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A PROSPCTIVE, MEDIATIONAL STUDY OF THE IMPACT OF CHILD  
MALTREATMENT, PARENTING BEHAVIORS, AND EXTERNALIZING BEHAVIOR  
PROBLEMS

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## **ABSTRACT**

Child maltreatment, which is classified as physical, emotional, or sexual abuse or neglect, has been shown to be a significant predictor of externalizing behaviors. Parenting has also been shown to impact children's behavior and is also found to be subject to change following experience of maltreatment. This study seeks to test parent-child relationship quality and parental monitoring at age 12 as mediators of the direct relationship between child maltreatment at or before age 4 and externalizing behaviors at age 16. Self-report measures for parent-child relationship quality (caregiver report) and parental monitoring (child report) were tested as potential mediators of the established relation between child maltreatment and subsequent externalizing behaviors. Results of this study indicate that not only does experience of child maltreatment before age 4 predict parental monitoring levels at age 12, but additionally, parental monitoring levels go on to predict externalizing behaviors at age 16. It was also found that parent-child relationship quality at age 12, though not predicted by experience of maltreatment at age 4, was predictive of externalizing behaviors at age 16.

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## **Chapter 1**

### **Introduction**

According to the Center of Disease Control and Prevention, child maltreatment is considered to be any type of abuse or neglect committed towards a child under 18 years of age by their parent, a caregiver, or another person in some sort of custodial role in the child's life (CDC, 2014). The four main types of maltreatment are physical, sexual, and emotional abuse, as well as neglect. Also stated by the CDC's 2014 report are the classifications of each type of abuse. Physical abuse is defined as the use of deliberate physical force, including actions like kicking, hitting, shaking, burning, as well as any other exhibition of force towards the child. Sexual abuse is classified as involving a child in sexual acts, such as fondling, rape, and exposure to other sexual experiences. Along similar lines, emotional abuse involves behaviors in which perpetrators harm a child's self-worth and/or emotional well-being. Some of these emotionally abusive behaviors include name-calling, shaming, withholding love, threatening, and rejecting. The final type of maltreatment, neglect, differs from the other forms of abuse because there are not outward acts of violence or aggression toward the child, instead there is a complete lack of care and interaction as well as total failure to meet the child's basic needs (CDC, 2014). For example, children who are neglected are not provided with adequate housing, food, clothing, education, or access to medical care, rather these basic needs are withheld from them.

Child maltreatment is now recognized as a significant public health problem, impacting approximately 12.5 percent of all children under the age of 18 years old living in the United

States (Wildeman et al., 2014). Much of the existing literature presents evidence of a significant relationship between child maltreatment and a variety of negative physical, mental, and social health outcomes. Additionally, it is found that experiences of maltreatment during childhood are associated with threatening health behaviors and disease in adulthood (Felitti et al., 1998). Some of these negative outcomes include, notably higher rates of mortality, obesity, suicide, and criminal behavior (Gilbert et al., 2009). There are also very steep financial costs for the United States due to maltreatment and its negative outcomes. Estimates suggest that child maltreatment costs the United States approximately \$129 billion a year, rates that are comparable or even higher than costs of stroke or diabetes mellitus, further exemplifying the need for research in this area (Fang, Brown, Florence, & Mercy, 2012). These facts demonstrate not only the prevalence of child maltreatment today, but also explain why it is referred to as a “human rights violation and a global public health problem” that brings upon great costs at the expense of both individuals and society (Reading et al., 2009).

As stated above, it is very obvious and concerning that maltreatment during childhood is known to be associated with a multitude of negative health outcomes, impacting physical, mental, and social domains of overall health functioning. More specifically, in addition to physical injuries, delayed physical development, and damage to neurological systems, child maltreatment is also related to psychological and emotional problems like depression, anxiety, and post-traumatic stress disorder (PTSD; Child Trends DataBank, 2016). Appleyard, Yang, & Runyan (2010) and Johnson et al. (2002) explain the association between maltreatment and internalizing and externalizing behavior problems. Internalizing behavior problems are classified as those that are focused inward, toward the self, and therefore are not typically easily visible to others. Some of these behaviors include depression, fearfulness, nervousness, social withdrawal,



and anxiety. In contrast, externalizing behaviors are those that are directed outward toward other individuals and are more easily identified due to their outward expression. Examples of externalizing problems are outward feelings or exhibitions of aggression and anger and are sometimes exemplified in behaviors such as bullying or vandalism. Literature also explains that these internalizing and externalizing behaviors are also exhibited in the form of more complex feelings and attributes such as loneliness, low self-esteem, or negative self-perception (Appleyard, Yang, & Runyan, 2010). This study, however, seeks to focus on the sole outcome of externalizing behaviors during adolescence because much of the negative educational, employment, mental health, physical health, and criminal outcomes following child maltreatment fall within the category of externalizing behaviors (Gilbert et al., 2009).

