversion. They note that number of supports and satisfaction with social support are only moderately correlated (0.30 to 0.40) so they may be important constructs to examine separately (Saranson, Saranson, Shearin & Pierce, 1987).

Based on responses to the social support module, NSCAW created a variable Mean Social Support Satisfaction Score. If the value for this variable was 1 (very dissatisfied) or 2 (dissatisfied), Low Maternal Social Support Satisfaction was coded as 1, others (3=satisfied, 4= very satisfied) were coded as 0. NSCAW researchers also created a variable Mean Number of People Providing Social Support, with values in the dataset

ranging from 0 to 64, with almost 72% of respondents having a value of 2 or more (an average of 2 or more people providing social support across types of support). If the variable Mean Number of People Providing Social Support had a value of 0 or 1, Low Number of Maternal Social Supports was coded as 1, others were coded as 0.

Maternal mental health. Biological mothers completed the Short Form Health Survey-12 (SF-12) Mental Components Summary (MCS) measure standard recall (4 week) version, a brief assessment of mothers' overall mental health, which is attached as Appendix C. The SF-12 mental components summary consists of items representing four concepts; vitality (energy level), social functioning, role limitations due to emotional problems, and mental health (psychological distress and well being). The MCS has been found to distinguish the presence and severity of mental health problems, comparing groups with known mental health diagnoses including depression, and those with no diagnosis (Johnson & Coons, 1998; Ware, Kosinski & Keller, 1996). Relative validity estimates from .60 to 1.07 have been found (Ware, Kosinski & Keller, 1998). Test-retest (2 week) reliability of the MCS is .76 (Ware, et al., 1996). In NSCAW, internal consistency of the MCS is $\alpha=.79$ (Dowd, et al., 2004). Scores were computed in accordance with the SF-12 scoring system, using norms from the general U.S. population in 1998. The standardized mental health score (mean=50, SD=10), computed by NSCAW researchers, will be the source for this variable. Researchers have found that a cutoff score of less than or equal to 45 yielded good results in discriminating between those with diagnosable anxiety, depression, and other common mental disorders and those without clinical diagnoses (Gill, Butterworth, Rodgers & Mackinnon, 2007). The variable poor maternal mental

health was coded as 1 if the standardized score was 45 or below; it was coded as 0 if the standardized score was 46 or higher.

Maternal alcohol dependence. Mothers completed the Composite International Diagnostic Interview- Short Form (CIDI-SF), alcohol scale via ACASI. The CIDI-SF alcohol scale is the same as the full length CIDI alcohol scale. The World Health Organization developed the CIDI-SF alcohol scale as a quick screening tool. The alcohol scale was not shortened in the development of the CIDI-SF, as it was already a brief assessment, however, the CIDI-SF asks specifically about alcohol use in the past 12 months, rather than over a lifetime. The reliability and validity of the CIDI have been examined extensively (Kessler, 1998; Wittchen, 1994). The CIDI alcohol scale appears to be an accurate tool in determining alcohol dependence when compared to clinical DSM-III-R diagnosis (Janca, 1992). In a meta analysis of test-retest reliability (1-3 days), the alcohol scale had a kappa of .78 (Wittchen, 1994). An item by item study of interrater reliability found an average kappa of .76 on the alcohol scale (Cottler, Robins & Helzer, 1989). The CIDI-SF alcohol scale is attached as Appendix D. Based on the summed responses, NSCAW created a derived variable Alcohol Dependence. If the NSCAW derived variable Alcohol Dependence was yes, the variable Maternal Alcohol Dependence was coded as 1, if not the variable was coded as 0.

Maternal drug dependence. Mothers completed the Composite International Diagnostic Interview- Short Form (CIDI-SF), drug scale via ACASI. The CIDI-SF drug scale is the same as the full length CIDI drug scale. The World Health Organization developed the

CIDI-SF drug scale as a quick screening tool. The drug scale was not shortened in the development of the CIDI-SF, as it was already a brief assessment, however, the CIDI-SF asks specifically about drug use in the past 12 months, rather than over a lifetime. The CIDI drug scale appears to be an accurate tool in determining drug dependence when compared to clinical DSM-III-R diagnosis (Janca, 1992). In a meta analysis of test-retest reliability (1-3 days), the drug scale had a kappa of .73 (Wittchen, 1994). An item by item study of interrater reliability found an average kappa of .82 on the drug scale (Cottler, Robins & Helzer, 1989) The CIDI-SF drug scale is attached as Appendix E. Based on the summed responses, NSCAW created a derived variable Drug Dependence. If the NSCAW derived variable Drug Dependence was yes, the variable maternal drug dependence was coded as 1, if not the variable was coded as 0.

Mother's educational level. Maternal education categories are no high school diploma, high school diploma, and higher education, based on maternal self report. No high school diploma was coded as 1, high school diploma as 2, and higher education as 3.

Employment Status. Not employed coded as 1, part time coded as 2, and full time coded as 3, based on mother's report.

Income. Total annual family income, based on mother's report.

Partner Status. Based on marital status, a derived variable, and cohabitation status, by mother's report. Dummy variables (0/1, no/yes) were created for Married, Cohabiting, and Neither.

Maternal age. Based on mother's report.

Child's age in years. The data came from Child's Age in Years, a variable derived from mother and caseworker response.

Gender. The data came from Child's Gender, a variable derived from mother and casework report. A dummy variable, Female was created (female=1, male =0).

Child's Race/Ethnicity. Dummy variables were created based on a derived variable with four categories, Black/Non-Hispanic, White/Non-Hispanic, Hispanic, and Other.

Sexual abuse status. This variable was based on mother and caseworker responses, as young children were not asked about sexual abuse experiences. Mothers were asked via A-CASI about their children having experienced unwanted sexual touching or forced sex by an adult or older child, inside or outside of the family, in the past 12 months or ever. NSCAW researchers created a derived variable based on responses to this set of questions, which is attached as Appendix F. If the mother answered affirmatively to any question, the derived variable Sexual Maltreatment Ever was coded as yes. Caseworkers were asked from a list of maltreatment types, what types of maltreatment were in the

initial CPS report. To clarify possible definitional issues, caseworkers were informed that the category sexual maltreatment would include sexual assault as well as sexual abuse by a sibling. If either the mother or the caseworker reported sexual maltreatment, the child is considered sexually abused. Cases were coded 0 for not sexually abused or 1 for sexually abused.

Statistical Method

Exploratory and confirmatory factor analyses were conducted to assess how the HOME Inventory items performed together and to develop a set of items to represent the maternal sensitivity construct. Structural regression modeling was used to assess the path model and test the predictive hypotheses. Multiple group structural regression modeling was used to compare the model in boys and girls.

Protection of participants

The NSCAW researchers formed their own Human Subjects Workgroup, comprised of experienced researchers, Institutional Review Board (IRB) members, a pediatrician, and the research project director, to oversee their human subjects protection issues. This group was also monitored by other NSCAW workgroups. Some of their efforts to ensure the protection of subjects include; response patterns indicating ongoing abuse were transmitted with the data, examined by researchers at the main research office, and reported to the authorities when needed, FRs were trained on child abuse reporting laws in their state, and FRs were trained in managing indications of suicidality. Written consent was obtained from legal guardians. Children over 7 were asked for

assent to participate after the legal guardian had consented (NSCAW Research Group, 2002). The present project was approved by the IRB at the Office of Research and Sponsored programs at Rutgers, The State University of New Jersey.

Chapter Four

Data management and preparation were completed using Stata version 10. As discussed in chapter 3, in order to minimize missing values, derived and recoded variables were used when possible. The distributions of all variables were checked for normality along with patterns of missingness. Missing values were only a relatively large problem on four of the five HOME Inventory observational items, due to 118 cases of the child not having been observed with the mother (15%). One observational item ‘positive’ could be completed without seeing the mother and child together, because it the items asks about the mother’s tone when she speaks about the child, not to the child. Missingness on sexual abuse status (n=49, 6%) and missing values on other variables were treated as missing at random because a close examination of cases with missing values did not reveal any relation to other study variables. The percentage of missing values on all other variables was low (between 0-9%). Pairwise deletion was used in bivariate analysis.

The distribution of income was positively skewed, with few cases in the higher income brackets. Income above \$30,000 was collapsed into one category and the distribution was then normal. The distribution of mother’s age was also positively skewed, with few cases in the higher age categories. Mother’s age above 35 was collapsed into one category and the distribution was then normal. In order to use all information available, cases were excluded from analyses only when necessary.

Table 1 is a frequency distribution of the study variables for the entire study sample (n=779) and the population (N= 524,242) that the results are generalizeable to.

Both unweighted and weighted frequencies are presented. Unweighted frequencies describe the study sample and weighted frequencies describe the population.

Table 1. Frequency distribution of study variables (n=779, N=524,242)

Variable*	n	%	Weighted %
Child's age			
6	205	26	25
7	200	26	27
8	201	26	26
9	173	22	22
Child's gender			
Female	404	52	54
Male	375	48	46
Child's race			
Black/Non-Hispanic	216	28	26
White/Non-Hispanic	357	46	43
Hispanic	143	18	21
Other	63	8	10
Age			
< 26	109	14	11
26-35	482	62	61
36 +	188	24	28
Employment status			
Not employed	340	45	43
Part time	121	16	17
Full time	294	39	40
Annual family income			
(\$0 - \$9,999)	206	28	27
(\$10,000 - \$19,999)	261	35	40
(\$20,000 - \$29,000)	128	17	13
(\$30,000 +)	152	20	20
Partner status			
Married	244	35	37
Cohabiting	113	16	13
Neither	348	49	50
Education			
No high school diploma	235	30	30
High school diploma	457	59	61
Higher education	87	11	9

n may not add up to 779, due to missing values. % may not add up to 100 due to rounding. *Maternal variables unless noted otherwise.

Table 1. (Continued) Frequency distribution of study variables (n=779, N=524,242)

Variable*	n	%	Weighted %
Social support number Range 0-36 \bar{x} 2.66, SD 2.66 μ 2.67, SE .14, 95%CI (2.39-2.95)	N/A	N/A	N/A
Low social support number			
Yes	232	30	31
No	542	70	69
Low social support satisfaction			
Yes	38	5	4
No	725	95	96
Standardized mental health Range 13-67, \bar{x} 47.06, SD 11.57 μ 48.72, SE .72, 95%CI (47.28-50.16)	N/A	N/A	N/A
Poor mental health			
Yes	273	38	32
No	452	62	68
Mother report sexual abuse			
Yes	122	16	8
No	639	82	90
Missing	18	2	2
Worker report sexual abuse			
Yes	135	17	11
No	592	76	84
Missing	52	7	5
Child sexually abused			
Yes	194	25	15
No	536	69	79
Missing	49	6	6
Alcohol dependent			
Yes	16	2	2
No	751	98	98
Drug dependent			
Yes	29	4	2
No	736	96	98

n may not add up to 779, due to missing values. % may not add up to 100 due to rounding. *Maternal variables unless noted otherwise.

For the final analysis, cases with missing values for sexual abuse status (n=49); where either both reports sources were missing, or one report source indicated no sexual abuse, and the other was missing, were dropped. Table 2 is a frequency distribution of gender and sexual abuse status, for the sample excluding cases that had sexual abuse status missing (n= 730). Using weighted percentages for generalizing to the population, the results indicate that 20% of girls, and 13% of boys are sexually abused.

Table 2. Frequency distribution of gender and sexual abuse status

gender	Not sexually abused	Sexually abused	Total
Female			
n	235	118	353
%	(67%)	(33%)	
weighted %	(80%)	(20%)	
Male			
n	301	76	377
%	(80%)	(20%)	
weighted %	(87%)	(13%)	
Total			
n	536	194	730
%	(73%)	(26%)	100%
weighted %	(83%)	(17%)	

The Cramer's V coefficient is used as a measure of association for nominal and categorical variables. Cramer's V can range from 0 to 1. A Cramer's V value of 0 indicates complete independence between variables, and a value of 1 indicates total dependence. The sexual abuse variables, as reported by caseworker and mother, were examined and their association computed. The Cramer's V coefficient was .43.

According to Rea and Parker's (1992) standards, that represents a relatively strong association. A composite variable Sexual Abuse Status was created to integrate the two variables. If either the mother or the caseworker reported sexual abuse, Sexual Abuse Status was coded as 1 (N=194), if neither reported sexual abuse, it was coded 0 (N=536). Mother and caseworker agreed that the child was sexually abused in 8% of the cases, and agreed the child had not been sexually abused in 69% of cases. Workers were more likely to report that children were sexually abused than were mothers. See table 3, a frequency distribution of sexual abuse status by report source for the entire sample, for detail on agreement and missing values.

Table 3. Frequency distribution of sexual abuse status by report source

Mother report	Worker report			Total
	No	Yes	Missing	
No	536	<u>65</u>	38	639
Yes	<u>48</u>	<u>63</u>	<u>11</u>	122
Missing	8	<u>7</u>	3	18
Total	592	135	52	779

Underlined cases are those that are coded as abused for the present study.

Table 4 is a frequency distribution of study variables and sexual abuse status. Necessarily, cases with missing sexual abuse status were excluded. Drug dependence, alcohol dependence, and low social support satisfaction were infrequently found in this sample.

