

CHILDHOOD MALTREATMENT AND MOTHER-YOUNG CHILD ATTACHMENT:  
EXAMINING INTERACTIONS AMONG ATTACHMENT, DEPRESSION, REFLECTIVE  
FUNCTIONING, PARENTING BEHAVIORS, AND YOUNG CHILDREN'S OUTCOMES IN  
MOTHERS WITH HISTORIES OF CHILDHOOD MALTREATMENT

by

MARIA KHAN  
B.A. Wayne State University, 2012

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## **ABSTRACT**

Although previous research identified mothers who experienced childhood maltreatment as exhibiting an especially heightened risk for attachment difficulties with their own young children, evidence regarding the mechanisms of action driving this relationship have been lacking. Thus, the current study introduced mothers' depressive symptoms and the novel construct of reflective functioning as potential mediators to help explain the relationship between mothers' childhood maltreatment experiences and patterns of insecure (i.e., anxious, avoidant, and disorganized) mother-young child attachment. The current study included a community sample of 146 mothers with children who ranged in age from 1½-to 5-years. Mothers provided ratings of their own childhood maltreatment experiences, attachment with their young children, depressive symptoms, reflective functioning, parenting behaviors and attributions, and young children's problems. Correlational analyses displayed significant associations among the variables of interest. Additionally, mediational analyses indicated that mothers' depressive symptoms mediated the relationship between mothers' childhood maltreatment experiences and patterns of insecure mother-young child attachment. Given that mothers' childhood maltreatment experiences failed to predict reflective functioning, the mediational role of reflective functioning was unsupported. Further, mothers' reflective functioning mediated the relationship between mothers' depressive symptoms and patterns of mother-young child insecure attachment. Finally, hierarchical regression analyses showed that mothers' adverse childhood experiences and depressive symptoms uniquely predicted their young children's internalizing and externalizing problems. These data suggested that the psychological consequences resulting from adverse childhood experiences may be more damaging to mothers' attachment with their young children

than mothers' adverse childhood experiences alone. Moreover, these findings suggested that mothers' depressive symptoms and reflective functioning work together in predicting mother-young child attachment. Altogether, these results demonstrated the importance for promoting trauma-informed parenting interventions for facilitating secure emotional connections between mothers and young children, especially in mothers with childhood traumatic experiences themselves.

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## **CHAPTER ONE: INTRODUCTION**

The quality of the parent-young child attachment is critical for fostering healthy and adaptive relationships with other individuals over time (Kerns & Barth, 1995). Bowlby's (1969, 1988) extensive literature on attachment delineated that infants form a unique bond with their primary caregivers (often their mothers), as these individuals serve as the primary provider of the safety and security needed for survival. Unfortunately, some mothers are unable to provide a secure emotional connection for their young children. In fact, research showed that a number of adverse childhood events may impair mothers' abilities to form secure attachments with their children (Main & Solomon, 1990). Among these adverse childhood events are experiences of childhood maltreatment, including physical abuse, sexual abuse, emotional or psychological abuse, and neglect.

Instead of there just being a direct connection between mothers' histories of childhood maltreatment and mother-young child attachment, however, there may be many mediators that could help to explain this connection further. For example, past experiences of childhood maltreatment and patterns of insecure mother-young child attachment were linked to maternal psychopathology, particularly depression (Brown, Cohen, Johnson, & Smailes, 1999; Hipwell, Goossens, Melhuish, & Kumar, 2000; Seng et al., 2013; Widom, DuMont, & Czaja, 2007). Further, mothers with high reflective functioning, or the ability to 'mentalize' behavior, practiced more adaptive behaviors and were more likely to have secure attachments with their young children (Fonagy, Steele, Steele, Moran, & Higgit, 1991; Slade, Grienberger, Bernbach, Levy, & Locker, 2005; although the concept of reflective functioning is fairly novel).



Given the importance of understanding the connections between mothers' own histories of childhood maltreatment and their abilities to foster attachment with their young children, the current study examined potential mediators that could be useful in the implementation of different parenting programs that are meant to foster secure attachment between mothers and their young children. In particular, the current study investigated the relationship between mothers' histories of childhood maltreatment and their attachment with their young children using mothers' depressive symptoms and reflective functioning as mediators. Additionally, this study examined parenting behaviors, parenting attributions, and young children's internalizing and externalizing behavior problems within the context of these other variables.

### Mothers' Childhood Maltreatment Experiences

#### Maltreatment Statistics

In 2012, Child Protective Services (CPS) investigated or responded to alleged cases of maltreatment for approximately 3.2 million children. Of these children, approximately 686,000 were identified as having founded maltreatment experiences, resulting in child maltreatment estimates of 9.2 per 1,000 children in the United States. Of these identified children, the vast majority (i.e., 78.3%) were subject to neglect. Additionally, 18.3% were subject to physical abuse, 9.3% were subject to sexual abuse, and 8.5% were subject to emotional or psychological abuse. Moreover, 10.6% of identified children experienced "other" types of maltreatment, including threatened abuse, parents' substance abuse, or abandonment during infancy (U.S. Department of Health and Human Services, 2013).

With regard to other demographic indicators, base rates suggested that identified cases of child maltreatment were slightly higher for girls (9.5 per 1,000) than for boys (8.7 per 1,000) in

the population. Further, of the children identified with founded maltreatment experiences, 44% were Caucasian, 21.8% were Hispanic, and 21.0% were African American. Further, infants and young children were at the highest risk for maltreatment, with 26.8% of identified children being younger than 3-years of age and 19.9% of identified children ranging in age from 3- to 5-years. The rate of maltreatment was highest for infants who were younger than 12-months of age (21.9 per 1,000 children in the population) and very young children who were 1-, 2-, and 3-years of age (11.8, 11.9, and 11.6 per 1,000 children in the population, respectively). Generally, it was found that the older the identified child, the smaller the rate and percentage of maltreatment (U.S. Department of Health and Human Services, 2013). Not surprisingly, younger onset of maltreatment was associated with greater negative outcomes (Kaplow & Widom, 2007). Moreover, as troubling as these reported rates may be, several cases of childhood maltreatment are unreported formally. In fact, it was suggested that the true national rates of childhood maltreatment may be over five to eleven times higher than prevalence estimates provided by the government (Straus, Hamby, Finkelhor, Moore, & Runyan, 1998).

### Parent Perpetrators

Regrettably, the U.S. Department of Health and Human Services (2013) reported that the majority of children who were identified as having maltreatment experiences were perpetrated against by their caregivers. The vast majority (81.5% of identified children) were maltreated by a parent figure, with 36.6% of children being perpetrated against by their mother and 18.7% being perpetrated against by their father. Further, 19.4% of children in 2012 were maltreated by both their mother and father, and another 5.6% of children were perpetrated against by either a male or female relative. In addition, only 12% of identified child perpetrators were found *not* to be the

parental figure of the identified child (U.S. Department of Health and Human Services, 2013). Of those children who experienced maltreatment from a parent figure or relative, 85.7% experienced physical abuse, and 29.2% experienced sexual abuse (Silverman, Reinherz, & Giaconia, 1996).