An additional, yet more obvious, impact on children's health and behavior is the parenting they receive. Some particular parenting behaviors are more beneficial than others, though both positive and negative attitudes and behaviors of parents impact a child's overall health and behavior throughout the lifespan. In cases of maltreatment, parenting is a very important area to examine due to the fact that there is evidence that certain aspects of parenting and parents' lives are risk factors for their children's maltreatment. It is also important because of the idea that parenting is shown to be susceptible to change following a child's experience with maltreatment and can predict whether or not a child goes on to experience behavior problems (McWey, Claridge, Wojciak, & Lettenberger-Klein, 2015; Greeno et al., 2016; Casanueva, Martin, Runyan, Barth, & Bradley, 2008).

In terms of parenting styles and their impact on children, the most influential information and research came from Diana Baumrind's studies with preschoolers and observations of their parents' natural behavior (Baumrind, 1971). Berk (2013) defined these parenting styles as

“combinations of parenting behaviors that occur over a wide range of situations, creating an enduring child-rearing climate.” The four main parenting styles classified by Baumrind (1971) consist of authoritative, authoritarian, permissive, and uninvolved and vary in terms of the three main features of (1) acceptance of the child and involvement in their life, (2) control of the child’s behavior through rules, demands and expectations, and (3) the granting of a child’s autonomy by parents. Parents with an authoritative style, which is shown to be the most effective in child-rearing, are supportive, with high levels of acceptance and involvement, while also having reasonably high levels of demand and control and granting appropriate amounts of autonomy. Parents who have a permissive parenting style are also warm and accepting, but are typically uninvolved and have low levels of demand and control, granting their children almost complete, immediate autonomy to make the majority of decisions on their own. Authoritarian parents are often colder and more rejecting, exhibiting low levels of acceptance and involvement, but make their child’s decisions for them due to high levels of control and demand of their children. The fourth child-rearing style, uninvolved parenting, consists of low levels of support, involvement, control, and overall care, all of which contribute to a general indifference to the majority of aspects of their child’s life. Berk (2013) explains that the extreme end of uninvolved parenting is considered to be neglect, one of the four main types of maltreatment.

As stated above and as is very prevalent in parenting and child development literature, there is significant evidence that parenting is very impactful on the development and mental state of children and adolescents. These impacts of these parenting behaviors, however, are different for children and adolescents. According to Berk (2013), during childhood, reasonably high levels of both responsiveness and demand/monitoring can influence an upbeat mood and high levels of self-esteem, self-control, and academic achievement, while it additionally encourages social and

moral maturity in adolescence. On the other hand, uninvolved parenting typically predicts problems with attachment and cognition, as well as deficits in social and emotional skills during childhood. During adolescence, this parenting style influences depression, anger, and anti-social behavior (Berk, 2013). In relation to this study, existing research shows that children raised with low levels of monitoring show behaviors like impulsiveness, disobedience, and dependence during childhood and go on to exhibit poor academic achievement and antisocial behaviors during adolescence (Berk, 2013). All of these explanations show how parenting significantly predicts particular behaviors in childhood and adolescence, even without an experience of maltreatment.

Due to the fact that a significant amount of research shows a strong relationship between the experience of abuse or neglect during childhood and behavior problems years later in life, following child maltreatment, this topic is very important and requires more focus and research (Tabone et al., 2011). The extent to which children experience these behavior problems can be dependent on their ability to cope with their experience of abuse or neglect and how much support and the quality of that support to which they have access to (Tabone et al., 2011). This topic is also important because, according to a report by the United States Department of Health and Human Service in 2015, children who are within the age of birth to 1 year old are at the greatest risk due to the fact that they are shown to have the highest rates of abuse (DDHS, 2017). Adding additional importance to this research area is the fact that the earlier maltreatment occurs in childhood, the higher likelihood of recurrence and more detrimental effects (Keiley, Howe, Dodge, Bates, & Pettit, 2001; Appleyard, Yang, & Runyan, 2010).