Table 4. Frequency distribution of study variables and sexual abuse status (n=730, N=493,623)

Variable*	Not weighted		Weighted	
	% of sexually abused	% of not sexually abused	% of sexually abused	% of not sexually abused
Child's age				
6	25	26	26	24
7	25	26	24	28
8	26	27	22	27
9	24	21	28	21
Child's gender				
Female	39	44	58	45
Male	61	56	42	55
Child's race				
Black/Non-Hispanic	28	26	28	25
White/Non-Hispanic	47	46	46	41
Hispanic	16	20	13	24
Other	8	8	12	10
Age				
< 25	15	13	13	11
26-35	65	61	59	61
36 +	20	26	28	28
Employment status				
Not employed	45	45	46	45
Part time	16	16	23	16
Full time	39	39	31	39
Annual family income				
(\$0 - \$9,999)	27	27	25	29
(\$10,000 - \$19,999)	33	36	44	40
(\$20,000 - \$29,000)	18	17	13	12
(\$30,000 +)	22	19	18	19
Partner status				
Married	37	34	47	35
Cohabiting	18	15	20	12
Neither	45	51	33	53
Education				
No high school diploma	32	29	54	27
High school diploma	56	60	33	66
Higher education	12	11	13	7

% may not add up to 100 due to rounding. *Maternal variables unless noted otherwise.

Table 4. (Continued) Frequency distribution of study variables and sexual abuse status (n=730, N=493,623)

Variable*	Not weighted		Weighted	
	% of sexually abused	% of not sexually abused	% of sexually abused	% of not sexually abused
Low social support number				
Yes	29	30	20	34
No	71	70	80	66
Low social support satisfaction				
Yes	4	5	1	5
No	96	95	99	95
Poor mental health				
Yes	38	38	21	34
No	62	62	79	66
Alcohol dependent				
Yes	2	2	1	2
No	98	98	99	98
Drug Dependent				
Yes	6	3	3	2
No	94	97	97	98

% may not add up to 100 due to rounding. *Maternal variables unless noted otherwise.

Table 5 presents the weighted correlations between HOME Inventory items. The observational items each had high, significant intercorrelations, while there were a few significant correlations between the remaining items. Table 6 presents the weighted correlations between the predictor variables.

Table 5. Weighted intercorrelations for HOME Inventory Items

Item	1	2	3	4	5	6	7	8	9	10
1. Encourage	--									
2. Answer	.23	--								
3. Converse	.36	.30	--							
4. Positive	.29	.21	.28	--						
5. Introduce	.25	.13	.17	.18	--					
6. Self-care	-.03	.06	.00	.05	-.01	--				
7. Pick up	-.04	.13	.02	.12	-.03	.49	--			
8. Tolerate	-.02	.02	.13	.02	-.06	.03	.01	--		
9. No spank	-.04	-.03	.11	.08	.05	.06	.15	.24	--	
10. Get together	.02	.04	.00	.06	.01	-.08	.07	.01	.04	--

Note. Bold coefficients are significant at $p < .05$. Pairwise deletion was used.

Table 6. Weighted intercorrelations for predictor variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. Support satisfaction	--																	
2. Low support	.09	--																
3. Poor mental health	-.03	.12	--															
4. Alcohol dependent	-.03	-.07	.16	--														
5. Drug dependent	-.01	-.07	.18	.52	--													
6. Child age	.02	-.10	-.01	.09	.06	--												
7. Child female	-.15	-.05	.08	-.05	.00	-.05	--											
8. Education	-.02	-.10	-.03	.00	-.04	-.02	-.03	--										
9. Employment	-.09	-.17	-.06	-.10	-.11	-.02	-.02	.28	--									
10. Income	-.07	-.21	-.14	-.13	-.10	.03	.03	.20	.38	--								
11. Age	-.02	.20	-.01	-.14	-.14	.19	.10	.12	.01	.08	--							
12. Black	-.07	.02	.16	.17	.10	.10	-.03	-.03	.08	-.09	-.11	--						
13. White	.01	-.16	-.13	-.08	-.07	-.09	.03	.08	.07	.14	-.05	n/a	--					
14. Hispanic	-.08	.12	.08	-.05	.00	-.10	.09	-.03	.05	-.05	.10	n/a	n/a	--				
15. Other	.20	.06	-.12	-.04	-.04	.14	-.13	-.04	.15	-.03	.10	n/a	n/a	n/a	--			
16. Married	-.09	-.08	-.04	-.08	-.02	-.10	.08	-.10	-.04	.34	.00	-.24	.14	-.02	.13	--		
17. Cohabiting	.14	.06	-.10	.01	-.03	.01	-.05	-.01	-.01	.01	.00	-.03	.10	-.15	.08	n/a	--	
18. Neither	-.01	.03	.11	.07	.04	.09	-.04	.11	.05	-.34	.00	.25	-.21	.12	-.18	n/a	n/a	--

Note. Bold coefficients are significant at $p < .05$. Maternal variables unless otherwise noted. Pairwise deletion was used.

Because cases were sampled within agencies, and caseworkers work within these agencies, reports of sexual abuse status are nested within the agencies. It is possible that the agency a case originates from might influence whether or not a case was reported as sexually abused. If a clustering effect appeared it might warrant the use of multilevel modeling. Muthen (1994) recommends examining intraclass correlation (ICC) in order to determine if multilevel analysis is necessary. ICC of zero indicates no correlation within agencies, and 1 indicates all responses within the agencies are the same. An ICC close to zero indicates that multilevel modeling is not necessary. The unweighted ICC of sexual abuse status within agencies was 0.02, and the weighted ICC was 0.00. The extremely low ICC value is likely due to the fact that cases are dispersed within 94 agencies, and range only from 1 to 44 cases in each agency. Given this information, multilevel modeling was determined to be unnecessary.

Figure 1. Structural model of sexual abuse status

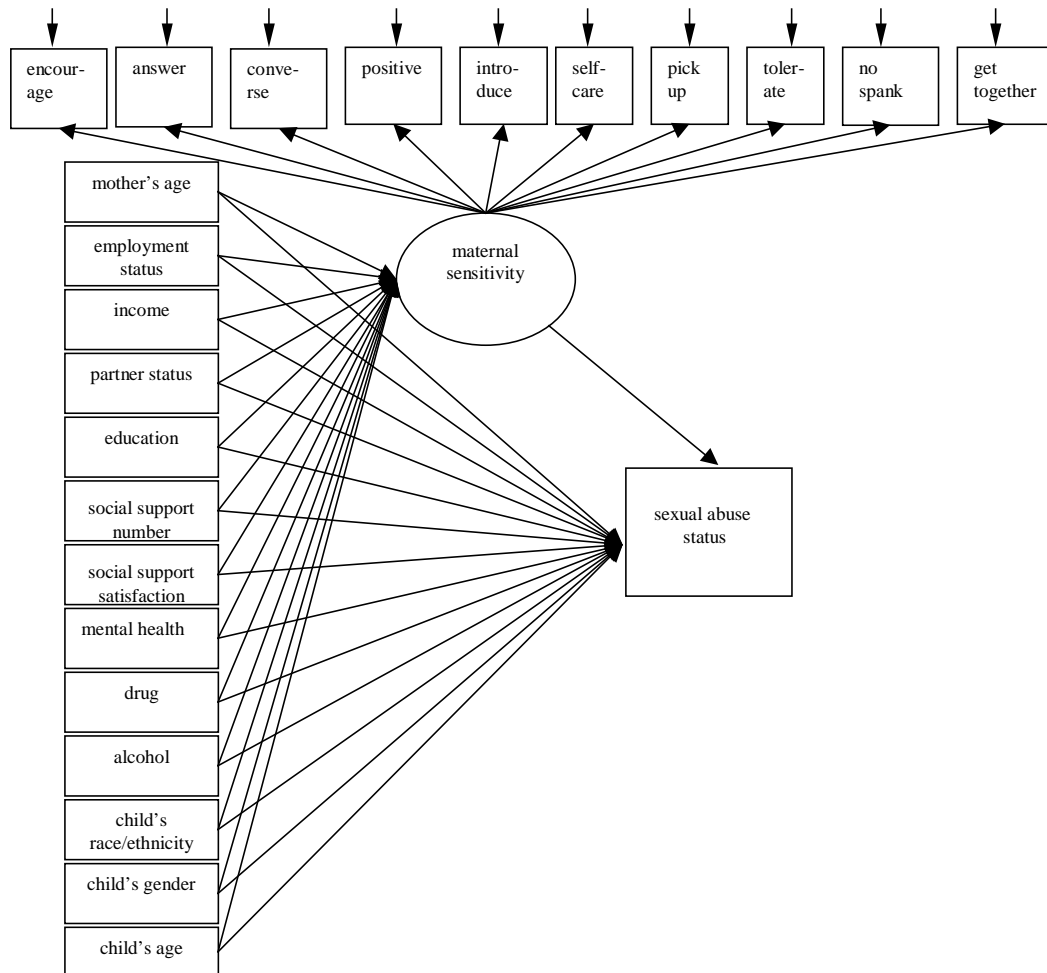


Figure 1 shows the structural model for this project. In structural equation modeling (SEM), rectangles are used to indicate observed variables, and ovals are used to represent latent constructs. Paths are indicated by arrows. Analysis was conducted using Mplus version 5 with a robust weighted least squares estimator. The use of sampling weights in all subsequent analysis was necessary to ensure generalizability to the population due to the stratified sampling methods used in data collection (Biemer & Christ, 2005). SEM takes into account measurement error in latent variables, and allows

for the examination of an entire model of equations simultaneously. It evaluates how well the indicator items explain the variance in latent variables, and whether the theory driven model is contraindicated by the data. There are a number of fit indices to examine in determining the appropriateness of the proposed model for the data. Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), p -value, and Root-Mean-Square Error of Approximation (RMSEA) were used in the present study. A CFI of close to 1 indicates that the model fits the data very well (Raykov & Marcoulides, 2006). According to Kenny, A TLI “value between .90 and .95 is acceptable, and above .95 is good” (Kenny, 2009, p.1). A non-significant Chi-square p -value indicates that the proposed model does not differ significantly from the data. Consequently, a significant p -value might indicate poor model fit. However, Muthen & Muthen note that Chi-square p -value is a test of exact fit, and therefore is sensitive to large sample sizes, and recommend that multiple fit indices be examined to assess model fit (2008). An RMSEA of less than .05 indicates a reasonable model (Raykov & Marcoulides, 2006).

First, factor analysis was conducted to evaluate the validity of the maternal sensitivity construct in this dataset, as measured by the 10 HOME-SF indicators Encourage, Answer, Converse, Positive, Introduce, Self Care, Pick Up, Tolerate, No Spank, and Get Together. Exploratory factor analysis (EFA) indicated a poor model fit for a one factor model. Model fit measures were good for a two factor model, with Encourage, Answer, Converse, Positive and Introduce loading on one factor, which was labeled Sensitivity, and Self Care, Pick Up, Tolerate, No Spank, and Get Together on the other, which was labeled Discipline. A two factor confirmatory analysis (CFA) was then conducted. Table 7 presents the model fit indices for the factor analyses. A standardized

factor loading indicates the correlation between the item and the factor. Based on the results on the two factor CFA, with some low and non significant loadings on the Discipline factor and with the items on the Sensitivity factor being more in line with attachment theory in terms of maternal responsiveness and sensitivity, a one factor CFA on the Sensitivity factor was conducted. Better model fit indices resulted. For the sake of parsimony, and in keeping with what attachment theory would predict, the one factor five item model for the sensitivity construct was kept. This five item factor contains the observational items on the HOME-SF which assess the mother's positivity about, and verbal responsiveness toward the child. All of the self report items were dropped. Table 8 provides a summary of items and standardized factor loadings for the two factor CFA.

Table 7. Goodness of fit indices for HOME-SF study selected items

Model (n)	df	χ^2	<i>p</i> -value	CFI	TLI	RMSEA
1 factor EFA, 10 items (727)	35	132.09	<.01	.74	.66	.06
2 factor EFA, 10 items (727)	26	33.27	.15	.98	.97	.02
2 factor CFA, 10 items (727)	16	19.57	.24	.97	.97	.02
1 factor, 5 items (709)	4	1.11	.89	1	1.06	.00

CFI = comparative fit index; TLI = Tucker-Lewis Index; RMSEA = root-mean-square error of approximation.

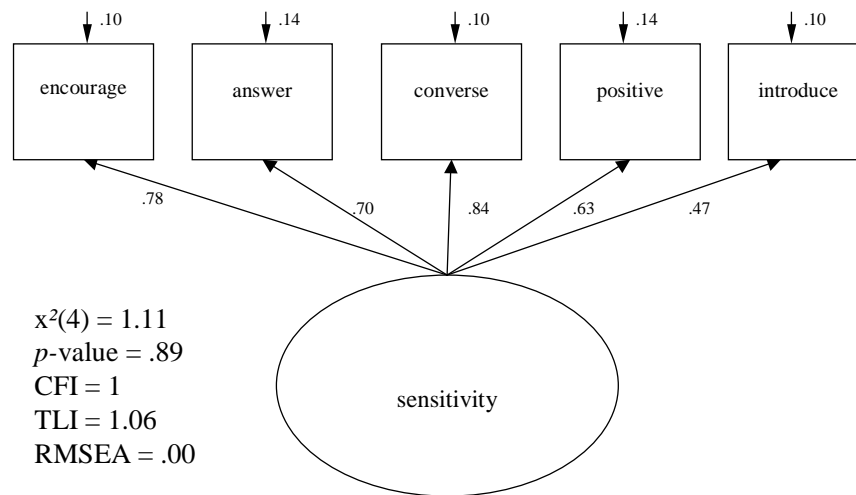
Table 8. Summary of items and standardized factor loadings for selected HOME-SF items 2 factor CFA (n=727)

Item	Factor Loading	<i>p</i> -value
<u>Factor 1: Sensitivity</u> (all observational items)		
Encouraged child to contribute to the conversation	.74	<.01
Answered child's questions or requests verbally	.72	<.01
Conversed with child	.85	<.01
Voice conveyed positive feeling about child	.65	<.01
Introduced interviewer to child by name	.46	<.01
<u>Factor 2: Discipline</u> (all self-report items)		
Make bed, clean room, clean up after spills, bathe (sum= self care)	.73	<.01
Pick up after [him/her] self	1.16	<.01
Not spanking an angry child (tolerate)	.24	n.s.
No more than 1 spanking this week	.41	n.s.
Get together with relatives or friends regularly	.03	n.s.