Moreover, parent perpetrators of childhood maltreatment were more likely to be substance-involved and to have a variety of other psychosocial difficulties. Recent reports from the U.S. Department of Health and Human Services (2013) suggested that about 9% of identified children who experienced maltreatment from their caregiver had a parental figure who abused alcohol and that about 20% of these children had a parental figure who abused other substances. In reviewing Child Protective Services (CPS) records, researchers found that, of 639 maltreated children removed from their homes, 79% had at least one caregiver who was substance-involved (Besinger, Garland, Litrownik, & Landsverk, 1999). There is further evidence that, in approximately half of serious child maltreatment or neglect cases, at least one parent had alleged substance-involvement, most commonly with alcohol, cocaine, and heroin (Famularo, Kinscherff, & Fenton, 1992b; Murphy et al., 1991). Specifically, parents' alcohol-involvement was associated significantly with physical maltreatment of children, whereas parents' cocaine-involvement was associated significantly with sexual maltreatment of children (Famularo et al., 1992b). More recently, researchers found that approximately 97% of children with parents who were using methamphetamines were found to be neglected, thereby suggesting that children with parents who use methamphetamines were at an especially heightened risk for neglect (Messina & Jeter, 2012).

Moreover, parents' substance-involvement during the prenatal period also placed parents at a greater risk for maltreating their children. An estimated 30% of children with mothers who were substance-involved during the prenatal period were identified as being maltreated or

neglected (Jaudes, Ekwo, & Voorhis, 1995), and mothers with prenatal cocaine-involvement were 9 to 23% more likely to neglect or maltreat their children by the time that their children reached 2-years of age (Minnes, Singer, Humphrey-Wall, & Satayathum, 2008). Given that the majority of identified children were perpetrated against by their own caregivers (U.S. Department of Health and Human Services, 2013) and that these caregivers had a moderate likelihood of also being substance-involved (Besinger et al., 1999; Famularo et al., 1992b; Murphy et al., 1991; U.S. Department of Health and Human Services, 2013), experiences of childhood maltreatment may have clear associations with patterns of mother-young child attachment and detrimental implications for these individuals' overall functioning.

#### Negative Outcomes on Functioning

For those individuals with histories of childhood maltreatment, research has identified numerous negative outcomes that may impact greatly individuals' psychological, emotional, and behavioral functioning. For example, research suggested that those who were maltreated were at significant risk for a number of adverse mental health outcomes during childhood and adolescence, including depressive disorders, anxiety disorders, conduct disorder, oppositional defiant disorder, attention-deficit/hyperactivity disorder, posttraumatic stress disorder, and substance abuse (Famularo, Kinscherff, & Fenton, 1992a; Flisher et al., 1997; Livingston, Lawson, & Jones, 1993; McLeer et al., 1998). Research further indicated that past psychopathology best predicted future psychopathology (Rudolph, Flynn, Abaied, Groot, & Thompson, 2009). Consequently, childhood maltreatment was associated significantly with future negative outcomes in adulthood. For example, Johnson, Cohen, Brown, Smailes, and Bernstein (1999) found that individuals who experienced childhood physical abuse, sexual

abuse, and neglect were four times more likely to meet criteria for a personality disorder during early adulthood relative to those without such experiences. Further, childhood maltreatment was linked with psychopathology in adulthood, particularly depression and posttraumatic stress disorder (Brown et al., 1999; Chartier, Walker, & Naimark, 2009; Seng et al., 2013; Widom, 1999; Widom et al., 2007).

In particular, research found that women who experienced childhood maltreatment were three times more likely to develop depression than women who had not experienced childhood maltreatment (Brown et al., 1999). Given that researchers predicted that, by the year 2030, major depressive disorder will be a leading cause of disability around the world (Mathers & Loncar, 2006) and maternal depression impacts negatively the parenting of young children (Goodman, 2007) as well as mother-young child attachment (Hipwell et al., 2000; Martins & Gaffan, 2000), it was imperative to empirically examine novel constructs, such as reflective functioning, that may help to better explain the relationship between depression and mother-young child attachment, especially with mothers who experienced childhood maltreatment. Therefore, the current study will examine thoroughly these variables in relation to one another.

The implications of histories of childhood maltreatment also extend to neurobiology, as it was suggested that such experiences may affect brain structure. For example, Green (1983) described central nervous system impairment in children who had been maltreated. These findings suggested that, along with the physical and psychological effects, the possible neurological consequences of childhood maltreatment may strengthen the detrimental impact of the abuse itself (Green, 1983). Moreover, research examining MRI scans of hippocampi indicated that women with histories of early childhood physical or sexual maltreatment and a diagnosis of major depressive disorder had significantly smaller left hippocampal volume

relative to both women with a diagnosis of major depressive disorder without a history of childhood abuse and healthy, non-maltreated women (Stein, Koverola, Hanna, Torchia, & McClarty, 1997; Vythilingam et al., 2002). Evidence for neurobiological changes in relation to both childhood maltreatment as well as depression further supported the importance of studying the associations between these two constructs.

In addition to the risk for depression and other psychological symptoms, research suggested that individuals with childhood maltreatment histories were at an increased risk for a myriad of other difficulties. Childhood maltreatment was associated with heightened risk for various medical symptoms and overall poor physical health (Colman & Widom, 2004; Katon, Sullivan, & Walker, 2001; Springer, Sheridan, Kuo, & Carnes, 2007). The Adverse Childhood Experiences (ACE) Study, in particular, was instrumental in identifying the associations between childhood traumatic experiences and a significant risk for a multitude of psychological, social, and health complications later in life (Felitti et al., 1998). Specifically, experiences of childhood emotional neglect were related significantly to disordered eating behaviors (Lowell, Renk, & Adgate, 2014), childhood sexual abuse was associated with smoking and obesity in adulthood (Chartier et al., 2009), and childhood physical abuse was associated with a 21 and 22 percent increase in medical diagnoses and somatic symptoms, respectively (Springer et al., 2007). Flisher and colleagues (1997) specified that childhood maltreatment also was related significantly to poor social competence, academic achievement, language skills, and overall global impairment. Further, research indicated that women who had experienced childhood maltreatment were more likely to have impaired attachment relationships during adulthood (Colman & Widom, 2004). The associations between childhood maltreatment and attachment relationships were examined further in this study.