### **Child Maltreatment and Externalizing Behaviors**

As explained above, a significant amount of existing literature explains the positive relationship between child maltreatment and internalizing and externalizing behaviors. Some forms of internalizing behaviors following child abuse include depression, anxiety, and social withdrawal, while common externalizing behaviors are frequently displayed in acts of aggression or acting out in school or other aspects of life (Johnson et al. 2002). In their research on child sexual abuse trajectories, Jones et al. (2013) explain that internalizing behaviors are typically exhibited in the form of deactivation of symptoms as compared to externalizing behaviors, which are more obvious and acted out. Therefore, externalizing symptoms may be more prevalent and apparent in child maltreatment literature.

Findings from research on child sexual abuse trajectories exemplify the fact that internalizing and externalizing behaviors following maltreatment can go on to create or worsen problematic behavior, causing problems in later life. For example, Jones et al. found that certain externalizing behaviors, such as impulsivity and inattention, may increase one's potential for certain risky behaviors. More specifically, the role of externalizing problems particularly affected rates of sexual intercourse in boys (2013). This is also found to be true in studies on child maltreatment, internalizing problems, and adolescent smoking in that internalizing problems that are a result of child maltreatment may account for adolescent smoking among these maltreated adolescents (Lewis et al., 2011). Another example of this is in research by Oberlander et al. (2011) that explains that emotional distress following maltreatment in childhood is a significant predictor of early engagement of sexual intercourse. Each of these studies demonstrates that adverse outcomes caused by child maltreatment can cause additional problems in other areas of these children's lives. In terms of internalizing behavior problems following a child's experience with maltreatment, Appleyard, Yang, & Runyan (2010) explain

that low self-esteem, loneliness, and social isolation, which are all shown to be common symptoms post-maltreatment, have a notable relationship with depression and internalizing behavior problems. This same study shares findings from Rosenberg & Rosenberg (1978) that explain that negative experiences like child maltreatment have the potential to cause individuals to have negative self-perceptions, due to the fact that self-perceptions are frequently the outcome of social interaction and life experiences. Because of this evidence of the detrimental effects that internalizing and externalizing behaviors following maltreatment can have on children over the course of their life, the importance of research on the relationship between child maltreatment and these behaviors is strongly emphasized.

### **Parenting Behaviors as Mediators**

Existing literature suggests that particular parenting behaviors may be related to certain outcomes of child maltreatment. Some of these parenting behaviors include support, monitoring, involvement, interaction, and nurturance. As stated above, most of these behaviors, as well as others, such as demand, discipline, and control, are incorporated into 4 well-known parenting styles; authoritative, authoritarian, permissive, and uninvolved. The parenting behaviors vary by level, determining the type of parenting style. Parent-child relationship quality is also shown to be related to severity of adverse outcomes following maltreatment (Miller, Adams, Esposito-Smythers, Thompson, & Proctor, 2014). Additionally, research by McEwin, Claridge, Wojciak, & Lettenberger-Klein (2015) shows that even a mother's mental state could impact the parent-child relationship. More specifically, the impact of maternal depressive symptoms on the mother-adolescent relationship is discussed as well as how this could then contribute to negative behaviors in the adolescents. In a study analyzing the relationship between child maltreatment and suicidal ideation, Miller et al. (2014) explain that less supportive parental relationships have

been found to be related to high rates of suicidal ideation (SI). They also find that child maltreatment severity was found to predict poor parental relationships, which then predicted increased risk of SI. This finding suggests that early child maltreatment is likely to impede or negatively impact the development of strong parent relationships, which then increases the risk of suicidal ideation for individuals in late adolescence (Miller et al., 2014). Oberlander et al. (2011) also found a significant relationship between child maltreatment and parental monitoring in their research on post-maltreatment emotional distress and early adolescent sexual intercourse. This study also found links between parental monitoring and adolescent mental health. In particular, their results showed that parental monitoring buffered the impact of maltreatment on emotional distress in adolescent girls (Oberlander et al., 2011). Further reinforcing this link between child maltreatment, adverse outcomes, and parenting is research on fathers/father figures and their interaction with young children in families that were reported to child protective services. Findings from this research shows that the presence of some form of paternal relationship in a child's life was related to lower levels of aggression and depression by the age of 6 years old. Exemplifying the connection between parenting attitudes and behaviors and children's behavior, Thompson et al. (2014) used a multiple mediation model to study whether or not children's experiences of their parents' behavior and their psychosocial adjustment result from their mothers' attitudes about parenting, which would then go on to predict their own parenting attitudes. This study's results provide an example of this mediation, which states that there was a significant relationship from a mother's rejection of punishment to youth internalizing behavior which then predicted youth's rejection of punishment as well (Thompson et al., 2014).