Boldface indicates study variable name. Correlation between F1 and F2 .11, n.s.

Figure 2 presents the final model for the Sensitivity construct (n=709). Factor loadings indicate that maternal sensitivity, as measured by the five indicator variables, is a valid construct.

Figure 2. Final model for Sensitivity construct with significant ($p < .05$) standardized factor loadings and their standard errors (n=709)



Due to the complications of conducting multiple imputation with this dataset, listwise deletion of cases with missing values on other variables was used in subsequent analysis, resulting in a final sample of 665, a loss of 15% from the original sample (Raghaven, Aarons, Roesch & Leslie, 2008).

The structural model was tested. Demographic variables with dummy values contributed to poor model fit due to small cell sizes, so Child's Race/Ethnicity and Partner Status were examined in Stata to determine if they were significantly related to sexual abuse status. All of these variables were not significant, so they were dropped from the final model. Figure 3 presents the trimmed model that remained. A number of regression equations were examined simultaneously in the SEM. Sexual abuse status was regressed on maternal sensitivity, as measured by the HOME indicators, and on the predictor variables. Maternal sensitivity was regressed on the predictor variables. Total, direct and indirect effects were examined. Good model fit indices were obtained,

indicating that the proposed model fit the data. Figure 4 presents the SEM with significant path coefficients for the combined sample of males and females.

Figure 3. Trimmed structural model of sexual abuse status

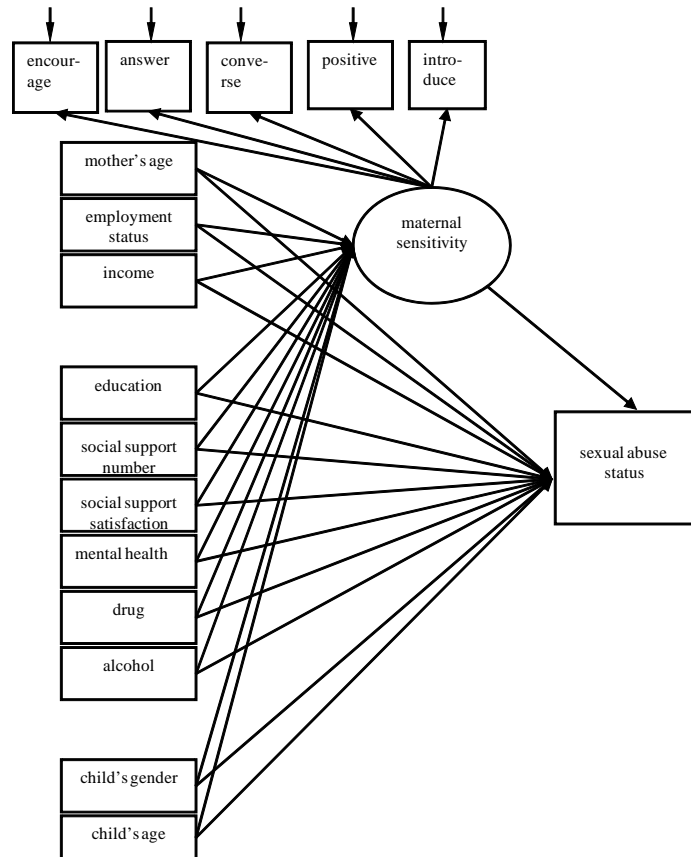
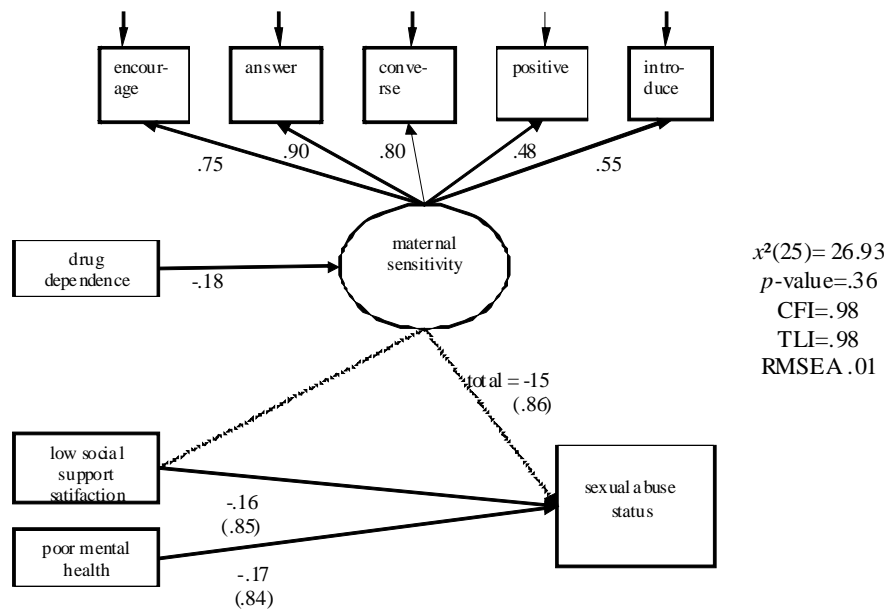


Figure 4. Significant ($p < .05$) path coefficients in the combined genders structural equation model with Odds Ratio predicting sexual abuse status in parentheses ($n=665$)



Factor loadings on the sensitivity construct all remained high, and significant. R-square values for the maternal sensitivity indicators Encourage, Answer, Converse, Positive and Introduce were .56, .82, .63, .23, and .31 respectively. Overall R square for the latent construct Maternal Sensitivity was .09. Drug dependence was the only predictor with a significant effect on maternal sensitivity. The negative path indicates that drug dependent mothers exhibited lower sensitivity toward their children. Poor mental health had a significant negative effect on sexual abuse status, indicating that mothers with poor mental health were actually less likely to have a sexually abused child. Similarly, low social support satisfaction had a negative effect on sexual abuse status, indicating that mothers with low levels of satisfaction about their social support were less likely to have a sexually abused child. Both the total and direct effects of low social

support satisfaction on sexual abuse status were significant, indicating that maternal sensitivity may be a partially mediating variable. However, the indirect effect was not significant on its own, and the total (-.15) and direct paths (-.16) were almost identical. The mediation effect of maternal sensitivity was very small, indicating that there are likely multiple pathways in which social support influences sexual abuse status (Baron and Kenny, 1986).

Path coefficients predicting abuse status were converted into Odds Ratio (OR) for ease of interpretation. The OR for the path from low social support satisfaction to sexual abuse status was .85; for each unit change in social support, the likelihood of the child having been sexually abused increases .85. For cases that crossed the threshold from adequate social support satisfaction to low social support satisfaction, the odds of the child being sexually abused was .85. What this means is that mothers who reported low satisfaction with their social support were 15% less likely to have children who were sexually abused. Conversely, mothers who did not report low social support satisfaction were 115% more likely to have children who were sexually abused. Similarly, the OR from poor mental health to sexual abuse status was .84; for each unit change in mental health, the likelihood of the child having been sexually abused increases .84. For cases that crossed the threshold from not drug dependent to drug dependent, the odds of the child being sexually abused was .84. This means that drug dependent mothers were 16% less likely to have children that were sexually abused. Conversely, mothers who were not drug dependent were 116% more likely to have children who were sexually abused.

Next, gender was removed from the predictor variables and a two group model was examined in order to determine if there were differences in the model between boys

and girls. For the two group model, the chi-square value of 52.95 (31) had a p -value of .01, however, the other fit indices indicated good model fit; CFI and TLI both 1, and RMSEA .05.

Figure 5. Significant ($p < .05$) path coefficients in the structural equation model for males with Odds Ratio predicting sexual abuse status in parentheses (n=343)

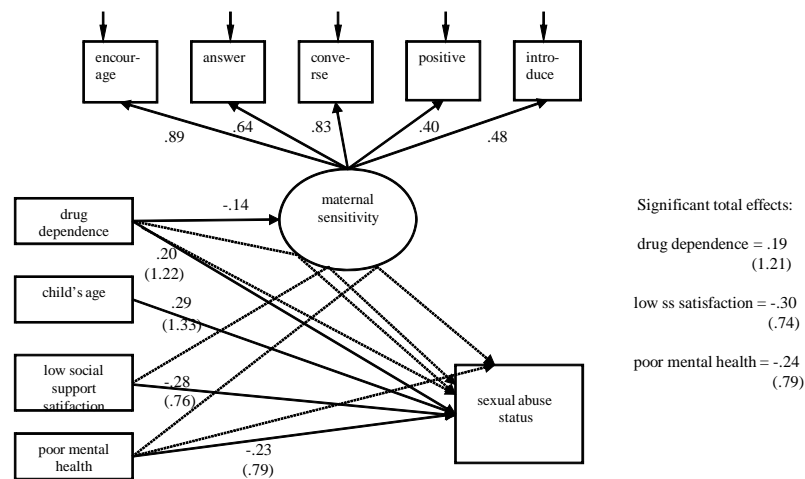


Figure 5 presents the SEM with significant regression effects for males (n=343). Factor loadings all remained high and significant. Overall R-square for the maternal sensitivity construct for males was .17. The measurement model appears to be valid for boys. Drug dependence continued to have a negative association with sexual abuse status, indicating that mothers of boys who were drug dependent scored lower on the sensitivity construct. Child's age and maternal drug dependence both had positive associations with sexual abuse status, indicating that older children and children whose mothers were drug dependent were more likely to have been sexually abused. Both the direct and the total effects of drug dependence on sexual abuse status were significant, indicating that maternal sensitivity may be a partially mediating variable. However, the

difference in path coefficients was only .01 indicating that maternal sensitivity had a very small influence on the total effect. Poor maternal mental health and low satisfaction with social support were negatively associated with sexual abuse status, indicating that, as in the total sample, mothers who reported low social support satisfaction and mothers who reported poor mental health were less likely to have children who had been sexually abused. Both the direct and the total effects of low social support satisfaction and poor mental health were significant, indicating that maternal sensitivity may also be a partially mediating variable for these as well, however, the changes in path coefficients were very small, indicating that maternal sensitivity had only a very small effect, and the direct effect of maternal sensitivity on sexual abuse status itself was not significant.

Figure 6. Significant ($p < .05$) path coefficients in the structural equation model for females with Odds Ratio predicting sexual abuse status in parentheses ($n=322$)

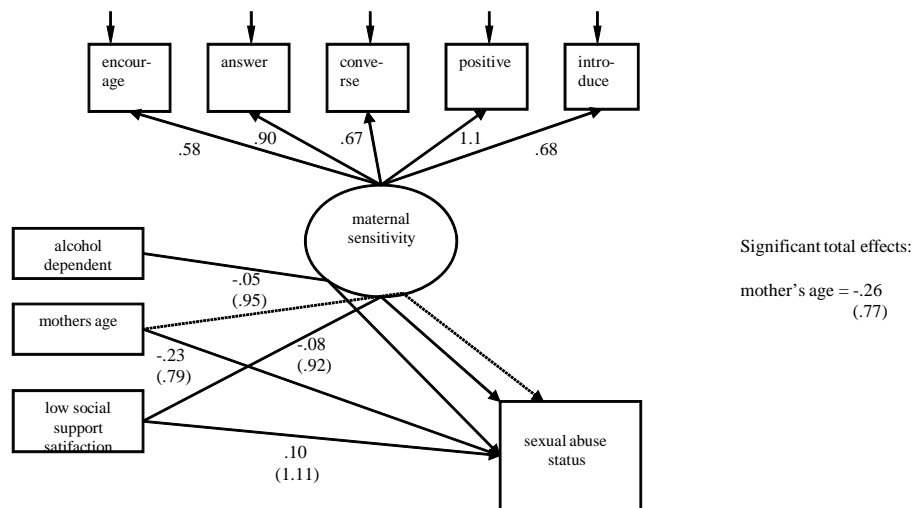


Figure 6 presents the SEM with significant regression effects for the girls in the sample ($n=322$). Factor loadings all remained high and significant, indicating that the measurement model is also valid for girls. The variable positive had a factor loading of 1.1. This Heywood Case (Brown, 2006) may have been caused by the small sample size, skewness in the variable distribution (98% yes, 2% no) and by the fact that the other four indicators had relatively higher amounts of missingness, contributing to an over-correlation with the latent construct. Overall R square for the maternal sensitivity construct for females was .25. None of the predictor variables were significantly associated with maternal sensitivity. Mother's age was negatively associated with sexual abuse status, indicating that older mothers were less likely to have daughters who were sexually abused. Here again the direct and the total effects were significant, indicating that maternal sensitivity may be a partially mediating variable. Here the difference between path coefficients was .03, which is still quite small. Contrary to the combined sample finding, and in contrast to the model in males, low satisfaction with social support was positively associated with sexual abuse status, indicating that mothers who reported low satisfaction with their social supports were more likely to have daughters who were sexually abused. However, when the path including maternal sensitivity was taken into account, the indirect effect of low social support satisfaction had a negative effect on sexual abuse status. Unlike the combined gender sample, and the sample of males, in the sample of females, maternal alcohol dependence was a significant predictor in the model for females. Contrary to what was hypothesized, alcohol dependence had a negative indirect association with sexual abuse status, indicating that mothers who were alcohol dependent were less likely to have daughters who had been sexually abused. Here no

direct relationship had been found; only the indirect path was significant, indicating that the relationship between alcohol dependence and sexual abuse status was fully mediated by maternal sensitivity. While the total effect between social support and sexual abuse status was not significant in the model for females, both the direct and the indirect paths were significant. Interestingly, the direct effect of low social support satisfaction was positive, indicating that mothers who reported low satisfaction with social support were more likely to have daughters that had been sexually abused. However, the indirect effect was negative, indicating that when taking the effect of maternal sensitivity into account, mothers who reported low satisfaction with social support were less likely to have daughters that had been sexually abused. When the effects were combined, the total effect was not significant.