In trying to understand these connections, it should be noted that certain characteristics of childhood maltreatment experiences themselves may place individuals with such experiences at a heightened risk for particular negative outcomes. For instance, as previously mentioned, children under the age of 5-years were found to be most at risk for maltreatment and consequent negative outcomes. This finding was supported further by the finding that earlier onset of childhood maltreatment (i.e., experiencing maltreatment at younger ages) predicted a greater number of depressive symptoms in adulthood (Kaplow & Widom, 2007). In addition, it was suggested that chronicity of abuse, rather than the type and/or severity of the abuse, best predicted negative outcomes (Bolger & Patterson, 2001; Bolger, Patterson, & Kupersmidt, 1998). One study in particular indicated that exposure to higher levels of childhood abuse was associated with having posttraumatic symptoms as much as a decade from the initial traumatic event (Realmuto et al., 1992).

Moreover, different types of maltreatment may predict different outcomes. Emotional abuse, for example, was a stronger predictor than physical abuse for an array of negative outcomes, including internalizing and externalizing behaviors, social impairment, low self-esteem, suicidal behavior, current and previous psychiatric diagnoses, and hospitalizations (McGee, Wolfe, & Wilson, 1997; Mullen, Martin, Anderson, Romans, & Herbison, 1996; Vissing et al., 1991). With longitudinal investigation of women with childhood neglect, physical abuse, and/or sexual abuse experiences, Brown and colleagues (1999) discovered that women with histories of childhood sexual abuse had the largest effects on their overall functioning, including having an eight times greater risk for repeated suicide attempts. Additionally, childhood sexual abuse was associated with social anxiety disorder, panic disorder, generalized anxiety disorder, and posttraumatic stress disorder, whereas childhood physical abuse only was

associated with posttraumatic stress disorder and specific phobia (Cougle, Timpano, Sachs Ericsson, Keough, & Riccardi, 2010). In contrast, Widom and colleagues (2007) found that the experience of childhood physical abuse, childhood neglect, or multiple types of abuse was associated with a greater risk for lifetime or current depression, whereas childhood sexual abuse was not. Given such findings, it may be beneficial to consider maltreatment-specific characteristics, including the chronicity, severity, and type of childhood maltreatment endured, when possible.

Although individuals with histories of childhood maltreatment were found to be at heightened risk for a plethora of possible negative outcomes, further risk may be incurred when these individuals begin to parent their own children. In particular, mothers who had histories of childhood maltreatment may exhibit added risk for psychopathology as well as negative parenting outcomes related to their maltreatment. For example, research showed that histories of childhood maltreatment may impair mothers' abilities to form secure emotional connections with their children (Bowlby, 1982; Main & Solomon, 1990; Pajulo et al., 2012). As will be discussed more thoroughly in the upcoming section, children who have insecure attachment relationships with their primary caregiver are at risk for an array of psychological and interpersonal difficulties, prompting effects to occur across generations. Further, research indicated that approximately 30% of parents who experienced childhood maltreatment displayed maladaptive and abusive parenting behaviors in their relationship with their own children (Kaufman & Zigler, 1987). Thus, given the ample literature on the intergenerational transmission of abuse (Kaufman & Zigler, 1987, 1989) as well as the intergenerational nature of attachment (van IJzendoorn, Juffer, & Duyvesteyn, 1995), it was essential that potential mediators be examined in relationships among mothers' adverse childhood experiences, patterns of mother-young child



attachment, and mothers' psychological symptoms. Mother-young child attachment will be discussed next as an important variable of interest.

### Mother-Child Attachment

In examining childhood maltreatment and attachment, it was vital to first reflect on the basis and framework for attachment theory. John Bowlby's initial research on the survival instincts of mothers and infants was the foundation for the attachment behavioral system. Bowlby's (1969, 1988) influential and extensive literature on attachment described the unique connection that infants form with their primary caregivers (often their mothers), who are the primary providers of the safety and security needed for survival. Upon investigation of interactions between infants and their mothers, Bowlby found that infants tended to stay as close as they could to the most important source of their survival (i.e., their mothers). Bowlby (1969) further observed that, if infants were separated from their mothers, infants displayed changes in their behavior. These "attachment behaviors" were identified as specific infant behaviors aimed at promoting contact and interaction with the primary caregiver (Bowlby, 1969) and may be attributed to the unique connections that infants form with their attachment figures (Ainsworth & Bowlby, 1991).

Thus, Bowlby's (1988) attachment theory indicated that infants formed meaningful connections with their caregivers, whom they perceived as a "safe base" from which to safely explore the world (Bowlby, 1978). The mother-young child attachment relationship was said to develop by approximately 9-months of age, and child attachment behaviors were said to be strongest until approximately 3-years of age (Bowlby, 1978). During that time, young children formed fairly stable representational models, or internal working models, based on the quality of

their relationship with their primary caregiver (Bowlby, 1969, 1982). These working models assisted children in regulating whether or not they could stray from their mothers during times of exploration. In large part, the attachment process formed from children's experience of their mother's behaviors. Moreover, according to Bowlby, these working models remained consistent across generations (Bowlby, 1969, 1980). Specifically, children's attachment to their caregivers greatly influenced the attachment style that they likely experienced in relationships in the future (Bowlby, 1988). Thus, it was suggested that, if a mother exhibited difficulty with her own attachment system during childhood, this difficulty likely impacted future parenting behaviors and attachment with her young children (Bowlby, 1982; Fraiberg, Adelson, & Shapiro, 1980), thereby supporting the intergenerational nature of attachment relationships.

The attachment literature also was extended through Harlow's (1962) work with infant rhesus monkeys. In a laboratory setting, Harlow presented rhesus monkeys with surrogate 'mothers' made of wire and cloth. In one condition, monkeys were exposed to cloth 'mothers' who provided food and wire 'mothers' who did not provide food. In the other condition, monkeys were exposed to wire 'mothers' who provided food and cloth 'mothers' who did not provide food (Harlow, 1962). Results revealed that the infant monkeys overwhelmingly chose to be with the cloth 'mother' in *either* condition while only visiting the wire 'mother' for feeding. As such, Harlow introduced the notion of *contact comfort*, describing that secondary drives, such as a mothers' physical contact, affection, and love, were critical for a child's development (Harlow, 1962). This finding bolstered Bowlby's previous work and reflected the importance of children receiving security, rather than simple fulfillment of their primary drives (e.g., hunger, thirst), from mothers (Bowlby, 1988; Harlow, 1962).

Further, Harlow's work illuminated the potential consequences of children not having a secure attachment with their mothers. Ongoing work with rhesus monkeys revealed that those who did not receive contact comfort from their mothers tended rarely to mate with others and exhibited more aggressive temperament. Harlow stated that, "from this intimate attachment of the child to the mother, multiple learned and generalized affectional responses [were] formed" (Harlow & Zimmermann, 1958, p. 1). In a societal time when mothers had been advised not to attend affectionately to their children, Harlow's findings were controversial and critical for shifting ideology toward the importance of mother-young child attachment. Moreover, Harlow's prominent findings proposed that secure attachment was critical for individuals' development of empathy and that individuals without a secure attachment in childhood were at risk for not developing the empathetic traits necessary for establishing adaptive relationships.