Though this research provides significant evidence of the relations between parenting, child maltreatment, and children's subsequent internalizing and externalizing behavior problems, it is important to acknowledge the idea that parenting is highly susceptible to change following child maltreatment. In order to view parenting behavior as a mediator, it is necessary to examine and explain how and why parenting attitudes and behaviors have potential to change following maltreatment of a child in their care. In general, parenting can change depending on a child's gender or age, or whether or not a child has health problems, disabilities, irritability, or certain developmental abnormalities. In the case of maltreatment, however, alternative reasons for a change in parenting practices may come into play. The National Survey of Child and Adolescent Well Being Research Group (2003) states that, of the approximately 800,000 families who annually receive child welfare services following a CPS investigation, half receive some form of parenting training, which makes it the most common service utilized by and provided to parents who are involved with CPS, according to Hurlburt, Barth, Leslie, Landsverk, & McCrae (2007). This is important to note because these training programs are aimed at creating positive change in parenting attitudes and behaviors following child maltreatment, in order to prevent reoccurrence of maltreatment but also to prevent harmful effects on the child. Further reinforcing this idea are findings from Chaffin et al. (2004) that support the effectiveness of parent-child interaction therapy (PCIT) in reducing future physical child maltreatment among parents who were previous physically abusive. Additionally, an article by Gewirtz, Forgatch, and Wieling (2008) discusses and examines particular parenting practices as means for children's adjustment following experiences of mass trauma and explains how and why changes in parenting following these traumatic experiences can occur. The type of trauma, amount and type of other adverse experiences, overall health of both child and caregiver, and other factors within the family are

just a few of the variables that predict the quality of parenting that caregivers use with their children following a traumatic experience (Gewirtz, Forgatch, & Wieling 2008). For example, results of their controlled trial of parenting intervention to minimize problem behavior among school-aged children of battered women provides sufficient evidence that both parenting and mothers' mental health are associated with children's adjustment following an experience of trauma (Gewirtz, Forgatch, & Wieling 2008).

### **Current Study and Aims**

Overall, the current study will explore the relationship between child maltreatment and behaviors problems in adolescence to identify if parenting is a mediator that can explain this relationship as well as serve as a target for prevention and reduction of long-term health and criminal justice costs in the United States. More specifically, one aim of this study is to review and examine the relationship between child maltreatment at or before age 4 and externalizing behaviors during adolescence, specifically at the age of 16. Because this study uses data that contains reports of abuse of children at or before age 4, this group of children at highest risk for being maltreated is able to be studied prospectively, as are the effects of maltreatment over the course of their life, up to age 16. Additionally, this study measures externalizing behaviors at age 16 because these types of behaviors tend to be more common for children of this age, especially child who have been maltreated, and it serves as the one of the final opportunities to prevent these problems from continuing or getting worse into adulthood.

Parenting, measured by parent-child relationship quality and parental monitoring levels, will then be tested as mediators of this relationship. For example, parenting behaviors at the age of 12 will be examined following a child's experience with maltreatment during their childhood. Parenting was measured at age 12 because we were interested in parenting that occurred at the



entry to adolescence and still relatively recent to the child's experience of maltreatment. This was done to determine parenting's predictive and mediational value with respect to externalizing behaviors later in adolescence, at age 16. The main hypothesis for this study is that certain parenting behaviors will mediate the relationship between child maltreatment and internalizing and externalizing behaviors. Specifically, it is expected that child maltreatment at or before age 4 will predict parent-child relationship quality and levels of parental monitoring at age 12, and that these two dimensions of parenting will go on to predict the severity of externalizing behaviors at age 16. More specifically, this study hypothesizes that presence of child maltreatment at or before age 4 will predict lower parent-child relationship quality and lower levels of parental monitoring at age 12. Additionally, this study expects that low levels of parental monitoring and low parent-child relationship quality will predict higher amounts of externalizing behaviors at age 16.