Chapter Five

The present study examined risk for sexual abuse within the context of attachment, exploring the contribution of maternal variables to child's risk of sexual abuse. Maternal factors such as low satisfaction with and low number of social supports, drug dependence, alcohol dependence and poor mental health were hypothesized to have a negative association with maternal sensitivity and a positive association with sexual abuse status. Maternal sensitivity was hypothesized to have a negative association with sexual abuse status. Many of the hypothesized relationships were not found to be significant in this model, and some of those that were significant had associations that were opposite what was hypothesized. Two major issues impact the results of this study, and likely each of the proposed hypotheses. The first issue is low power to identify significant relationships, due to small effect sizes and sample size. There are likely numerous factors which contribute to risk for child sexual abuse, most of which are outside of the mother-child relationship. The hypothesized contribution of attachment, and maternal sensitivity would be expected to have an important, and significant, but low effect size on risk. Cohen suggests a sample size of 757 would provide adequate power to detect significant differences in a study with 8 independent variables (1992). With eleven independent variables, small effect size, and a sample size of 665, the probability of not finding actual relationships, Type II error, is high in the present study. Therefore, non significant findings do not prove that the hypothesized relationship does not exist; unfortunately it is likely that the current study did not have the power to detect the differences. Second, and equally important is the nature of the comparison group. A clinical sample was used for this project. All of the children in the sample had

experienced some type of maltreatment. The study compared maltreated children who were sexually abused to maltreated children who were not sexually abused. The children in the comparison group children had experienced maltreatment ranging from lack of supervision to physical maltreatment, and therefore, cannot be considered a pure non-maltreated comparison group. The difference between the comparisons and the cases is that the comparison children did not experience sexual abuse. Had the study been purely a comparison between sexually abused children and non-maltreated children, the results would likely be different.

Additionally, the sample only included children who were living with their biological mothers at the time of data collection. This may also have increased the possibility of Type II error because some cases were excluded. Specifically, it is possible that mothers of some sexually abused children were much less sensitive to their children, and therefore child protective services may have removed the children from their mothers' care, thereby leaving the sample to only include the most sensitive mothers of sexually abused children.

As was discussed earlier, in any study of sexual abuse there is always the risk of mis-labeling sexually abused cases as non-sexually abused. When adults are respondents about children's abuse status, they may not know about actual abuse that has occurred. The possibility that cases in this study may have been coded as non-sexually abused when they in fact had been sexually abused also increases the possibility of Type II error. Another possible source of failure to report sexual abuse status correctly is the fact that some adults may not believe that abuse has occurred even if it has been disclosed to them. This could be due to the adult's own beliefs and/or experiences

around sexual abuse. The present study made efforts to address this potential problem by using multiple informants to determine sexual abuse status.

Hypotheses

Hypothesis: Maternal sensitivity will be negatively associated with the occurrence of child sexual abuse. Finding: Maternal sensitivity was not directly associated with sexual abuse status in the present study. A possible reason for this finding is the nature of the sample. It is possible that children who have experienced other types of maltreatment, including neglect, psychological maltreatment, and physical maltreatment, but not sexual abuse, also experienced less than optimal maternal sensitivity. For example, mothers who neglect their children are almost by definition not being sensitive to their children's needs. And, mothers who either psychologically maltreat or physically abuse their children, or allow maltreatment of their children, may not be optimally sensitive to their children's needs. Maternal sensitivity did appear to have a small mediating effect on the relationship between social support satisfaction and sexual abuse status in the combined sample of males and females. In the samples of males, maternal sensitivity also had a small mediating effect on poor mental health, drug dependence and low satisfaction with social support and their relationships with sexual abuse status. Additionally, in the sample of females, maternal sensitivity totally mediated the relationship between low social support satisfaction and sexual abuse status. These findings are promising in that they indicate that sensitivity may be an important construct for further examination in the area of sexual abuse risk.

Many of the studies that have examined the relationship with mother, maternal behaviors, or closeness with mother as a risk factor for sexual abuse have used retrospective adult self report measures to assess relationship with mother (i.e. Fleming, et al., 1997; Mullen, et al., 1993; Peters, 1984). A few used objective observational measures of maternal behaviors such as Pianta et al. (1989) and Sypeck (2004). Of the 17 previous studies that examined a hypothesized relationship between sexual abuse status and maternal sensitivity, or closeness with mother, most had significant findings. The majority found that mothers who have closer, more positive relationships with their children are less likely to have children who are sexually abused. Similar to the present study, Pianta, et al. (1989) used observational items from the HOME Inventory, and found that children whose mothers were more responsive and more involved were less likely to have been sexually abused. One exception is a study similar to the present one in terms of the sample. In Gruber and Jones' (1983) sample of high risk adolescent girls in residential treatment, sexually abused girls actually reported better relationships with their mothers than girls who had not been sexually abused. As in the present study, this counterintuitive finding may be a result of the comparison group; high risk girls in residential treatment who have not experienced sexual abuse. Altogether, the literature continues to point to the importance of the mother-child relationship and closeness with mother in decreasing risk for sexual abuse.

Hypothesis: Low maternal social support will be positively associated with the occurrence of child sexual abuse. Findings: Number of social supports did not have a significant association with sexual abuse status in any model. Satisfaction with social support actually had a significant negative direct and a slightly smaller significant

negative total effect on sexual abuse status in the combined sample of males and females, and a direct and total negative effect in the sample of males. Maternal sensitivity appeared to serve as a partial mediator of the relationship between low social support satisfaction and sexual abuse in males, increasing the path slightly. In females, low satisfaction with social support had mixed effects, the direct effect was significant, and positive, and the indirect effect was significant, and negative. Taken together, the total effect was not significant. These results indicate that mothers of sexually abused children combined, and mothers of sexually abused boys actually reported more satisfaction with their social support than did mothers of non-sexually abused children. This is opposite of what was hypothesized. The issue of the comparison group may also be a reason for this finding. Mothers who have otherwise maltreated their children may be less satisfied with their social support than mothers of sexual abuse victims. A second possibility is that mothers in the comparison group, who are involved with child protective services (CPS) for reasons such as neglect or physical abuse may feel less supported because they may be seen as the perpetrators of the abuse or neglect. In contrast, where sexual abuse is less frequently perpetrated by the mother, mothers may perceive or actually receive more support from others, including family, friends, and even CPS workers, as they may be considered a secondary victim of the sexual abuse. The results in the model for females indicates that if maternal sensitivity is not taken into account, mothers who reported low satisfaction with social supports were more likely to have daughters who had been sexually abused. However, if sensitivity is taken into account, no relationship between satisfaction with social support and sexual abuse status is found in females.

The three previous studies that examined maternal social support in sexually abused and non-sexually abused samples each found a significant relationship. Pianta et al. (1989) found mothers of sexual abuse victims reported less emotional support, Leifer et al. (2004) found that mothers of victims reported fewer supports, and Campbell (1994) found that mothers of sexual abuse victims scored lower on emotional needs met, and both quantity of social support and satisfaction with social support. The importance of maternal social support in risk for sexual abuse continues to be indicated by the literature.

Hypothesis: Poor maternal mental health will be positively associated with the occurrence of child sexual abuse. Finding: Contrary to what had been hypothesized, poor maternal mental health was found to have a significant negative association with sexual abuse status, both in the combined sample, and in the sample of males. No relationship was found in the sample of females. The discussion directly above is possibly also relevant here, specific to the experiences of the mother of the sexually abused child. In comparison to mothers of physically abused and/or neglected children, mothers of sexually abused children may in fact have better mental health as measured by the Short Form Health Survey-12 (SF-12) Mental Components Summary (MCS), which as was discussed previously, has been found to distinguish the presence and severity of mental health problems.

Eleven studies were found in the existing literature that examined maternal mental health and sexual abuse risk (Campbell, 1994; Fleming et al., 1997; Fromuth, 1983; Gale et al., 1988; Leifer et al., 2004; Lewin and Bergin, 2001; Mullen et al. 1993; Muram et al., 1994; Paradise et al., 1994; Pianta et al., 1989; Walsh et al., 2002). Six of the studies found a significant relationship between poor maternal mental health and child sexual

abuse status (Campbell, 1994; Fleming et al., 1997; Fromuth, 1983; Lewin and Bergin, 2001; Mullen et al. 1993; Paradise et al., 1994). Three studies found mixed results, with differences found on some symptoms and not on others (Leifer et al., 2004; Muram et al., 1994; Pianta et al., 1989). While the literature is far from conclusive in this area, it appears that maternal mental health is an area that should continue to be explored.

Hypotheses: Maternal alcohol dependence will be positively associated with the occurrence of child sexual abuse. Maternal drug dependence will be positively associated with the occurrence of child sexual abuse. Findings: Neither alcohol dependence nor drug dependence had a significant association with sexual abuse status in the combined sample. However, in the sample of males, drug dependence did have a significant direct and total effect on sexual abuse status. In females, alcohol dependence had a significant indirect negative effect on sexual abuse status, which is opposite what had been hypothesized. Seven studies were identified in the literature that specifically examined maternal alcohol and/ or drug use and abuse and risk for sexual abuse. Five of the seven found that maternal substance use or abuse was associated with increased risk for child sexual abuse, together with the results of this study, it the literature appears to indicate that this is a promising area for further examination.

Hypotheses: Low maternal social support, poor mental health, alcohol and drug dependence will be negatively associated with maternal sensitivity. Findings: Only maternal drug dependence was found to have a significant negative association with maternal sensitivity, both in the combined sample, and in the sample of males. This indicates that mothers who were drug dependent were less sensitive toward their son as measured by the five HOME inventory items. This finding certainly makes sense

intuitively, and in terms of attachment theory. However, this hypothesis did not hold true for females. This significant finding is important and relevant to those interested in maternal sensitivity and attachment. As maternal sensitivity is believed to be an important component of a healthy attachment, this finding underscores the importance of comprehensive assessment and intervention for drug dependence in mothers targeted for attachment related intervention, and it may be particularly important for mothers of boys. The non-significant findings for social support, mental health and alcohol dependence certainly should not be interpreted as these factors are not important and do not influence maternal sensitivity. A significant relationship could not be found in this sample but that does not mean a relationship does not exist. Future research in the field of attachment should continue to explore factors that may influence sensitivity in order inform clinical practice.

Hypothesis: Indicators of maternal sensitivity will be positively associated with one another. Findings: The five observational HOME items used for the sensitivity construct were positively associated with one another, and had reliability estimates ranging from .23 to .82. Together the indicator variables accounted for 9-25% of the variation in the latent construct Maternal Sensitivity. The five items which did not appear to fit in the sensitivity construct were all of the mother self-report items, and addressed mostly disciplinary and encouragement of child's independence with household tasks. The remaining five items have high face validity; it makes intuitive sense that they measure maternal sensitivity, assessing the mother's positivity about, and responsiveness toward the child. The measurement model also appeared to perform well when the model was examined separately for males and females. The HOME Inventory

is used widely research and practice, these results further bolster the validity of these items of the HOME Inventory Middle Childhood Version used as indicators of maternal sensitivity.

Objective: Explore the effect of demographic variables in the model. Findings: No significant associations were found between any of the demographic variables and sexual abuse status in the combined sample. For females, though, mother's age was negatively associated with sexually abused statuses, indicating that older mothers were less likely to have daughters who were sexually abused. For males, child's age was positively associated with sexual abuse status, indicating that older boys were more likely to have been sexually abused. Mother's marital/partner status, and race/ ethnicity were dropped from the final model, but in prior analysis did not show a relationship.

Objective: Determine how well this model predicts the likelihood of a child being sexually abused. Findings: The significant relationships that were identified in this model were few, and small. The hypothesized model does not appear perform well in predicting sexual abuse in the combined sample.

Objective: Compare differences in the model between boys and girls. Finding: Gender differences in the model were found and may be promising in terms of contributing to a better understanding of gender differences and risk for sexual abuse. Maternal drug dependence may be a particularly important risk factor for boys. For girls, maternal youth may be an important risk factor.

Limitations

The study has a number of limitations, two of the major ones have been introduced already, the nature of the comparison group, and low power to detect

differences. Future research should explore maternal variables, including maternal sensitivity, with a true non maltreated comparison group. Of course, a larger sample size would also be preferable. The generalizeability of the results is also limited by the nature of the sample. Only children whose maltreatment was discovered, reported, and investigated had an opportunity to enter the sample. This has implications not only for the sexual abuse group, but also the comparison group. The results of this study are only generalizeable to those children aged 6-9 who live with their biological mothers and are involved with child protective services. This is important, as children whose maltreatment has not yet been discovered, reported, or investigated may differ greatly from children who are involved with CPS. Additionally, children who do not live with their mothers may have important differences.

The fact that the maternal variables used in this study were all self-report also is an important limitation to discuss. Mothers involved with CPS, and/ or mothers of sexual abuse victims may be less likely to report actual symptoms or behaviors. This may have influenced the findings as well.

Ideally, this study would have been longitudinal, to explore the trajectory of children whose mothers were less sensitive, and examine if over time they were more likely to have been sexually abused. However, due to the problems with subsequent reports of abuse in the dataset discussed previously, longitudinal analysis with abuse status as an outcome is not possible. This issue is also relevant to the significant paths that were identified, while it is hypothesized that social support influences sexual abuse status, it may in fact be true that sexual abuse status, or disclosure, is what influences

social support. Certainly in this cross sectional study no causal implications can be made. Future studies seeking to determine causality would need to be longitudinal.