Mary Ainsworth, one of John Bowlby's students, further added to the attachment literature by establishing classifications for different patterns of attachment through her development and use of the *Strange Situation* (Ainsworth, Blehar, Waters, & Wall, 1978). In this laboratory experiment, mothers and infants were exposed to stress-inducing activities and reunifications. These activities were designed to stimulate specific mother-young child attachment behaviors so that they could be observed by researchers. Upon observation of infant attachment behaviors via the Strange Situation tasks, Ainsworth denoted three categories of attachment: *secure*, *anxious-avoidant*, and *ambivalent* or *resistant*.

Infants described as having *secure* attachment (Type B) viewed their caregiver as a 'safe base' for exploring their environment and exhibited distress upon separation from their caregivers but were quick to greet and delight in their caregivers after being reunited (Ainsworth et al., 1978). Secure attachment was associated comprehensively with more positive and adaptive

psychosocial outcomes and thus was considered the ideal style of attachment (Ainsworth & Bowlby, 1991). On the other hand, infants who exhibited *anxious-avoidant* attachment (Type A) seemed more unconcerned upon separation from their caregivers and paid minimal attention to caregivers upon return (Ainsworth et al., 1978). Lastly, infants with *ambivalent* or *resistant* attachment (Type C) displayed great distress when separating from their caregivers and exhibited difficulty being comforted and returning to exploration or play at reunification (Ainsworth et al., 1978). Unlike secure attachment, anxious-avoidant and ambivalent or resistant attachment were generally more likely to be associated with more negative psychosocial outcomes and, therefore, were considered maladaptive for child development and the mother-child relationship.

Expanding on Ainsworth and colleagues' work with these attachment classifications, Main (i.e., one of Ainsworth's students) and Solomon (1986) indicated that these three classifications were not capturing the full range of attachment behaviors. Main and Solomon (1986) identified and described a new pattern of attachment, termed *disorganized/disoriented* (Type D) attachment. Children with *disorganized/disoriented* attachment exhibited more inconsistent and unusual behaviors upon separation from and reunification with caregivers. Children who fit this style of attachment were more likely to be frightened of their caregivers, to display freezing behaviors, and to have dazed facial expressions (Main & Solomon, 1986). Similar to the two other insecure attachment styles (anxious-avoidant and ambivalent or resistant), infants with disorganized/disoriented attachment were more likely to form working models of their caregiver as being rejecting or inconsistent and ultimately exhibited maladaptive outcomes. Overall, children with insecure attachment patterns were less likely than those with secure attachment patterns to have empathic, supportive caregivers as the basis of their working models.

This body of research begets two questions: a) what puts children at risk for insecure patterns of attachment? and b) what happens to children with insecure attachment patterns when they become caregivers themselves? The link between patterns of attachment and future outcomes underlined the importance of exploring the possible relationships among childhood maltreatment experiences, having an insecure (*anxious-avoidant*, *ambivalent* or *resistant*, or *disorganized/disoriented*) versus secure attachment in childhood, and mothers' relationship with their young children.

Unfortunately, some mothers are unable to provide a secure emotional connection for their young children. Of particular relevance, research suggested that parents' childhood experiences may influence considerably their relationships with their own children (Lang Garstein, Rodgers, & Lebeck, 2010). Specifically, research showed that a number of childhood maltreatment experiences, including physical abuse, sexual abuse, emotional or psychological abuse, and neglect, may impair mothers' abilities to form secure bonds with their children (Main & Solomon, 1990). For example, one study found that childhood maltreatment experiences, as reported on the Childhood Trauma Questionnaire (CTQ; Bernstein & Fink, 1998), predicted significantly emerging adults' attachment with their own mothers, with emotional neglect being a particularly important predictor (Lowell et al., 2014). Moreover, mothers who exhibited difficulties with bonding experiences, such as "holding, rocking, singing, feeding, gazing, kissing and other nurturing behaviors" (Perry, 2001, p. 3) with their young children, were more likely to have difficulty forming the emotional connection essential for secure attachment. As such, research suggested that mothers who experienced childhood maltreatment and exhibited insecure patterns of attachment with their own caregivers were likely to have more difficulty with bonding experiences and, in turn, more disruption in their attachment with their children.

Thus, research displayed a significant connection between childhood maltreatment and mother-young child attachment; however, this connection may better be explained by mediational relationships, some of which were examined in this study.

### Childhood Maltreatment Experiences and Mother-Young Child Attachment

The association between childhood maltreatment experiences and mother-young child attachment was an especially salient context to consider given that the majority of children who experienced childhood maltreatment were perpetrated against by their own parents (U.S. Department of Health and Human Services, 2013). As already noted above, Bowlby (1982) noted that mothers who experienced an impaired childhood attachment with their own primary caregiver were subsequently more likely to exhibit attachment difficulties with their own children. Given these findings, research explored connections between childhood maltreatment experiences and mother-young child attachment. For example, in a sample of infants from low socioeconomic status background, the vast majority (approximately 80%) of infants who were maltreated (relative to infants who were not maltreated) were classified as having disorganized/disoriented attachment with their caregivers (Carlson, Cicchetti, Barnett, & Braunwald, 1989). Thus, research concluded that mothers' maltreating behaviors were associated significantly with mother-young child attachment patterns (van IJzendoorn et al., 1992).

Moreover, Cicchetti and Barnett (1991) longitudinally assessed children who were or were not maltreated from the ages of 30-, 36-, and 48-months using the Strange Situation procedure. Results indicated that children who were maltreated exhibited more patterns of insecure attachment with their caregivers than children who were not maltreated and that children who were maltreated but still exhibiting secure attachment were less likely than children

who were not maltreated to continue exhibiting secure attachment behaviors over time. These findings, along with the aforementioned literature on working models (Bowlby, 1969, 1980, 1982) and the intergenerational nature of attachment (van IJzendoorn et al., 1995), suggested that mothers who were maltreated in childhood were more likely to exhibit stable patterns of insecure attachment carrying forward from their own childhood caregiver and, therefore, to have a heightened risk of exhibiting insecure patterns of attachment with their own young children. Given the associations between childhood maltreatment experiences and patterns of insecure attachment with both mothers' own caregivers and mothers' young children, this study examined potential mediators for better understanding these relationships.