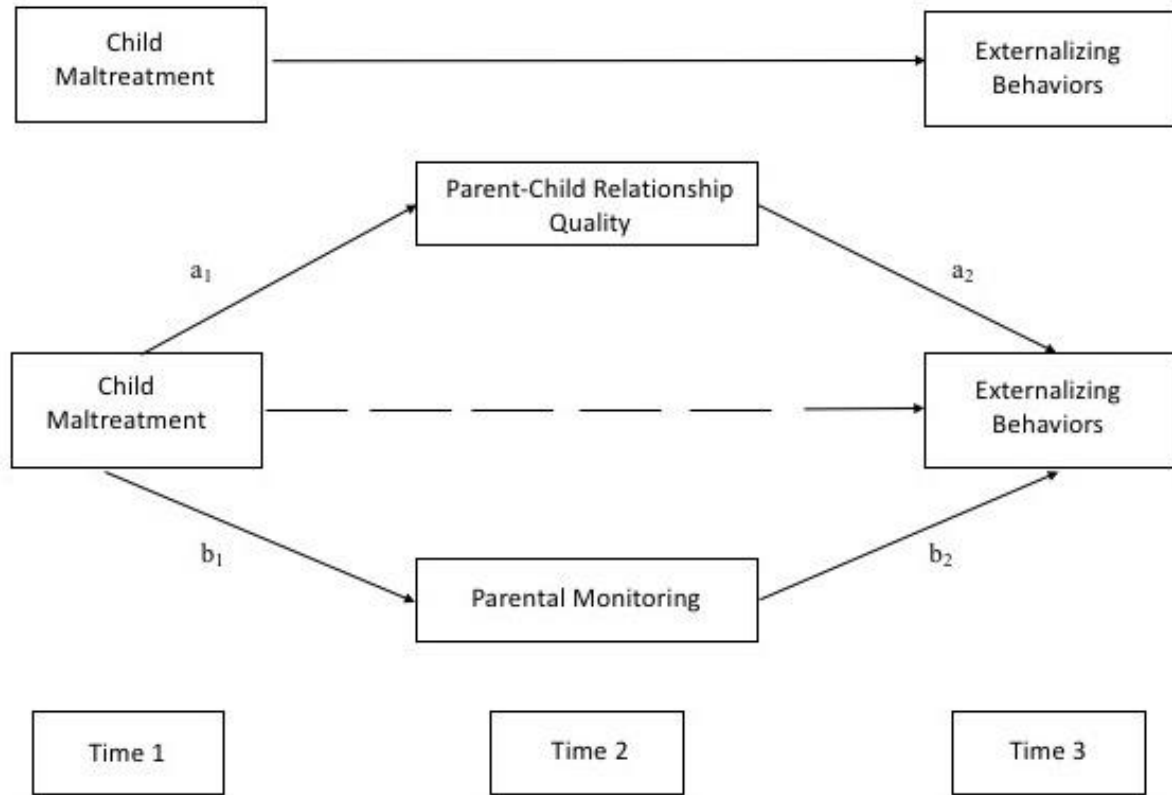


Figure 1. Conceptual Model of Thesis Question

## **Chapter 2**

### **Methods**

For a secondary data analysis, this study utilized data from the Longitudinal Studies of Child Abuse and Neglect, also known as LONGSCAN, which is a consortium of longitudinal studies of child maltreatment conducted at five different sites across the United States. These five sites include Northwest, Midwest, Southwest, Southern, and Eastern data collection centers. All of these sites used common measures, data collection, interview protocols, and handling and data entry procedures. One of these five sites included children who were considered to be at high risk for maltreatment, two sites contained children who were reported for child maltreatment, and the remaining two sites had children who were either reported as having experienced maltreatment and children who were identified as being at risk, based on demographic risk factors (Jones et al., 2013). All children in this study vary by their levels of risk for maltreatment, ranging from no identified risk besides low income to children who were placed in foster care (Runyan et al., 1998). Recruitment began with children 4 years old or younger. The assessments used throughout the study were face-to-face interviews with children and their caregivers and these were conducted at when the child 4, 6, 8, 12, 14, 16, 18 and 20 years old. At each of these time points, data was collected to measure exposure to maltreatment, certain age-appropriate outcomes, potential intervening variables, and developmental and health outcomes. It is important to note that assessments were created using ecological-developmental theory as a basis to assess age-specific risk as well as protective factors such as characteristics or systems within the individual and parents, or in a child's neighborhood and culture.

## **Sample**

The overall LONGSCAN sample consists of 1,354 children who were identified as having been maltreated or at risk for maltreatment during infancy or early childhood. The overall sample, averaging baseline demographic totals across all five sites, consisted of 51.5 percent female children and 48.5 percent male. Overall, the majority of the children in this sample are Black, making up 53.2 percent, following that is Caucasian (26.1%), Mixed race (11.9%), and Hispanic (7.2%), while 1.6 percent identified as a race other than these. 43.3 percent of caregivers had less than or equal to 11 years of education, 32.2 percent had 12 years of education, and 24.1 percent had greater than 12 years. Almost half of the caregivers were single (46.8%) and following this was married caregivers at 32.2 percent, divorced at 11.5 percent, separated at 7.7 percent, and 1.8 percent of caregivers whom were widowed. Additionally, almost 60 percent of families had incomes less than or equal to 14,999 per year, while over 60 percent were Aid for Families with Dependent Children (AFDC) recipients. This study used only complete data on the outcomes of interest between the age 4 to age 16 assessments, resulting in 320 children available for data analysis.