The contribution of race/ethnicity and mother's marital status to the model were not examined. These should be examined in future studies, not only in their possible association with sexual abuse, but also with maternal sensitivity.

The measurement model in this study explored how well the HOME Inventory items performed together in assessing maternal sensitivity. The results indicate that the final five items kept in the model themselves are reliable, and that together they account for 9-25% of the variability in the maternal sensitivity construct. These results bolster the already large body of research supporting the validity of the HOME Inventory, which is used extensively in research and clinical settings to assess the environment of the child.

Implications for Attachment Theory

The literature in the area of risk for child sexual abuse consistently points to the mother as an important factor. The purpose of this study was to examine this and attempt to explain how or why the mother is important. The attachment theory framework was helpful in outlining a model of risk. Mothers' behavior is generally found to be the primary influencer of attachment (Belsky & Isabella, 1988; van Ijzendoorn, Goldberg, Kroonenberg & Frenkel, 1992), with sensitivity toward the child being most important (Ainsworth, Bell & Stayton, 1974). Attachment theorists postulate that securely attached children develop an internal working model that the caregiver is responsive and accessible (Ainsworth, 1985). Insecurely attached children develop a working model of the caregiver as inconsistently responsive, rejecting, or frightening. Research findings suggest that an insecure attachment style is associated with poorer social competence and

interpersonal skills, and less persistence in problem solving (Main, 1981; Sroufe, 1988, 1983, 1982; Matas, Arend & Sroufe, 1978). Based upon this information, the present study was developed with the ideas that less sensitive mothers would have children who were insecurely attached, and therefore have poorer competence and lesser ability to respond to inappropriate contact in a self protective manner, and subsequently more likely to have been sexually abused. Certainly no child should be expected to avoid or stop abuse that is perpetrated by a larger and more powerful person; however research indicates that sexual abuse usually occurs after a process of grooming, where the abuser manipulates the child into cooperation and secrecy, testing their tolerance along the way by progressively increasing inappropriate behaviors in order to assess how cooperative they will be, and thereby setting the stage for abuse that is not disclosed. Some children are able to set limits on inappropriate behavior, and communicate that they will not cooperate with abuse, while others are not, and are therefore more likely to become the victims of sexual abuse (Conte and Schuerman, 1987; Conte, Wolfe & Smith, 1989). The current study postulates that insecure attachment may contribute to the differences between children who become abused and those who do not.

In the absence of any measures of attachment, maternal sensitivity was used somewhat as a proxy for both. This is obviously an oversimplification in an effort to design a feasible study. An ideal study in this area would be a longitudinal path model, and would examine maternal sensitivity and its effect on attachment style, as well as the direct and indirect effect on sexual abuse outcome.

In a model of risk for child sexual abuse there are many additional factors that would be expected to contribute to risk, that are not related to the mother at all. These

include, for example, child's developmental delay, which is consistently found to increase risk, and of course, exposure to a sexual abuser. Regardless of the parenting experiences or attachment style of a child, the child cannot be sexually abused unless there is some type of exposure to an abuser. With this idea in mind, it makes sense why the present model explains so little in terms of risk. Mother-child relationship factors other than maternal sensitivity, additional factors outside of the mother-child relationship, environmental, and even societal factors, likely all play a role in determining a child's risk. This study was not meant to be a comprehensive examination of risk in general, only risk that is influenced by the mother-child relationship. For this purpose, the study does make a contribution; it highlights the association between drug dependence and maternal sensitivity, and it indicates that satisfaction with social support, mental health, and alcohol dependence may differ by maltreatment type.

Attachment theorists propose that the attachment relationship is not only the product of the mother's behaviors, but also her own issues, the child's characteristics and behavior, their collective experiences and dynamics, as well as environmental and other circumstances. With this in mind, the fact that the indicator items only accounted for 9-25% of the variability in the maternal sensitivity construct makes sense. There are many complex processes going on between a mother and her child that cannot simply be observed during a brief home visit by an interviewer. Psychosocial issues, such as lack of social support, alcohol, and substance abuse would be expected to have an influence on mother's ability to be sensitive to her child. The findings in this study do support the hypothesis that drug dependence has a negative association with maternal sensitivity, in children and general, and particularly for males. In terms of attachment, this makes

sense; a mother who may be struggling with addiction, using substances that alter her mood, energy, and judgment, would be expected to have more difficulty recognizing, interpreting correctly, and responding to her child's needs. Additionally, low satisfaction with social support and poor mental health was negatively associated with sexual abuse status in the combined sample, and in the sample of males. In females, the association between low social support satisfaction was positive, indicating that mothers who reported low satisfaction with social support were more likely to have daughters that had been sexually abused. While the negative association found in the combined sample and in the male sample is not what would be anticipated in terms of attachment, these significant findings indicate that there is something important about these issues in terms of risk for abuse. This may be an important area for future research in terms of children who are victims of other types of maltreatment, including neglect and physical abuse. That maternal sensitivity appeared to partially mediate the relationship between low social support satisfaction and sexual abuse status in the combined sample, and totally mediated the relationship between alcohol abuse and sexual abuse status in females indicates that maternal sensitivity may in fact be an important construct for further examination.

Implications for Practice

The results of this study indicate that drug dependence may be an important factor to address in assessment and intervention focusing on maternal sensitivity. Particularly for boys, maternal drug dependence may be an important risk factor for sexual abuse. Interventions targeting maternal sensitivity as well as drug dependence may be indicated. For alcohol dependent mothers, interventions that target sensitivity as well as alcohol

dependence may be helpful. Finally, social support and mental health may be important areas to explore in working with mothers in prevention and intervention for all types of child maltreatment.

Implications for Future Research

As was previously stated, the results of the measurement model further bolster the validity of the HOME Inventory items as indicators of maternal sensitivity. The results of this study also support the idea that maternal sensitivity may be an important mediator to examine in models of risk for sexual abuse. The use of structural equation modeling to simultaneously examine relationships between multiple variables was fruitful, and is recommended for future studies, as is exploring the direct, indirect, and total effects of predictors. In fact, a couple of important relationships would not have been found if only direct effects were examined. Additionally, using a theory driven model to examine risk may be promising in future studies. Most importantly, the results of this study argue the necessity to examine gender differences in risk for sexual abuse. Combining males and females together and assuming the dynamics and relationships between variables are the same as many studies do may be a error, as in this study where combining the genders obscured important gender differences in risk.

Summary

While many studies have examined risk factors for child sexual abuse, a clear understanding of risk continues to elude researchers. The literature has been relatively consistent, though, in indicating that the mother is an important factor in terms of her own victimization history, whether her child discloses abuse or not, and in the child's long term recovery from sexual abuse. Attachment theory would predict that the mother

is important because the child's relationship with her forms the foundation for a child to develop resiliency, self-protection, and the ability to effectively solve problems. The present study was an exploration of risk for sexual abuse in a nationally representative sample of children ages 6 to 9 living with their biological mothers who were involved with child protective services in the United States. The results are generalizable to the roughly half of a million children who meet these criteria. The study is innovative in the use of structural equation modeling to simultaneously examine multiple regression equations and to take measurement error into consideration when using a latent construct. While many of the hypothesized relationships were not significant, the study evaluated the validity of using HOME Inventory observational items as a measure of maternal sensitivity, and explored the contribution of some maternal variables in an overall model of risk for sexual abuse. Maternal drug dependence appears to have an important role in influencing sensitivity, and maternal satisfaction with social support and mental health were associated with sexual abuse status. Maternal sensitivity, while not having a significant direct effect on sexual abuse status, may be an important mediating variable in models of risk for sexual abuse. Gender differences in this model of risk did become apparent, and this finding underscores the importance of examining differences in risk between the genders. Future studies should continue to examine the importance of the mother's role in risk for sexual abuse. Attachment theory provides an intuitive framework for examining these dynamics.

APPENDICES

Appendix A
HOME-SF Middle Childhood Version items,
NSCAW scoring method,
and study variable names and recode information

Observational items

Yes No Not observed

1. Mother/guardian encouraged child to contribute to the conversation?

..1.....2.....3.....

ENCOURAGE, recode 2=0

2. Mother/guardian answered child's questions or requests verbally?

..1.....2.....3.....

ANSWER, recode 2=0

3. Mother/guardian conversed with child (excluding scolding or suspicious comments)?

..1.....2.....3.....

CONVERSE, recode 2=0

4. Mother/guardians voice conveyed positive feeling about this child?

..1.....2.....3.....

POSITIVE, recode 2=0

5. Mother/guardian introduced interviewer to child by name?

..1.....2.....3.....

INTRODUCE, recode 2=0

Interview items

How often is [child] expected to do each of the following?

6a. Make [his/her] bed? Would you say...

1= Almost never,

2= Less than half the time,

3= Half the time,

4= More than half the time, or

5= Almost always?

(if 1-2, score 0, if 3-5, score 1)

b. Clean [his/her] room?

1= Almost never,

2= Less than half the time,

3= Half the time,

4= More than half the time, or

5= Almost always?

(if 1-2, score 0, if 3-5, score 1)

c. Clean up after spills?

1= Almost never,

2= Less than half the time,

3= Half the time,

4= More than half the time, or

5= Almost always?

(if 1-2, score 0, if 3-5, score 1)

d. Bathe?

1= Almost never,

2= Less than half the time,

3= Half the time,

4= More than half the time, or

5= Almost always?

(if 1-2, score 0, if 3-5, score 1)

SELF CARE sum a,b,c,d. If ≥ 3 , score 1, if < 3 , score 0.

7. Pick up after [him/her] self?

1= Almost never,

2= Less than half the time,

3= Half the time,

4= More than half the time, or

5= Almost always?

PICK UP (if 1-2, score 0, if 3-5, score 1)

8. Sometimes children get so angry at their parents that they say things like “I hate you” or swear in a temper tantrum. What actions would you take if this happened?

1= Grounding? Y/N

2= Spanking? Y/N

3= Talk with child? Y/N

4= Give [him/her] household chore? Y/N

5= Ignore it? Y/N

6= Send [him/her] to [his/her] room

For more than an hour? Y/N

7= Something else? Y/N

TOLERATE (if 2, score 0, if 1 or 3-7, score 1)

9. Sometimes kids mind pretty well and sometimes they don't. In the last week, about how many times have you had to spank [child]?

NO SPANK (if 0-1, score 1, if >1, score 0)

10. How often does your whole family get together with relatives or friends?

1= Once a year or less

2= A few times a year

3= Once a month

4= Two or three times a month

5= Once a week or more

GET TOGETHER (if 1-3, score 0, if 4-5, score 1)

Appendix B

Social Support Questionnaire

Next, I'm going to read you a list of some things that people do for each other or give each other that may be helpful or supportive. For each question, please tell me how many different people give you this type of help.

How many different people can you count on to invite you to go out and do things?

How satisfied are you with that amount of help and support? Would you say you are...

1 = very dissatisfied,

2 = dissatisfied,

3 = satisfied, or

4 = very satisfied?

How many different people help you with taking care of your child (ren)?

How satisfied are you with that amount of help and support? Would you say you are...

1 = very dissatisfied,

2 = dissatisfied,

3 = satisfied, or

4 = very satisfied?

How many different people you count on give you chances to talk about money matters like budgeting or money problems?

How satisfied are you with that amount of help and support? Would you say you are...

1 = very dissatisfied,

2 = dissatisfied,

3 = satisfied, or

4 = very satisfied?

How many different people give you useful advice about important things in life?

How satisfied are you with that amount of help and support? Would you say you are...

1 = very dissatisfied,

2 = dissatisfied,

3 = satisfied, or

4 = very satisfied?

How many different people give you help when you need transportation?

How satisfied are you with that amount of help and support? Would you say you are...

1 = very dissatisfied,

2 = dissatisfied,

3 = satisfied, or

4 = very satisfied?

How many different people give you help when you're sick in bed?

How satisfied are you with that amount of help and support? Would you say you are...

1 = very dissatisfied,

2 = dissatisfied,

3 = satisfied, or

4 = very satisfied?

How many different people give you help with cooking and housework?

How satisfied are you with that amount of help and support? Would you say you are...

1 = very dissatisfied,

2 = dissatisfied,

3 = satisfied, or

4 = very satisfied?

Appendix C

SF-12 Mental Components Summary

During the past 4 weeks have you accomplished less than you would like in your work or other regular daily activities as a result of any emotional problems such as feeling depressed or anxious?

1 = YES

2 = NO

During the past 4 weeks, did you feel you didn't do work or other activities as carefully as usual as a result of any emotional problems such as feeling depressed or anxious?

1 = YES

2 = NO

During the past 4 weeks, how much did pain interfere with your normal work, including both work outside the home and housework? Would you say...

1 = not at all

2 = a little bit

3 = moderately

4 = quite a bit, or

5 = extremely?

During the past 4 weeks, how much of the time have you felt calm and peaceful? Would you say...

1 = all of the time

2 = most of the time

3 = a good bit of the time

4 = some of the time

5 = a little of the time, or

6 = none of the time?

During the past 4 weeks, how much of the time did you have a lot of energy? Would you say...

1 = all of the time

2 = most of the time

3 = a good bit of the time

4 = some of the time

5 = a little of the time, or

6 = none of the time?

During the past 4 weeks, how much of the time have you felt downhearted and blue?

Would you say...

1 = all of the time

2 = most of the time

3 = a good bit of the time

4 = some of the time

5 = a little of the time, or

6 = none of the time?

During the past 4 weeks, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting with friends, relatives, etc.)?

Would you say...

1 = all of the time

2 = most of the time

3 = a good bit of the time

4= some of the time

5= a little of the time, or

6= none of the time?