#### Adult Attachment and Mother-Young Child Attachment

Although seminal attachment research focused heavily on infant and child attachment patterns with caregivers, extant literature also examined adult attachment retrospectively. As stated previously, working models developed in childhood were likely to remain consistent and to influence future adult relationships (Bowlby, 1969, 1980, 1988). To study this further, George, Kaplan, and Main (1984) developed the Adult Attachment Interview (AAI), which assesses individuals' experiences with their childhood caregivers. Individuals' answers on the AAI are coded for *state of mind* with caregiver experiences using the following classifications: *secure-autonomous*, *dismissing*, *preoccupied*, and *unresolved-disorganized*. Individuals who were classified as *secure-autonomous* described an experience of valuing attachment with their caregiver, regardless of positive or negative situations; individuals who were classified as *dismissing* described positive experiences with their caregivers but then contradicted or failed to support these descriptions; individuals who were classified as *preoccupied* described themselves

as being afraid, confused, or overwhelmed in experiences with their caregiver; and individuals who were classified as *unresolved-disorganized* described having loss or abuse in their experiences with their caregiver (Main, 1996).

In assessing responses on the AAI, Main and Goldwyn (1984) found that mothers' state of mind from attachment experiences with their own caregivers were related significantly to their children's attachment patterns, as identified on the Strange Situation procedure. Specifically, infants' secure attachment was related to parents' classification as secure-autonomous; infants' anxious-avoidant attachment was related to parents' classification as dismissing; infants' ambivalent or resistant attachment was related to parents' classification as preoccupied; and infants' disorganized-disoriented attachment was related to parents' classification as unresolved-disorganized (Hesse & Main, 1999; Main, 1996). Thus, Main and Goldwyn (1984) demonstrated that mothers' experience of rejection from their own caregivers was related to their rejecting of their own children. Similarly, Fonagy, Steele, and Steele (1991) found a significant association between mothers' difficult attachment with their own caregivers and avoidant behavior in their infants during the Strange Situation procedure.

Further, these findings bolstered Bowlby's (1969) notion that children's working models remained salient into adulthood and influenced how mothers' states of mind from their own childhood experiences of being parented were related to their parenting of their own young children. Thus, mothers who experienced both childhood maltreatment and insecure attachment with their own caregivers had a stronger likelihood of having young children who were attached insecurely to them. Nonetheless, it was imperative to understand these relationships further by investigating mediational relationships. Specifically, the potential mediational roles of mothers' depressive symptoms and a novel construct related to maltreatment and attachment (i.e.,



reflective functioning, both to be discussed next) were examined in relation to mother-young child attachment in the current study.

### Maternal Depression

#### Statistics

Depression is currently a leading cause of disability in the United States (Mathers & Loncar, 2006). As of 2013, the lifetime prevalence for major depressive disorder was 16.6% (American Psychiatric Association, 2013). Research supported a clear sex difference in the occurrence of depression, with depression having a 50% greater effect on females than males globally (World Health Organization, 2008) and with an estimated 73 million adult women suffering annually from a major depressive episode across the world (World Health Organization, 2015). According to the American Psychiatric Association (2013), women have a 1.5- to 3-times greater risk for developing major depressive disorder than men.

Onset of depression in women commonly occurs during pregnancy, which may engender particular ramifications for the mother-child relationship and children's psychological functioning (Goodman, 2007). Countless studies attempted to establish the prevalence rates for postpartum depression (Gavin et al., 2005; O'Hara & Swain, 1996; O'Hara, Zekoski, Philipps, & Wright, 1990; Vesga-López et al., 2008). As reported by the American Psychiatric Association (APA; 2013), approximately 3 to 6% of women experienced the onset of a major depressive episode during the peripartum or postpartum period. Gavin and colleagues (2005) indicated that approximately 7.1% of women experienced postpartum depression within the first three months of being postpartum (Gavin et al., 2005). Women also were found to have a 1.5-times increased risk for depression in the postpartum period compared to non-pregnant and non-postpartum

women (Vesga-López et al., 2008). Further, women with existing depression and posttraumatic stress were at a greater risk for perinatal or postpartum depression (Leigh & Milgrom, 2008).

Although statistics regarding the linkage between depression and the postpartum period were noteworthy, other statistics indicated that approximately half of major depressive episodes in mothers began prior to, rather than following, delivery. As a result, there was a shift in verbiage from the *DSM-IV-TR*'s *postpartum* onset to the current *DSM-5*'s *peripartum* onset, accentuating the point that depressive episodes may take place during or following pregnancy. As a result, the APA (2013) identified peripartum onset of major depressive disorder as the "current or most recent depressive episode occurring during pregnancy or within the four weeks following delivery" (p. 186). Symptoms for peripartum onset mirror those of major depressive disorder, including five of the following symptoms: depressed mood, decreased interest, significant change in appetite, significant change in sleep, psychomotor agitation or retardation, fatigue, guilt, difficulty with concentration, and suicidal ideation (APA, 2013).

#### Childhood Maltreatment Experiences and Maternal Depression

As already noted, childhood maltreatment experiences were linked extensively to depressive symptoms (Brown et al., 1999; Flisher et al., 1997; Toth, Manly, & Cicchetti, 1992; Widom et al., 2007). Early incidences of maltreatment have especially strong associations with depression in childhood and adolescence. In a sample of children from low socioeconomic status backgrounds who were between the ages of 7- and 12-years, those from maltreating families exhibited considerably more depressive symptoms than those children who did not experience maltreatment in their homes (Toth et al., 1992). In addition, Flisher and colleagues (1997)

indicated that physical maltreatment experienced by children between the ages of 9- and 17-years was associated significantly with developing major depressive disorder.

Frequently, an individual's early onset of depressive symptoms increases the likelihood of re-experiencing such symptoms again during her lifetime. That is, research suggested that past depression predicted greatly the occurrence of future depression, especially in females (Rudolph et al., 2009). Accordingly, the associations between childhood maltreatment and depression were salient into adulthood. Research indicated that mothers who were depressed were significantly more likely to have experienced childhood maltreatment than mothers who were not depressed, with 30% of mothers with high scores on the Beck Depression Inventory (BDI) reporting experiences of childhood maltreatment in comparison to only 10% of mothers who would not be considered depressed on the BDI reporting experiences of childhood maltreatment (Webster-Stratton & Hammond, 1988).

Further, Brown and colleagues (1999) investigated women with and without histories of childhood maltreatment longitudinally over a 17-year time frame. Results indicated that women with a history of childhood neglect, physical abuse, and/or sexual abuse were three times more likely to suffer from depression and to attempt suicide than women without childhood maltreatment (Brown et al., 1999). Another study investigated children who experienced neglect, physical abuse, and sexual abuse longitudinally over a four-year period and then followed them into young adulthood. Comparable to previous findings, individuals who experienced childhood physical abuse or multiple types of abuse were at greater risk for symptoms of depression during their lifetime, whereas individuals who had experienced childhood neglect were at greater risk for current depression. In contrast, these results did not indicate a significant association between childhood sexual abuse and increased risk for depression (Widom et al., 2007). Moreover, a

more recent longitudinal study found that mothers' histories of physical and sexual abuse were associated, albeit in a small to moderate fashion, with their depressive symptoms (Madigan, Wade, Plamondon, & Jenkins, 2015). Given the consistent relationship between histories of childhood maltreatment and depressive symptoms, the current study investigated the value of using mothers' symptoms of depression as a mediator in the relationship between mothers' histories of childhood maltreatment and their attachment with their own children.