**Table 1. Sample Demographic Information**

	<i>M (SD) or N (%)</i>
Child Maltreatment <sup>1</sup>	
Confirmed Child Maltreatment	576 (42.5%)
Control Condition	778 (57.5%)
Child Sex	
Male	657 (48.5%)
Female	697 (51.5%)
Child Race	
White	354 (26.1%)
Black	721 (53.2%)
Hispanic	97 (7.2%)
Native American	8 (.6%)
Asian	4 (.3%)
Mixed Race	161 (11.9%)
Other	8 (.6%)
Child Age <sup>2</sup>	4.56 (.70)
Median Family Income <sup>2</sup>	\$10,000-\$14,999
Living with Single Parent Only <sup>2</sup>	
No	354 (26.1%)
Yes	602 (44.5%)
Years of Education for Caregiver <sup>2</sup>	11.65

Note. <sup>1</sup> = Confirmed instances of child maltreatment between ages 0-4. <sup>2</sup> = Demographic data reported from the initial, age 4 assessment.

**Table 2. Frequency of Confirmed Child Maltreatment for the Four Most Common Types**

	<b>LONGSCAN</b>	<b>U.S.<sup>1</sup></b>
Confirmed Maltreatment		
Neglect	78.3%	75.3%
Physical Abuse	18.8%	17.2%
Sexual Abuse	7.3%	8.4%
Emotional Abuse	26.0%	6.2%

Note. LONGSCAN= Longitudinal Studies of Child Abuse and Neglect. Percentages add up to greater than 100% because of children experiencing more than one type or occurrence of maltreatment. <sup>1</sup>= U.S. data obtained from U.S. Department of Health and Human Services (2017), Administration for Children and Families, Administration on Children, Youth, and Families, Children's Bureau, Child Maltreatment 2015.

## Measures

***Demographics.*** Parent-reported demographics such as child age, sex, and race, as well as median family income, caregiver education, and caregiver marital status were collected at the age 4 assessment and accounted for as covariates during data analysis. Confirmed cases of maltreatment between the ages of 4 and 16 were also regarded as covariates for this analysis.

***Parent-Child Relationship (PCPA).*** The purpose of this measure is to examine the primary caregiver's perception of their relationship with their child as well as their recent involvement with their child in the past 4 weeks and their expectations/hopes for their child's educational attainment. For this study, the age 12 LONGSCAN assessment was used and 6 items were selected to measure the overall quality of relationship between parent and maltreated child. These items include how close parent feels toward child, how much the parent cares about the child, how often the parent trusts the child, how often the parent feels they understand the child, how often parent and child get along well, and how often parent and child make decisions together about things in child's life. Quality of relationship is measured using a five-point Likert scale (1= never to 5= always, or 1= not at all to 5= very much). Scores of these items are added together and divided by six in order to get the average quality of relationship response.

***Parental Monitoring: Child Report (PMCA).*** The purpose of this measure is to analyze a child/adolescent's perceived level of monitoring by their primary caregiver. Higher scores of monitoring signify that children/adolescents perceive that their caregivers have more knowledge about their friends, their location at night, what they spend their money on, how they utilize their free time, and location most days after school. These domains of monitoring are assessed with five corresponding items rated on a Likert scale ranging from 0-2 (0= they don't really know, 1= they know A LITTLE about this, 2= they know A LOT about this). Scores obtained on these five

items from the age 12 assessment were summed and averaged for inclusion in the multiple mediator model.

### ***Data Analytic Strategy***

A multiple mediator model (Preacher & Hayes, 2008) was used to determine whether parent-child relationship quality and parental monitoring constitute indirect effects explaining the relationship between child maltreatment and subsequent internalizing and externalizing behaviors at age 16. This multiple mediator model was carried out using the PROCESS macro within SPSS (Hayes, 2013). This regression-based, multiple-mediator model is especially helpful to this study because it allows for the testing of the indirect effects of more than one mediator simultaneously. This method also allows covariates, such as a child's sex, age and race, to be accounted for in order to specifically study the relationship between child maltreatment, parenting behaviors and externalizing behavior problems.