Appendix D

CIDI-SF Alcohol Scale

The next questions are about how frequently you drink alcoholic beverages. By a “drink” we mean either a bottle of beer, a wine cooler, a glass of wine, a shot of liquor, or a mixed drink. With these definitions in mind, what is the largest number of drinks you had in any single day during the past 12 months?

1 = None or never drink

2 = 1-3 drinks in a day

3 = 4-10 drinks in a day

4 = 11-20 drinks in a day

5 = More than 20 drinks in a day

In the past 12 months, was there a time when your drinking or being hung over interfered with your work at school, or a job, or at home?

1 = Yes

2 = No

How often did your drinking or being hung over interfere with your work at school, or a job, or at home in the past 12 months?

1 = Once or twice

2 = Between 3 and 5 times

3 = Between 6 and 10 times

4 = Between 11 and 20 times

5 = More than 20 times

6 = Never

During the past 12 months, was there a time when you were under the influence of alcohol in a situation where you could get hurt – like when driving a car or boat, using knives or guns or machinery, or anything else?

1 = Yes

2 = No

During the past 12 months, did you have any emotional or psychological problems from using alcohol - such as feeling uninterested in things, feeling depressed, suspicious of people, paranoid, or having strange ideas?

1 = Yes

2 = No

During the past 12 months, was there a time when you had such a strong desire or urge to drink that you could not keep from drinking?

1 = Yes

2 = No

During the past 12 months, was there a period of a month or more when you spent a great deal of time drinking or getting over the effects of alcohol?

1 = Yes

2 = No

During the past 12 months, was there a time when you drank more alcohol than you intended to or drank longer than you intended to?

1 = Yes

2 = No

How often did you drink more or longer than you intended to in the past 12 months?

1 = Once or twice

2 = Between 3 and 5 times

3 = Between 6 and 10 times

4 = Between 11 and 20 times

5 = More than 20 times

6 = Never

During the past 12 months, was there a time when you had to drink much more than you used to in order to get the same effect you wanted?

1 = Yes

2 = No

Appendix E

CIDI-SF Drug Scale

The next questions are about drugs you have used on your own. By “on your own” we mean either without a doctor’s prescription, in larger amounts than prescribed, or for a longer period than prescribed.

During the past 12 months, did you use sedatives, including either barbiturates or sleeping pills on your own? This would include drugs such as Seconal, Halcion, or Methaqualone.

1 = Yes

2 = No

During the past 12 months, did you use tranquilizers or “nerve pills” on your own? This would include drugs such as Librium, Valium, Ativan, Meproamate, or Xanax.

1 = Yes

2 = No

During the past 12 months, did you use amphetamines or other stimulants on your own? This would include drugs such as Methamphetamine, Preludin, Dexedrine, Ritalin, or “Speed”. Remember that by “on your own” we mean either without a doctor’s prescription, in larger amounts than prescribed, or for a longer period than prescribed.

1 = Yes

2 = No

During the past 12 months, did you use analgesics or other prescription painkillers on your own? This does not include normal use of aspirin, Tylenol without Codeine, etc., but does include use of Tylenol with Codeine and other Rx painkillers like Demerol, Darvon, Percodan, Codeine, Morphine, and Methadone.

1 = Yes

2 = No

During the past 12 months, did you use inhalants that you sniff or breathe to get high or feel good? This would include Amylnitrate, Freon, Nitrous Oxide (“Whippets”), Gasoline, or spray paint.

1 = Yes

2 = No

During the past 12 months, did you use marijuana or hashish?

1 = Yes

2 = No

During the past 12 months, did you use Cocaine or crack or free base?

1 = Yes

2 = No

During the past 12 months, did you use LSD or other hallucinogens?

This would include PCP, angel dust, peyote, ecstasy (MDMA), or mescaline.

1 = Yes

2 = No

During the past 12 months, did you use heroin?

1 = Yes

2 = No

For the next questions, please think about the substances you just reported using in the past 12 months.

In the past 12 months, did your use of any of the substances you reported interfere with your work at school, or a job, or at home?

1 = Yes

2 = No

How often did your use of any of the substances you reported interfere with your work at school, or a job, or at home during the past 12 months?

1 = Once or twice

2 = Between 3 and 5 times

3 = Between 6 and 10 times

4 = Between 11 and 20 times

5 = More than 20 times

6 = Never

During the past 12 months, were you ever under the influence of any of the substances you reported in a situation where you could get hurt - like when driving a car or boat, using knives or guns or machinery, or anything else?

1 = Yes

2 = No

During the past 12 months, did you have any emotional or psychological problems from using any of the substances you reported -such as feeling uninterested in things, feeling depressed, suspicious of people, paranoid, or having strange ideas?

1 = Yes

2 = No

During the past 12 months, did you have such a strong desire or urge to use any of the substances you reported that you could not keep from using it?

1 = Yes

2 = No

During the past 12 months, was there a period of a month or more when you spent a great deal of time using any of the substances you reported or getting over their effects?

1 = Yes

2 = No

During the past 12 months, did you ever use any of the substances you reported in much larger amounts than you intended to or for a longer period of time than you intended to?

1 = Yes

2 = No

How often in the past 12 months did you use any of the substances you reported in much larger amounts or for a longer period of time than you intended to?

1 = Once or twice

2 = Between 3 and 5 times

3 = Between 6 and 10 times

4 = Between 11 and 20 times

5 = More than 20 times

6 = Never

During the past 12 months, was there a time when you had to use any of the substances you reported more than you used to in order to get the same effect you wanted?

1 = Yes

2 = No

Appendix F

Questions on Sexual Abuse

In the past 12 months, has your child [fill CHILD] been touched in a sexual way by an adult or older child when [fill HE/SHE] did not want to be touched that way? Or has [fill HE/SHE] been forced to touch an adult or older child in a sexual way -- including anyone who was a member of your family, or anyone outside the family?

1 = Yes

2 = No

Has it ever happened?

1 = Yes

2 = No

In the past 12 months, has your child [fill CHILD] been forced to have sex by an adult or an older child -- including anyone who was a member of the family?

1 = Yes

2 = No

Has it ever happened?

1 = Yes

2 = No

BIBLIOGRAPHY

Ainsworth, M.D.S., Bell, S.M. & Stayton, D.J. (1974) Infant-mother attachment and social development: 'Socialisation' as a product of reciprocal responsiveness to signals. In M.P.M. Richards (Ed.), *The Integration of a Child into a Social World* (99-135). London: Cambridge University.

Ainsworth, M. D. S., Blehar, M.C., Waters, W., & Wall, S. (1978). *Patterns of Attachment*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Ainsworth, M. D. S. (1985). Patterns of infant-mother attachments: Antecedents and effects on development. *Bulletin of the New York Academy of Medicine*, 61(9), 771-791.

Ainsworth, M. D. S. & Wittig, B. A. (1969) Attachment and exploratory behavior of one-year-olds in a strange situation. In B. Foss (Ed.), *Determinants of infant behavior* (Vol. 4, pp. 113-136). London: Methuen.

Alexander, P. C. (1992). Application of Attachment Theory to the Study of Sexual Abuse. *Journal of Consulting and Clinical Psychology*, 60(2), 185-195.

Avery, L., Hutchinson, K.D. & Whitaker, K. (2002). Domestic violence and intergenerational rates of child sexual abuse: A case record analysis. *Child and Adolescent Social Work Journal*, 19(1), 77-90.

Bagley, C. & Ramsey, R. (1986) Sexual abuse in childhood: psychological outcomes and implications for social work practice. *Journal of Social Work and Human Sexuality*, 4, 33-47.

Baker, P.C., Keck, C.K., Mott, F.L. & Quinlan, S.V. (1993). NLSY Child Handbook, Revised Edition. Columbus, Ohio: Center for Human Resource Research, The Ohio State University.

Baron, R.M. & Kenny, D.A. (1986). The Moderator-Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations. *Journal of Personality and Social Psychology*, 51(6), 1173-1182.

Bartholomew, K. & Horowitz, L. M. (1991). Attachment Styles Among Young Adults: A Test of a Four-Category Model. *Journal of Personality and Social Psychology* 61(2), 226-244.

Bates, J.E., Maslin, C. & Frankel, K. (1985). Attachment security, mother-child interaction, and temperament as predictors of behavior ratings at age three. In I. Bretherton & E. Waters (Eds.), *Growing points in attachment theory and research. Monographs for the Society for Research in Child Development*, 50, (Serial No. 209, pp. 167-193)

Bergner, R.M., Delgado, L.K. & Graybill, D. (1994). Finklehor's risk factor checklist: A cross-validation study. *Child Abuse & Neglect*, 18(4), 331-340.

Bellak, L. (1986). *The T.A.T., C.A.T. and S.A.T. in Clinical Use* (4th ed.). New York: Grune & Stratton, Inc.

Belsky, J. & Isabella, R. (1988). Maternal, Infant, and Social-Contextual Determinants of Attachment Security. In J. Belsky and T. Nezworski (Eds.), *Clinical Implications of Attachment* (pp.41-94). Hillsdale, NJ: Lawrence Erlbaum Associates.

Benoit, D., Zeanah, C. H. & Barton, M. L. (1989). Maternal Attachment Disturbances in Failure to Thrive. *Infant Mental Health Journal*, 10, 185-202.

Bergner, R.M, Delgado, L.K. & Graybill, D. (1994). Finkelhor's risk factor checklist: A cross-validation study. *Child Abuse & Neglect*, 18(4), 331-340.

Berliner, L. & Conte, J.R. (1995). The effects of disclosure and intervention on sexually abused children. *Child Abuse & Neglect*, 19, 371-384.

Biemer, P. P. and Christ, S. L. (2005). NSCAW Statistical Analysis Manual. Ithaca, NY: National Data Archive on Child Abuse and Neglect.

Bifulco, A., Moran, P.M., Ball, C., Jacobs, C., Baines, R., Bunn, A. & Cavagin J. (2002). Childhood adversity, parental vulnerability and disorder: examining inter-generational transmission of risk. *Journal of Child Psychology and Psychiatry*, 43(8), 1075-1086.

Bolen, R.M. (1998). Predicting risk to be sexually abused: A comparison of logistic regression to event history analysis. *Child Maltreatment*, 3(2), 157-170.

Bolen, R.M. (2000). Validity of Attachment Theory. *Trauma, Violence & Abuse*, 1(2), 128-153.

Bolen, R. (2002). Commentary. Child Sexual Abuse and Attachment Theory: Are We Rushing Headlong into Another Controversy? *Journal of Child Sexual Abuse*, 11(1), 95-124.

Bowlby, J. (1958). The Nature of the Child's Tie to His Mother. *International Journal of Psychoanalysis*, 39, 350-373.

Bowlby, J. (1969/1982). *Attachment and Loss, Volume 1. Attachment*. New York: Basic Books.

Bowlby, J. (1973). *Attachment and Loss, Volume 2. Separation*. New York: Basic Books.

Bowlby, J. (1977). The Making and Breaking of Affectional Bonds. *British Journal of Psychiatry*, 130, 201-210.

Bowlby, J. (1980). *Attachment and Loss, Volume 3. Loss, Sadness and Depression*. New York: Basic Books.

Bretherton, I., Ridgeway, D., & Cassidy, J. (1990). Assessing internal working models of the attachment relationship. In M. T. Greenberg, D. Cicchetti & E. M. Cummings (Eds.), *Attachment in the Preschool Years* (pp. 273-308). Chicago: University of Chicago.

Briere, J. (1996). *Therapy for adults molested as children* (2nd Ed.). New York: Springer.

Broadhead, W.E., Gehlbach, S.H., de Gruy F.V. & Kaplan, B.H. (1988). The Duke-UNC Functional Social Support Questionnaire. *Medical Care*, 26(7), 709-723.

Brown, T. (2006) *Confirmatory Factor Analysis for Applied Research*. Guilford: NY.

Brown, J., Cohen, P., Johnson, J.G., & Salzinger, S. (1998). A longitudinal analysis of risk factors for child maltreatment: Findings of a 17-year prospective study of officially recorded and self-reported child abuse and neglect. *Child Abuse & Neglect*, 22(11), 1065-1078.

Caldwell, B.M. & Bradley, R.H. (1979). *Home Observation for Measurement of the Environment*. Little Rock: University of Arkansas.

Caldwell, B.M. & Bradley, R.H. (2003). *HOME Inventory Administration Manual*. Little Rock: University of Arkansas for Medical Sciences and University of Arkansas at Little Rock.

Campbell, K.L.M. (1994). The maternal environment of child sexual abuse victims. Unpublished doctoral dissertation, University of Manitoba, Winnipeg, Manitoba.

Carlson, V., Cicchetti, D., Barnett, D. & Braunwald, K. (1989). Finding order in disorganization. In D. Cicchetti & V. Carlson (Eds.), *Child maltreatment: Theory and research on the causes and consequences of child abuse and neglect* (pp.494-528). New York: Cambridge University Press.

Cohen, J. (1988). A Power Primer. *Psychological Bulletin*, 112, 155-159.

Conte, J. R. & Berliner, L. (1988). The Impact of Sexual Abuse in Children: Empirical Findings. In L. E. Walker (Ed.), *Handbook on Sexual Abuse of Children* (pp.22-93). New York: Springer.

Conte J. R. & Schuerman, J. R. (1987) Factors associated with an increased impact of child sexual abuse. *Child Abuse & Neglect*, 11, 201-211.

Conte, J. R., Wolfe, S., & Smith, T. (1989). What sexual offenders tell us about prevention strategies. *Child Abuse and Neglect*, 13, 293 –301.

Cooley, M.L. & Unger, D.G. (1991). The role of family support in determining developmental outcomes in children of teen mothers. *Child Psychiatry and Human Development*, 21, 3, 217-234.