### Maternal Depression and Mother-Young Child Attachment

Over the past few decades, several studies outlined significant associations between mothers' depression and insecure or more problematic mother-young child attachment (Hipwell et al., 2000; Martins & Gaffan, 2000; Moehler, Brunner, Wiebel, Reck, & Resch, 2006; Muzik et al., 2013; Seng et al., 2013). As mother-child bonding is part of the process with which attachment is formed (Bowlby, 1969; Perry, 2001), associations between mothers' depression and problematic mother-child bonding may be predictive of difficulty forming secure attachment. Additionally, the effect of childhood maltreatment experiences on both postpartum psychopathology (e.g., postpartum depression and posttraumatic stress) and mother-child bonding was mediated by mothers' pre-existing psychopathology, including major depressive disorder (Seng et al., 2013). Another study found that mothers' depressive symptoms at 2-weeks, 6-weeks, and 4-months postpartum were associated strongly with lower quality of maternal bonding to infants, with even mild depressive symptoms having a significant effect on maternal bonding (Moehler et al., 2006). Moreover, retrospectively reported low quality in maternal care and paternal overprotection on the Parental Bonding Interview predicted postpartum depression in an Australian community sample of women (Boyce, Hickie, & Gordon, 1991).

Further, the Maternal Anxiety during the Childbearing Years Study (MACY Study) assessed mothers with and without childhood maltreatment experiences on postpartum psychological symptoms and mother-child bonding (using the Postpartum Bonding Questionnaire) at 4-weeks, 6-weeks, and 6-months postpartum (Muzik et al., 2013). Results indicated that mothers who experienced childhood maltreatment reported significantly greater postpartum depression and postpartum post-traumatic stress disorder symptoms as well as greater bonding problems with their young children than did mothers who did not experience childhood maltreatment. As such, mothers' childhood maltreatment experiences were associated with greater risk for postpartum depression and post-traumatic stress disorder symptoms and predicted increased problematic mother-child bonding over time while controlling for depression and socioeconomic risk. Interestingly, childhood maltreatment experiences did not predict significantly impaired bonding when postpartum depression and posttraumatic stress disorder were entered into the model, however. These results suggested that postpartum psychological symptoms, rather than mothers' childhood maltreatment histories, was associated most immediately with the greatest risk for mother-child bonding impairment (Muzik et al., 2013). These recent findings indicated that further investigation of mothers' depression as a mediating variable may help to better explain the relationship of childhood maltreatment and mother-young child attachment.

Moreover, direct associations were discovered between mothers' depression and mother-young child attachment as well. In particular, Hipwell and colleagues (2000) found that psychotic or nonpsychotic depression in a sample of inpatient mothers was related strongly to insecure mother-infant attachment one year after their infants' birth. Further, a meta-analysis on mothers with and without depression indicated that children of mothers who were depressed

exhibited higher levels of anxious-avoidant and disorganized/disoriented attachment as well as lower levels of secure attachment on the Strange Situation relative to children of mothers who were not depressed (Martins & Gaffan, 2000). Similarly, a meta-analysis on attachment found that mothers' mental health symptoms, including their depression, was associated with an increased likelihood of having ambivalent patterns of attachment and decreased likelihood of having secure patterns of attachment with their children. These findings suggested that mothers' depression was related significantly to insecure patterns of mother-young child attachment (van IJzendoorn, Goldberg, Kroonenberg, & Frenkel, 1992). These added associations between mothers' depression and mother-young child attachment suggested the importance of investigating potential mediators in the context of these variables.

### Reflective Functioning

One novel factor that may play an important role in the relationships among the other variables discussed here is reflective functioning (Fonagy, Steele, Steele, Moran, & Higgitt, 1991; Slade et al., 2005). Inspired by attachment theory and George and colleagues' (1984) aforementioned research on mothers' *state of mind*, Fonagy, Steele, Steele, Moran, and Higgitt (1991) originated the term *reflective functioning*, or individuals' ability to 'mentalize' states of mind (e.g., feelings, thoughts, and desires) of the self and others in order to self-organize and better understand their own behavior and the behavior of others. According to Fonagy and colleagues (1991), reflective functioning helps individuals make sense of the world, with this self-awareness evolving from early childhood, as evidenced by young children forming their own working models based on their caregivers' behaviors (Bowlby, 1969, 1982; Fonagy, Steele, Steele, Moran, & Higgitt, 1991). Further, reflective functioning is especially important for

parenting, as young children are not developmentally equipped to organize their own emotions and, therefore, depend on their caregivers for help with organizing and regulating emotions (Fonagy, Steele, Steele, Moran, & Higgitt, 1991; Marvin, Cooper, Hoffman, & Powell, 2002). In other words, reflective functioning may influence how well mothers may understand and respond to their young children's emotions and behaviors. Thus, parenting may become particularly problematic for mothers who had childhood maltreatment experiences and depressive symptoms, as their ability to be reflective of themselves and their young children may be impaired.

### Childhood Maltreatment Experiences, Depressive Symptoms, and Reflective Functioning

Given that there appeared to be associations among mothers' depressive symptoms and insecure attachment as well as mothers' difficulty understanding their children's behavior (Hipwell et al., 2000; Martins & Gaffan, 2000; Moehler et al., 2006; Muzik et al., 2013; Seng et al., 2013), the current study hypothesized that depressive symptoms in mothers who experienced childhood maltreatment would be negatively related to mothers' ability to reflect on their own and their young children's mental states. One study in particular hypothesized that reflective functioning in high-risk mothers who experienced childhood maltreatment and/or interpersonal violence was related to postpartum psychological symptoms, such as posttraumatic stress and depressive symptoms. Ultimately, that study found no significant association between mothers' depressive symptoms and reflective functioning, although there was a significant association between posttraumatic stress and reflective functioning (Schechter, 2003). Pajulo and colleagues (2012) also examined several maternal factors in relation to mothers' prenatal and postnatal reflective functioning in a sample of mothers who were substance-involved and in a residential program. In this sample, over half of participating mothers reported symptoms of depression

prenatally and more than 30% of mothers reported having a psychiatric disorder (such as depressive symptoms) postnatally. Nonetheless, results indicated that childhood maltreatment experiences (physical abuse, emotional abuse, or neglect) were associated significantly with reflective functioning, although there was no direct association between mothers' depressive symptoms and reflective functioning.