## Chapter 3

### Results

A Pearson's correlation of child maltreatment prior to age 4 and externalizing behaviors at age 16 was statistically significant ( $r = .10, p = .005$ ), signifying a relation between these two variables as the basis of the study. After accounting for the demographic variables of child's age, sex, and race, as well as household income, caregiver's education level, caregiver's marital status and maltreatment between the ages of 4 and 16, the results of the multiple mediator analysis indicated there was a significant specific indirect pathway for parental monitoring, *Point Estimate* = .49, *Bias Corrected 95% Confidence Interval*: .04 – 1.15 (labeled in Figure 1 as pathway  $b_1, b_2$ ), in explaining the relation between child maltreatment before the age of 4 and externalizing symptoms at the age of 16. Specifically, findings showed that the experience of child maltreatment at or before the age of 4 years old significantly predicted lower levels of parental monitoring at age 12 ( $b = -.12, p = .04$ ), which then significantly predicted increased levels of externalizing behaviors by the age of 16 years ( $b = -4.06, p = .01$ ). Because the confidence interval for the specific indirect pathway of parental monitoring does not contain zero, we can be 95% certain that our point estimate differs from zero. This finding is in line with one of the hypotheses of this study. Contrary to this study's other hypothesis, however, parent-child relationship quality did not constitute an indirect pathway of the relation between child maltreatment and subsequent externalizing behaviors after accounting for all model parameters and other indirect pathways, *Point Estimate* = -.13, *Bias Corrected 95% Confidence Interval*: -1.33 – 1.00 (labeled in Figure 1 as pathway  $a_1, a_2$ ). Though parent-child relationship at age 12

was shown to significantly predict levels of externalizing behavior problems at 16 ( $b = -8.31, p = .00$ ), child maltreatment at or before age 4 was not found to significantly predict a change in parent-child relationship at 12 ( $b = .02, p = .82$ ). Therefore, the specific indirect pathway for parent-child relationship quality was not significant, a finding that is inconsistent with this study's hypothesis. Overall assessment of mediation as a result of these two specific indirect pathways was encouraging. For instance, the total effect for this multiple mediator model, which represents the relationship between child maltreatment prior to age 4 and externalizing behaviors at age 16 after accounting for covariates, was .44 and not statistically significant. However, the direct effect, which represents the addition of the two specific indirect effects to the total effect model, was .08. While not statistically significant, the direct effect estimate suggests that we were able to reduce the total effect of child maltreatment on externalizing behaviors to close to zero by accounting for parent-child relationship quality and parental monitoring, providing support for mediation.