Courtois, C. (1979). The incest experience and its aftermath. *Victimology: An International Journal*, 4, 337-347.

Crowell, J. A. & Feldman, S. S. (1988). Mothers' Internal Models of Relationships and Children's Behavioral and Developmental Status: A Study of Mother-Child Interaction. *Child Development*, 59, 1273-1285.

Deblinger, E., McLeer, S.V., Atkins, M.S., Ralphe, D. & Foa, E. (1989). Posttraumatic stress in sexually abused, physically abused, and nonabused children. *Child Abuse & Neglect*, 13, 403-408.

DeLozier, P. P. (1982). Attachment and Maternal Depression. In C. M. Parkes & J. Stevenson-Hinde (Eds.), *The Place of Attachment in Human Behavior* (pp.95-117). New York: Basic Books.

deWolff, M. & vanIjzendoorn, M. (1997). Sensitivity and attachment: A meta-analysis on parental antecedents of infant attachment. *Child Development*, 68, 571-591.

Donovan, W.L. & Leavitt, L.A. (1985). Physiological assessment of the mother-infant attachment. *Journal of the American Academy of Child Psychiatry*, 24, 65-70.

Dore, M. M., Doris, J. M. & Wright, P. (1995). Identifying Substance Abuse in Maltreating Families: A Child Welfare Challenge. *Child Abuse & Neglect*, 19(5), 531-543.

Dowd, K., Kinsey, S., Wheelless, S., Thissen, R., Richardson, J., Suresh, R., Mierzwa, F., Biemer, P., Johnson, I. & Lytle, T. (2004). National Survey of Child and Adolescent Well-Being (NSCAW) Combined Waves 1-4 data file user's manual, general release version. National Data Archive on Child Abuse and Neglect. NY: Cornell University.

Dozier, M., Stovall, K.C. & Albus, K.E. (1999). Attachment and psychopathology in adulthood. In J. Cassidy & P.R. Shaver (Eds.), *Handbook of Attachment: Theory, Research, and Clinical Applications*, (pp.497-519). New York: Guilford.

Egeland, B. & Farber, E. A. (1984). Infant-mother attachment: Factors related to its development and changes over time. *Child Development*, 55(3), 753-771.

Egeland, B., Jacobvitz, D. & Sroufe, L. A. (1988). Breaking the Cycle of Abuse. *Child Abuse & Neglect*, 59, 1080-1088.

Elardo, R.D. & Bradley, B.M. (1981). The Home Observation for Measurement of the Environment (HOME) Scale: A review of research. *Developmental Review*, 1, 113-145.

Elliot, D. & Briere, J. (1994). Forensic Sexual Abuse Evaluations of Older Children: Disclosure and Symptomology. *Behavioral Sciences and the Law*, 12, 261-277.

Everson, M. D., Hunter, W. M., Runyan, D., Edelsohn, G. A. & Coulter, M. L. (1989). Maternal Support Following Disclosure of Incest. *American Journal of Orthopsychiatry*, 59(2), 197-207.

Fergusson, D.M., Lynskey, M.T. & Horwood L.J. (1996). Childhood sexual abuse and psychiatric disorder in young adulthood: I. Prevalence of sexual abuse and factors associated with sexual abuse. *Journal of the American Academy of Child and Adolescent Psychiatry*, 34 (10), 1355-1364.

Ferron, J., Ng'Andu, N. & Garrett, P. (1994). Evaluating the dimensional structure of the Home Observation for Measurement of the Environment-Short Form. *Educational and Psychological Measurement*, 54, 2, 537-540.

Finkelhor, D. (1979). *Sexually Victimized Children*. NY: Free Press.

Finkelhor, D. (1980). Risk factors in the sexual victimization of children. *Child Abuse & Neglect*, 4, 265-273.

Finkelhor, D. (1984). *Child Sexual Abuse*. NY: Free Press.

Finkelhor, D. & Baron, L. (1986). High-Risk Children. In D. Finkelhor, S. Araji, L. Baron, A. Browne, S. D. Peters & G. E. Wyatt (Eds.). *A Sourcebook on Child Sexual Abuse* (pp. 60-88). Newbury Park, CA: Sage.

Finkelhor, D., Hotaling, G.T., Lewis, I.A. & Smith, C. (1990). Sexual abuse in a national sample of men and women: Prevalence, characteristics, and risk factors. *Child Abuse & Neglect*, 14, 19-28.

Finkelhor, D. & Jones, L. (2006). Why have child maltreatment and child victimization declined? *Journal of Social Issues*, 62, 4, 685-716.

Finzi, R., Har-Even, D., Weizman, A., Tyano, S. & Shnit D. (1996). The adaptation of the attachment style questionnaire for latency-aged children. *Psychology*, 5, 167-177.

Fleming, J., Mullen, P. & Bammer, G. (1997). A study of potential risk factors for sexual abuse in childhood. *Child Abuse & Neglect*, 21(1), 49-58.

Friedrich, W. N. (2002). *Psychological Assessment of Sexually Abused Children and Their Families*. Thousand Oaks: Sage.

Friedrich, W. N., Urquiza, A. J. & Bielke, R. (1986) Behavior problems in sexually abused young children. *Journal of Pediatric Psychology*, 11, 47-57.

Fromuth, M. E. (1983). *The long term psychological impact of childhood sexual abuse*. Unpublished Doctoral Dissertation, Auburn University.

Fury, G., Carlson, E. A., & Sroufe, L. A. (1997). Children's representations of attachment relationships in family drawings. *Child Development*, 68(6), 1154-1164.

Gale, J., Thompson, R.J., Moran, T. & Sack, W.H. (1988). Sexual abuse in young children: Its clinical presentation and characteristic patterns. *Child Abuse & Neglect*, 12, 163-170.

Gandek, B., Ware, J.E., Aaronson, N.K., Apolone, G., Bjorner, J.B., Brazier, J.E., Bullinger, M., Kaasa, S., Leplege, A., Prieto, L. & Sullivan, M. (1998). Cross-validation of item selection and scoring for the SF-12 Health Survey in nine countries: Results from the IQOLA Project. *Journal of Clinical Epidemiology*, 51(11), 1171-1178.

Gill, S.C., Butterworth, P., Rodgers, B. & Mackinnon, A. (2007). Validity of the mental health components scale of the 12-item Short-Form Health Survey (MCS-12) as measure of common mental disorders in the general population. *Psychiatry Research*, 152, 63-71.

Goldsmith H.H. & Alansky, J.A. (1987). Maternal and infant temperamental predictors of attachment: A meta-analytic review. *Journal of Consulting and Clinical Psychology*, 55, 805-816.

Goodwin, J., McCarthy, T. & DiVasto, P. (1981). Prior Incest in Mothers of Abused Children. *Child Abuse & Neglect*, 5, 87-95.

Gorey, K. & Leslie, D. (1997). The prevalence of child sexual abuse: integrative review adjustment for potential response and measurement bias. *Child Abuse & Neglect*, 21, 391-398.

Griffin, D. W. & Bartholomew, K. (1994). The metaphysics of measurement: The case of adult attachment. In K. Bartholomew & D. Perlman (Eds.), *Advances in personal relationships: Volume 5. Attachment processes in adulthood* (p. 17-52). London: Jessica Kingsley.

Grossman, K., Grossman, K.E., Spangler, G., Suess, G. & Unzer, J. (1985). Maternal sensitivity and newborns' orientation responses as related to quality of attachment in northern Germany. In I. Bretherton and E. Waters (Eds.) *Growing Points of Attachment Theory and Research. Monographs of the Society for Research in Child Development*, 50 (Serial No. 209), pp.233-256.

Gruber, K. & Jones, R. (1983). Identifying determinants of risk of sexual victimization of youth: A multivariate approach. *Child Abuse & Neglect*, 7, 17-24.

Gunnar, M.R., Mangelsdorf, S., Larson, M. & Hertsgaard, L. (1989). Attachment, temperament, and adrenocortical activity in infancy: A study of psychoendocrine regulation. *Developmental Psychology*, 25, 355-363.

Hazan, C. & Shaver, P. (1987). Romantic Love Conceptualized as an Attachment Process. *Journal of Personality and Social Psychology* 52(3), 511-524.

Herman, J. (1981/2000). *Father-daughter incest*. Cambridge, MA: Harvard University Press.

Hertsgaard, L., Gunnar, M., Erickson, M.F. & Nachmias, M. (1995). Adrenocortical responses to the Strange Situation in infants with disorganized/disoriented attachment relationships. *Child Development*, 66, 1100-1106.

Isabella, R.A. (1995). The origins of infant-mother attachment: Maternal behavior and infant development. In R. Vasta (Ed.), *Annals of child development* (Vol. 10, p. 57-82.) London: Jessica Kingsley.

Janca, H. (1992). Reliability and validity studies of the WHO-Composite International Diagnostic Interview (CIDI): A critical review. *Journal of Psychiatric Research*, 28(1), 57-84.

Johnson, J.A. & Coons, S.J. (1998). Comparison of the EQ-5D and SF-12 in an adult US sample. *Quality of Life Research*, 7, 155-166.

Kenny, D.A. (2009). Measuring Model Fit. From David A. Kenny's Structural Equation Modeling website. <http://davidakenny.net/cm/fit.htm> Retrieved January 23, 2009.

Kercher, G. & McShane, M. (1984). The prevalence of child sexual abuse victimization in an adult sample of Texas residents. *Child Abuse & Neglect*, 8, 495-502.

Kessler, R.C., Andrews, G., Mroczek, D., Ustun T.B. & Wittchen, H.U. (1998). The World Health Organization Composite International Diagnostic Interview-Short Form (CIDI-SF). *International Journal of Methods in Psychiatric Research*, 7, 171-185.

Kline, R. B. (2005). Principles and practices of structural equation modeling. NY: Guilford.

Lamb, M. E., Gaensbauer, T. J., Malkin, C. M., Schultz, L. A. (1985). The Effects of Child Maltreatment on Security of Infant-Adult Attachment. *Infant Behavior and Development*, 8, 35-45.

Lamb, M.E., Thompson, R.A., Gardner, W., & Charnov, E.L. (1985). Infant-mother attachment: The origins and developmental significance of individual differences in Strange Situation behavior. Hillsdale, NJ: Erlbaum.

Landis, J. (1956). Experiences of 500 children with adult sexual deviants. *Psychiatric Quarterly Supplement*, 30, 91-109.

Lieberman, A.F. & Zeanah, C.H. (1999). Contributions of Attachment Theory to Infant-Parent Psychotherapy and other interventions with infants and young children. In J. Cassidy & P.R. Shaver (Eds.), *Handbook of Attachment: Theory, Research, and Clinical Implications* (pp. 555-574). New York: Guilford.

Leifer, M., Kilbane, T., Jacobsen, T., & Grossman, G. (2004). A three-generational study of transmission of risk for sexual abuse. *Journal of Clinical Child and Adolescent Psychiatry*, 33(4), 662-672.

Leifer, M., Kilbane, T. & Skolnick, L. I. (2002). Relationships Between Maternal Adult Attachment Security, Child Perceptions of Maternal Support, and Maternal Perceptions of Child Responses to Sexual Abuse. *Journal of Child Sexual Abuse*, 11(3), 107-124.

Leifer, M., Shapiro, J. P. & Kassem, L. (1993). The Impact of Maternal History and Behavior Upon Foster Placement and Adjustment in Sexually Abused Girls. *Child Abuse & Neglect*, 17, 755-766.

Lewin, L. & Bergin, C. (2001). Attachment behaviors, depression, and anxiety in nonoffending mothers of child sexual abuse victims. *Child Maltreatment*, 6(4), 365-375.

Lipovsky, J., Saunders, B.E. & Hanson, R.F. (1992). Parent-child relationships of victims and siblings in incest families. *Journal of Child Sexual Abuse*, 1(4), 35-49.

Main, M. & Cassidy, J. (1988). Categories of Response to Reunion With the Parent at Age 6: Predictable From Infant Attachment Classifications and Stable Over a 1-Month Period. *Developmental Psychology*, 24(3), 415-426.

Main, M. & Goldwyn, R. (1984). Predicting Rejection of Her Infant From Mother's Representation of Her Own Experience: Implications for the Abused-Abusing Intergenerational Cycle. *Child Abuse & Neglect*, 8, 203-217.

Main, M., Kaplan, N. & Cassidy, J. (1985). Security in Infancy, Childhood, and Adulthood: A Move to the Level of Representation. In I. Bretherton and E. Waters (Eds.) *Growing Points of Attachment Theory and Research. Monographs of the Society for Research in Child Development*, 50 (Serial No. 209), 66 – 104.

Main, M. & Solomon, J. (1986). Discovery of an Insecure-Disorganized/Disoriented Attachment Pattern. In T. B. Brazelton and M. Yogman (Eds). *Affective Development in Infancy* (pp. 95-124). Norwood, NJ: Ablex.

Main, M. & Weston, D. R. (1981). The Quality of the Toddler's Relationship to Mother and to Father: Related to Conflict Behavior and the Readiness to Establish New Relationships. *Child Development*, 52, 932-940.

Mannarino, A.P. & Cohen, J.A. (1996). A follow-up study of factors that mediate the development of psychological symptomatology formation in sexually abused girls. *Child Maltreatment*, 1, 246-260.

Matas, L., Arend, R. & Sroufe, L. A. (1978). Continuity of Adaptation in the Second Year: The Relationship Between Quality of Attachment and Later Competent Functioning. *Child Development*, 49, 547-556.

McCloskey, L.A. (1997). The continuum of harm: Girls and women at risk for sexual abuse across the lifespan. In D. Cicchetti & S. Toth (Eds.), *Rochester Symposium on Developmental Psychology, Vol. 9* (p. 553-578). Rochester, NY; Rochester University Press.