On the other hand, research also indicated that high reflective functioning may act as a buffer against psychological symptoms (such as depressive symptoms) after experiences of childhood maltreatment (Borelli, Compare, Snavely, & Decio, 2014). These findings may have critical implications for parenting, given that mothers with depressive symptoms, particularly during the peripartum and postpartum periods, may be at risk for insecure attachment patterns and maladaptive parenting practices with their young children. Unfortunately, very few studies examined mothers' depressive symptoms with respect to their childhood maltreatment experiences and to their high and low reflective functioning. Given the overall lack of investigation for potential associations among mothers' childhood maltreatment experiences, mother-young child attachment, mothers' depressive symptoms, and mothers' reflective functioning, the current study examined the relationships among these constructs.

### Mothers' Reflective Functioning and Mother-Young Child Attachment

As stated above, reflective functioning may prove beneficial for mothers' understanding of their young children's behaviors as well as their own parenting behaviors. Consequently, lower levels of reflective functioning may increase mothers' risk for maladaptive parenting behaviors and insecure attachment between mothers and their young children. In particular, Fonagy and Target (1997) revealed that mothers' experiences of childhood maltreatment could



impair their capability for high reflective functioning, thereby increasing the risk of their young children experiencing Insecure attachment. Further, Pajulo and colleagues' (2012) findings indicated that mothers who experienced childhood maltreatment and who were substance-involved exhibited lower levels of postnatal reflective functioning, had higher relapse rates after completing treatment for their substance misuse, and were at a significantly greater risk of their children being placed in foster care. Undoubtedly, this finding suggested that high-risk mothers with low reflective functioning may be at greater risk for rupturing relationships with their young children.

Consistently, individuals' high reflective functioning was associated with their practicing more adaptive behaviors and overall better functioning. In the context of parenting, research suggested that mothers with higher levels of reflective functioning were more likely to exhibit patterns of secure attachment with their children (Fonagy, Steele, Steele, Moran, & Higgitt, 1991; Slade et al., 2005). In measuring both adult (on the AAI) and infant (with the Strange Situation) patterns of attachment in first-time mothers, Slade and colleagues (2005) discovered that mothers who were classified as autonomous reported significantly higher reflective functioning than mothers who were classified as dismissing, preoccupied, or unresolved. Further, mothers' reflective functioning was associated highly with their infants' attachment status. These findings were consistent with Fonagy, Steele, and Steele's (1991) suggestion that reflective functioning, as reported on the AAI, acted as a buffer for mothers with adverse childhood experiences for exercising behaviors that increased security in their attachment to their infants. Moreover, mothers with high reflective functioning were less likely to have infants who exhibited avoidant behavior on the Strange Situation procedure, whereas the opposite was true for mothers with low reflective functioning (Fonagy, Steele, & Steele, 1991).

Together, these findings indicated that reflective functioning may be associated significantly with mothers' childhood maltreatment histories, depressive symptoms, and attachment to their young children. As reflective functioning is a relatively new concept, however, there is much to be learned about the potential relationship of reflective functioning to mother-young child outcomes. In addition, researchers advocated for furthering empirical focus on reflective functioning as it relates to mother-child relationships (Pajulo, Suchman, Kalland, & Mayes, 2006). Therefore, the current study examined this new empirically supported concept as a mediating variable for measuring the strength of mothers' childhood maltreatment experiences and depressive symptoms on the current quality of mother-young child attachment.

#### Parenting Behaviors and Attributions

Researchers indicated that studying specific parenting behaviors rather than the context of broad parenting style may likely provide more vital information on how parenting predicts children's emotional and behavioral functioning (Darling & Steinberg, 1993). Certainly, research suggested that positive parenting behaviors, such as warmth, support, involvement, and positive reinforcement, foster adaptive development for young children. In particular, research suggested that positive parenting behaviors were beneficial for young children's development of self-esteem, emotional security, social competency, intellectual achievement, and independence, among other developmental outcomes (Belsky, 1984). Mothers' experiences of childhood maltreatment likely have a negative impact on their subsequent parenting behaviors, however. Specifically, mothers' experiences of childhood maltreatment were associated negatively with the quality of mother-infant interactions and mothers' capability of appropriately parenting their distressed infants (Lang et al., 2010).

Additionally (and as mentioned above), approximately one-third of caregivers who experienced childhood maltreatment themselves exhibited abusive parenting behaviors with their own children (Kaufman & Zigler, 1987). A study examining adolescent mothers who had histories of childhood sexual abuse and these mothers' preschool-aged children found that mothers who reported greater incidences of sexual abuse had a significantly greater likelihood of being contacted by child protective services after controlling for mothers' childhood physical abuse, patterns of mother-young child attachment security, and other maternal characteristics (e.g., race, IQ, socioeconomic status; Spieker, Bensley, McMahon, Fung, & Osslander, 1996).

Researchers also found that mothers' greater exposure to childhood trauma was associated with higher reported use of physical punishment, child neglect, and number of child protective service reports. Moreover, the relationship between experiences of childhood trauma and maternal parenting outcomes was shown to be mediated partially by mothers' depressive symptoms (Banyard, Williams, & Siegel, 2003), as mothers' depressive symptoms were a vital determinant of mothers' parenting behaviors (Belsky, 1984). For example, Hipwell and colleagues (2000) found that mothers who were experiencing depressive symptoms or other severe psychological symptoms and who were receiving inpatient services were significantly less likely to show appropriate expectations and significantly more likely to show irritation with their young children than mothers who did not have these characteristics. Mothers' depressive symptoms also showed strong positive associations with neglectful parenting behaviors and harsh verbal or physical disciplinary behaviors and was associated negatively with engagement in mother-child activities (Turney, 2011). As such, there are clear associations among mothers' histories of childhood maltreatment, depressive symptoms, and subsequent parenting behaviors.

Further, mothers' experiences of childhood maltreatment and depressive symptoms both were associated with mother-young child attachment and reflective functioning, variables that consequently may be related to parenting behaviors. How securely attached mothers and their young children are and how well mothers are able to understand their young children's emotional states and behavior may be related greatly to the parenting behaviors that mothers use with their young children. In particular, Spieker and colleagues (1996) found that mother-young child attachment predicted significantly the number of contacts that mothers received from child protective services, with insecure patterns of attachment predicting greater contacts from child protective services. In contrast, mothers with young children classified as having secure attachment (relative to insecure attachment) on the Strange Situation paradigm were observed to use more questioning parenting techniques, were less intrusive, and were less likely to change the direction of their young children's behavior during structured and unstructured tasks (Booth, Rose-Krasner, & Rubin, 1991). Related to patterns of mother-young child attachment, mothers' reflective functioning delineated how well mothers understood and acted on their young children's emotions and behaviors. As such, evidence showed that mothers who exhibited high reflective functioning were more likely to exercise adaptive parenting behaviors that increased mother-child security (Fonagy, Steele, & Steele, 1991), whereas mothers who exhibited low reflective functioning experienced increased risk for insecure attachment and problematic parenting behaviors. Finally, findings indicated that attachment, parenting behaviors (positive parenting behaviors and negative control), and children's behaviors were related, such that parent-child patterns of attachment mediated the relationship between parenting practices and children's behavior outcomes (Bosmans, Braet, Van Leeuwen, & Beyers, 2006).