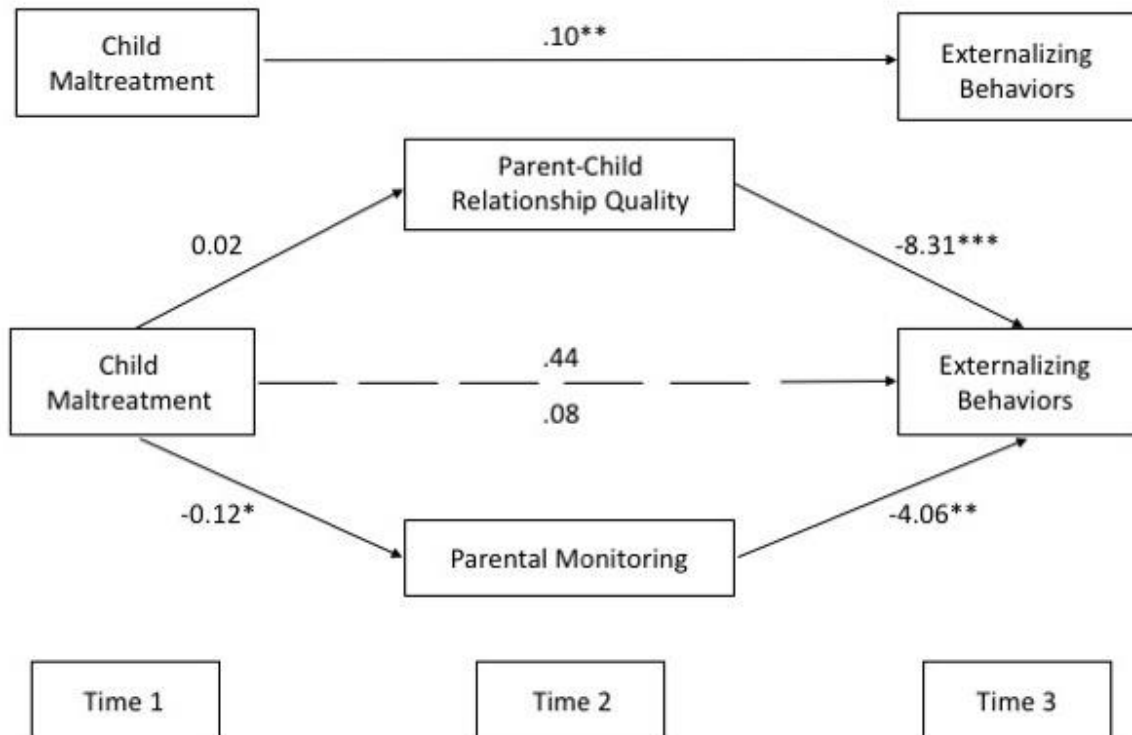


Figure 2. Results of Multiple Mediator Model.  $* = p < .05$ ,  $** = p < .01$ ,  $*** = p < .001$

## **Chapter 4**

### **Discussion**

This study sought to assess the relationship between child maltreatment at or before age 4 and externalizing behaviors at age 16 and whether or not this relationship was mediated by parent-child relationship quality and parental monitoring levels at age 12. Results of this study show that child maltreatment at this time significantly predicted a change in parental monitoring levels at age 12. Contrary to expectations, however, child maltreatment was not found to be a significant predictor of parent-child relationship quality at age 12. Both of these relationships were negative, which implies that a child's experience of maltreatment at or before age 4 predicts lower quality of the parent-child relationship at age 12 and lower levels of parental monitoring at this time as well. Similarly, this study also found that there was a negative relationship between both parenting variables and externalizing behaviors at age 16. Low parent-child relationship quality and low levels of parental monitoring at age 12 were found to predict higher amounts of externalizing behaviors at age 16, during adolescence.

Consistent with existing literature and Diana Baumrind's fundamental research on parenting styles and their impact on child's development, the results of this study reinforce the common findings that parenting during one's childhood significantly predicts whether or not a child grows to exhibit internalizing or externalizing behaviors. All dimensions of parenting utilized in this study are incorporated into Baumrind's parenting styles and were shown to predict levels of externalizing behaviors during adolescence. More specifically, the dimensions of involvement and autonomy, which are assessed using the parental-child relationship quality measure, as well as demandingness, assessed by the parental monitoring measure, were shown to have a negative relationship with externalizing behaviors at age 12. Also, in accordance with

existing, though very recent and minimal, research on the impact of child maltreatment on certain parenting behaviors, this study found that child maltreatment at or before the age of 4 predicted changes in levels of parental monitoring at the age of 12, which is a new finding in child maltreatment literature. It is also important to note that the indirect relationship between child maltreatment at or before age 4 was not significantly predictive of externalizing behaviors at age 12 after accounting for parenting-child relationship quality and parental monitoring levels at age 12, which is the goal of mediational studies.

### ***Limitations***

There are also some limitations of this study that should be considered. After only selecting children that were maltreated during the years of 0-4, the sample size was reduced significantly from 1,354 children to 576. This study also failed to account for peer relationships as a mediator for the relationship between child maltreatment and subsequent externalizing behaviors, though they have been shown to significantly predict the presence of externalizing behaviors following a child's experience of maltreatment (Miller et al., 2014; Fotti, Katz, Afifi, & Cox, 2006). In addition to peer relationships, there are also other mediators of the relationship between maltreatment and externalizing behaviors that almost certainly exist, but were not tested in this particular study.

### ***Future Directions***

The results of this study contribute to the growing body of literature that attempts to find and explain the relationship between child maltreatment and externalizing behaviors in adolescence. This area of research is important because it promotes research on mediators that could potentially reduce the likelihood of individuals experience externalizing behaviors later in life. In relation to this, future research should seek to analyze other aspects of parenting styles,

attitudes and behaviors as potential mediators of the relationship between child maltreatment and externalizing behaviors during adolescence. Additionally, in recent literature, peer relationships have been analyzed as mediators of this relationship. Though this analysis has been done, more in depth research should be done in order to find ways to prevent externalizing behaviors following a child's experience of maltreatment from progressing or intervene before these behaviors arise. Research of this kind also provides fundamental information about how CPS could change their parenting programs to make them more effective and encourage caregivers to parent in ways that are more likely to reduce the likelihood of maltreated children exhibiting externalizing behaviors in the future. More specifically, based on the results from this study, parenting programs should encourage parents to increase levels of involvement and monitoring during early adolescence due to the fact that there was a negative relation between the parenting measures and externalizing behaviors.

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