Mian, M., Marton, P., LeBaron, D. & Birtwistle, D. (1994). Familial risk factors associated with intrafamilial and extrafamilial sexual abuse of three to five year old girls. *Canadian Journal of Psychiatry*, 39, 348-353.

Miller, J., Moeller, D., Kaufman, A., DiVasto, P., Pathak, D. & Christy, J. (1978) Recidivism among sexual assault victims. *American Journal of Psychiatry*, 135, 1103-1104.

Morton, N. & Browne, K.D. (1998). Theory and Observation of Attachment and its Relation to Child Maltreatment: A Review. *Child Abuse & Neglect*, 22(11), 1093-1104.

Mott, F.L. (2004). The utility of the HOME-SF Scale for child development research in a large national longitudinal survey: The National Longitudinal Survey of Youth 1979 Cohort. *Parenting: Science and Practice*, 4(2/3), 259-270.

Mullen, P.E., Martin, J.L., Anderson, J.C., Romans, S.E. & Herbison, G.P. (1996). Childhood sexual abuse and mental health in adult life. *British Journal of Psychiatry*, 163, 721-732.

Mullen, P.E., Martin, J.L., Anderson, J.C., Romans, S.E. & Herbison, G.P. (1996). The long-term impact of the physical, emotional, and sexual abuse of children: A community study. *Child Abuse & Neglect*, 20(1), 7-21.

Muram, D., Rosenthal, T.L. & Beck, K.W. (1994). Personality profiles of mothers of sexual abuse victims and their daughters. *Child Abuse & Neglect*, 18(5), 419-423.

Muthen, M.O. & Muthen, L. (2008). Workshop on Statistical Analysis with Latent Variables Using Mplus. *March 18-19, 2008. Baltimore, MD.*

Muthen, B.O. (1994). Multilevel covariance structure. *Sociological Methods and Research*, 22, 3, 376-398.

Nachmias, M., Gunnar, M., Mangelsdorf, S., Parritz, R. & Buss, K. (1996). Behavioral inhibition and stress reactivity: The moderating role of attachment security. *Child Development*, 67, 508-522.

National Center on Child Abuse and Neglect. (1988). *Study findings: Study of national incidence and prevalence of child abuse and neglect*. Washington, DC: U.S. Department of Health and Human Services.

National Center on Child Abuse and Neglect. (1993). *A report on the maltreatment of children with disabilities*. Washington, DC: U.S. Department of Health and Human Services.

Neumann, D. A., Houskamp, B.M., Pollack, V.E. & Briere, J. (1996). The long-term sequelae of childhood sexual abuse in women: A meta-analytic review. *Child Maltreatment*, 1, 1, 6-16.

NICHD Early Child Care Research Network. (2001). Child-care and family predictors of preschool attachment and stability from infancy. *Developmental Psychology*, 37, 847-862.

National Data Archive on Child Abuse and Neglect. (2007). Caseworker reports of maltreatment are under-represented. NSCAW Analysis Alert #2.

NSCAW Research Group. (2002). Methodological lessons from the National Survey of Child and Adolescent Well-Being: The first three years of the USA's first national probability study of children and families investigated for abuse and neglect. *Children and Youth Services Review*, 24(6/7), 513-541.

Oates, R. K., Tebbutt, J., Swanston, H., Lynch, D. L. & O'Toole, B. I. (1998). Prior Childhood Sexual Abuse in Mothers of Sexually Abused Children. *Child Abuse & Neglect*, 22(11), 1113-1118.

Paradise, J.E., Rose, L., Sleeper, L.A. & Nathanson, M. (1994). Behavior, family function, school performance, and predictors of persistent disturbance in sexually abused children. *Pediatrics*, 93(3), 452-459.

Paredes, M., Leifer, M. & Kilbane, T. (2001). Maternal Variables Related To Sexually Abused Children's Functioning. *Child Abuse & Neglect*, 25, 1159-1176.

Paveza, G.J. (1988). Risk factors in father-daughter child sexual abuse. *Journal of Interpersonal Violence*, 3(3), 290-306.

Pederson, D. R. & Moran, G. (1995). Maternal Behavior Q-Set. *Monographs of the Society for Research in Child Development*, 60(2-3), 247-254.

Perry, B. D. (2002). Childhood Experience and the Expression of Genetic Potential: What Childhood Neglect Tells Us About Nature and Nurture. *Brain and Mind*, 3, 79-100.

Peters, S. D. (1984). The relationship between childhood sexual victimization and adult depression among Afro-American and white women. Unpublished Doctoral Dissertation, University of California at Los Angeles.

Peters, S. D., Wyatt, G. E. & Finkelhor, D. (1986). Prevalence. In D. Finkelhor, S. Araji, L. Baron, A. Browne, S. D. Peters & G. E. Wyatt (Eds.), *A Sourcebook on Child Sexual Abuse* (pp. 15-59). Newbury Park, CA: Sage.

Pianta, R., Egeland, B., Erickson, M.F. (1989). The antecedents of maltreatment: results of the Mother-Child Interaction Research Project. In D. Cicchetti and V. Carlson (Eds.), *Child Maltreatment: Theory and Research on the Causes and Consequences of Child Abuse and Neglect* (pp.203-253). NY: Cambridge University Press.

Podsakoff, P.M., MacKenzie, S.B, Lee, J.Y., Podsakoff, N.P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879-903.

Posada, G., Waters, E., Crowell, J. A. & Lay, K. (1995). Is It Easier To Use a Secure Mother as a Secure Base? Attachment Q-Sort Correlates of the Adult Attachment

Interview. *Monographs of the Society for Research in Child Development* 60(2-3), 133-145.

Putnam, F.W. (2003). Ten-year research review: Child sexual abuse. *Journal of the American Academy of Child and Adolescent Psychiatry*, 42, 3, 269-278.

Raghaven, R., Aarons, G.A., Roesch, S.C. & Leslie, L.K. (2008). Longitudinal patterns of health insurance coverage among a national sample of children in the child welfare system, *American Journal of Public Health*, 98(3), 478-484.

Raykov, Tenko & Marcoulides, G.A. (2006). *A First Course in Structural Equation Modeling*, 2nd edition. NJ:Erlbaum.

Rea, L. M., & Parker, R. A. (1992). *Designing and conducting survey research*. San Francisco: Jossey-Boss.

Roche, D. N., Runtz, M. G. & Hunter, M. A. (1999). Adult Attachment: A Mediator Between Child Sexual Abuse and Later Psychological Adjustment. *Journal of Interpersonal Violence*, 14(5), 184-207.

Russell, D. E. H. (1983). The incidence and prevalence of intrafamilial and extrafamilial sexual abuse of female children. *Child Abuse & Neglect*, 7, 133-146.

Russell, D. E. H. (1984). Sexual exploitation: Rape, child sexual abuse, and sexual harassment. Beverly Hills: Sage.

Russell, D. E. H. (1986). *The secret trauma: Incest in the lives of girls and women*. NY: Basic Books.

Ryan, K.D., Kilmer, R.P., Cauce, A.M., Watanabe, H., and Hoyt, D.R. (2000). Psychological consequences of child maltreatment in homeless adolescents: Untangling the unique effects of maltreatment and family environment. *Child Abuse & Neglect*, 24(3), 333-352.

Saranson, I.G., Levine, H.M., Basham, R.B., & Saranson, B.R. (1983). Assessing social support: The Social Support Questionnaire. *Journal of Personality and Social Psychology*, 44, 1, 127-139.

Saranson, I.G., Saranson, B.R., Shearin E.N. & Pierce, G.R. (1987). A brief measure of social support: Practical and theoretical implications. *Journal of Personality and Social Relationships*, 4, 497-510.

Smith, D.W., Letourneau, E.J., Saunders, B.E., Kilpatrick, D.G., Resnick H.S. & Best, C.L. (2000). Delay in disclosure of childhood rape: results from a national survey. *Child Abuse & Neglect*, 24, 273-287.

Spangler, G. & Grossman, K.E. (1993). Biobehavioral organization in securely and insecurely attached infants. *Child Development*, 64, 1439-1450.

Solomon, J. & George, C. (1999). The effects on attachment of overnight visitation in divorced and separated families. In J. Solomon & C. George (Eds.). *Attachment Disorganization*, (pp.243-264). New York: Guilford.

Sroufe, L. A. (1983). Infant-Caregiver Attachment and Patterns of Adaptation in preschool: The Roots of Maladaptation and Competence. In M. Perlmuter (Ed.), *Minnesota Symposium in Child Psychology* (pp. 41-81). Hillsdale, NJ: Erlbaum Associates.

Sroufe, L. A. (1988). The Role of Infant-Caregiver Attachment in Development. In J. Belsky and T. Nezworski (Eds.), *Clinical Implications of Attachment* (pp. 18-38). Hillsdale, NJ: Erlbaum Associates.

Sroufe, L.A. & Waters, E. (1977). Heart rate as a convergent measure in clinical and developmental research. *Merrill-Palmer Quarterly*, 23, 3-27.

Sroufe, L. A. & Waters E. (1982). Issues of Temperament and Attachment. *American Journal of Orthopsychiatry*, 52, 743-746.

Sugland, B.W., Zaslow, M., Smith, J.R., Brooks-Gunn, J., Coates, D., Blumenthal, C., Moore, K.A., Griffin, T. & Bradley, R (1995). The Early Childhood HOME-Short Form in differing racial/ethnic groups. *Journal of Family Issues*, 16, 5, 632-663.

Sypeck, M.F. (2004). Attachment style and child sexual abuse: A longitudinal examination. Unpublished doctoral dissertation, The American University, Washington, DC.

Thompson, R. A. (1998). Early sociopersonality development. In W. Damon (Ed.), *Handbook of child psychology* (5th Ed.), Vol. 3. Social, emotional, and personality development (N. Eisenberg, Vol. Ed.) (pp. 25-104). New York: Wiley.

Thompson, R. A., Lamb, M. E. & Estes, D. (1982). Stability of Infant-Mother Attachment and Its Relationship to Changing Life Circumstances in an Unselected Middle Class Sample. *Child Development*, 53, 144-148.

U.S. Department of Health and Human Services, Administration on Children, Youth and Families (2007). *Child Maltreatment 2005*. Washington, DC: U.S. Government Printing Office.

van Ijzendoorn, M.H., Goldberg, S., Kroonenberg, P.M. & Frenkel, O.J. (1992). The relative effects of maternal and child problems on the quality of attachment: A meta-analysis of attachment in clinical samples. *Child Development*, 63, 840-858.

Walsh, C., MacMillan, H. & Jamieson, E. (2002). The relationship between parental psychiatric disorder and child physical and sexual abuse: findings from the Ontario Health Supplement. *Child Abuse & Neglect*, 26, 11-22.

Ware, J.E., Kosinski, M. & Keller, S. (1996). A 12-item short form health survey: Construction of scales and preliminary tests of reliability and validity. *Medical Care*, 34(3), 220-233.

Waters, E. (1978). The Reliability and Stability of Individual Differences in Infant-Mother Attachment. *Child Development*, 49, 483-494.

Waters, E. (1995). The Attachment Q-Set (Version 3.0). *Monographs of the Society for Research in Child Development*, 60(2-3), 234-246.

Waters, E., Merrick, S., Treboux, D., Corwell, J. & Albersheim, L. (2000). Attachment Security in Infancy and Early Adulthood: A Twenty-Year Longitudinal Study. *Child Development*, 71(3), 684-689.

Wilsnack, S.C., Vogeltanz, N.D., Klassen, A.D. & Harris, T.R. (1997) Childhood sexual abuse and women's substance abuse: National survey findings. *Journal of Studies on Alcohol*, 58(3), 264-271.

Wittchen, H.U. (1994). Reliability and validity studies of the WHO-Composite International Diagnostic Interview (CIDI): A critical review. *Journal of Psychiatric Research*, 28, 1, 57-84.

Wyatt, G. E. (1985). The sexual abuse of Afro-American and White-American women in childhood. *Child Abuse & Neglect*, 10, 241-251.

Zeanah, C. H., Benoit, D., Hirshberg, L., Barton, M. L., & Regan, C. (1994). Mothers' representations of their infants are concordant with infant attachment classifications. *Developmental Issues in Psychiatry and Psychology*, 1, 9-18.

Zeanah, C. H. & Zeanah, P. D. (1989). Intergenerational Transmission of Maltreatment: Insights from Attachment Theory and Research. *Psychiatry*, 52, 177-196.

Zuravin, S., McMillen, C., DePanfilis, D., Risley-Curtiss, C. (1996). The intergenerational cycle of child maltreatment: Continuity versus discontinuity. *Journal of Interpersonal Violence*, 11(3), 315-334.

Curriculum Vita

Colleen Daly Martinez

Education

Livingston College, Rutgers University, New Brunswick, NJ May 1994 BSW

Rutgers University, School of Social Work, New Brunswick, NJ May 1995 MSW

Rutgers University, School of Social Work, New Brunswick, NJ May 2009 PhD

Experience

Case Manager, Special Child Health Services, Fanwood, NJ 1995-1996

Clinician, Barnert Hospital Community Counseling Center, Paterson, NJ 1996-1998

Senior Clinician, Saint Clare's Hospital Center for the Protection of Children (formerly Child Abuse Treatment Program), Boonton Township, NJ 1998-2006

Adjunct Professor, Monmouth University School of Social Work, West Long Branch, NJ 2006- present

Clinician, Private Practice, Montclair, NJ, 2008- present

Publication

Baer, J. C. & Martinez, C. D. (2006). Child Maltreatment and Insecure Attachment: A Meta-Analysis. *Journal of Reproductive and Infant Psychology*, 24 (3), 187-197.