Moreover, parents' behavior toward their own children was related to the attributions made regarding the behavior of their children (Bugental et al., 1989; Rubin & Mills, 1990). Parents who perceived having more control over parent-child interactions were found to respond in a significantly different manner than those who attributed their children as having more control (Rubin & Mills, 1990). Bugental and colleagues (1989) conceptualized parental attributions with regard to control over successful and unsuccessful interactions with children. Perceived control over failure, in particular, was conceptualized as parents perceiving themselves as having little control over unsuccessful caregiving events, while attributing higher control to children over negative outcomes. Bugental and colleagues (1989) theorized that parents who made such attributions were more likely to respond in a more negative manner toward children, especially those children who exhibited more difficult behaviors. As was expected, it was found that low levels of caregivers' perceived control over failure predicted higher likelihood of abusive parenting practices. Further, perceived control over failure also predicted significantly parental coerciveness, even in non-abusive parents (Bugental et al., 1989). These findings illustrated the significant link between parental attributions and parenting practices. Given the connections between these variables, parenting behaviors (e.g., negative, inconsistent, and punitive behaviors) and attributions (e.g., perceived control over failure) may be especially important predictors of young children's emotional and behavioral functioning, especially within the context of their mothers' childhood maltreatment experiences, mother-young child attachment, mothers' depressive symptoms, and mothers' reflective functioning.

### Outcomes of Young Children

As evidenced by the extensive research outlining negative consequences of childhood maltreatment, young children of mothers who had their own childhood maltreatment experiences may be at particular risk for a number of adverse outcomes. For example, mothers' self-reported histories of childhood maltreatment were associated with infants' increased difficulty in regulating their emotions. As such, mothers' childhood maltreatment was associated significantly with heightened risk for their young children's emotional and behavioral problems (Enlow et al., 2011), thereby reinforcing their risk for insecure attachment. In turn, insecure patterns of attachment may have ramifications for young children's functioning.

For example, Troy and Sroufe (1987) indicated that preschool-aged children with insecure (specifically anxious-avoidant) patterns of attachment had an increased likelihood of exhibiting hostile and externalizing behaviors. Similarly, 4-year old children who exhibited insecure patterns of attachment on the Strange Situation (relative to young children exhibiting secure attachment) were more likely to display aggressive behaviors and to have greater negative affect during free-play with a same-aged peer (Booth et al., 1991). More recently, a meta-analysis including 60 studies examining the relationship between insecure attachment and children's internalizing problems found a significant association with small-to-medium effect sizes, with avoidant attachment being associated significantly with internalizing problems with small-to-moderate effect sizes. Upon further investigation of the relationship between insecure attachment and young children's internalizing problems while using young children's externalizing behaviors as a moderator, research suggested that the strength of relationship between insecure attachment and internalizing problems significantly increased with larger effect

sizes when insecure attachment also was related highly to externalizing behaviors (Madigan, Atkinson, Laurin, & Benoit, 2013). Thus, there were significant associations between insecure mother-young child attachment and young children's internalizing and externalizing behaviors.

Notably, a newly published longitudinal study discovered that mothers' histories of childhood physical abuse were associated with depressive symptoms after childbirth, which in turn was linked considerably with young children's internalizing behaviors at 36-months of age. Further, the relationship of mothers' childhood experiences of physical abuse and quality of responsive parenting was mediated by mothers' depressive symptoms (Madigan et al., 2015). This finding suggested that mothers' childhood maltreatment experiences, depressive symptoms, and parenting practices were related to young children's behavior problems, with mothers' depressive symptoms mediating variables related directly to the mother-child relationship. Moreover, negative parenting practices and beliefs impacted directly problem behaviors exhibited by young children. For example, overall parenting behaviors predicted significantly internalizing and externalizing behaviors in children, with inconsistent disciplinary practices specifically predicting greater irritability and greater externalizing problems in children (Lengua & Kovacs, 2005). Moreover, researchers discovered associations between mothers' attributions of their children's behavior and actual child behavior. In particular, mothers of young children with internalizing behaviors showed more self-blaming attributions, whereas mothers of young children with aggressive behaviors were significantly less likely to attribute such behavior to their parenting (Rubin & Mills, 1990).

Further, recent findings demonstrated that parental attributions predicted uniquely both internalizing and externalizing behavior problems in children. In particular, child-causal attributions were related positively to children's internalizing and externalizing behaviors,

whereas parent-causal attributions were related negatively to children's internalizing and externalizing behaviors (Colalillo, Miller, & Johnston, 2015). Taken together, these findings provided evidence that maternal experiences and characteristics as well as attachment and parenting variables were related significantly to young children's emotional and behavior problems. Therefore, the current study examined young children's internalizing and externalizing behaviors with respect to mothers' childhood maltreatment experiences, patterns of mother-young child attachment, mothers' depressive symptoms, mothers' reflective functioning, and parenting behaviors and attributions. Specifically, this investigation hoped to add to previous literature by examining the relationships among these variables in the context of a hierarchical regression model predicting young children's behaviors.

### The Current Study

Previous research showed that mothers' childhood maltreatment experiences and depressive symptoms were associated with patterns of mother-young child attachment. Further, the relatively new concept of reflective functioning was shown to serve as a mediator amongst these variables previously. Given these associations among mothers' characteristics (i.e., childhood maltreatment experiences, depressive symptoms, reflective functioning), mother-young child attachment, parenting behaviors and attributions, and young children's outcomes, the current study examined these constructs collectively in order to better understand the pathways by which mothers' childhood maltreatment experiences may be related to parenting and young children's outcomes. Although these variables were studied previously in a more independent fashion (e.g., childhood maltreatment experiences with depressive symptoms, depressive symptoms with mother-young child attachment), few studies investigated the



complex collective relationships that may exist amongst these variables, especially in mothers who experienced childhood maltreatment themselves.

The first aim of the current study was to examine the relationships among mothers' childhood maltreatment experiences, patterns of attachment with their young children, mothers' depressive symptoms, and mothers' reflective functioning. It was expected that mothers' childhood maltreatment experiences would be related significantly with attachment, such that mothers with greater childhood maltreatment experiences would have an increased likelihood of exhibiting insecure patterns of attachment with their young children. Additionally, it was hypothesized that mothers' childhood maltreatment experiences, patterns of mother-young child attachment, depressive symptoms, and reflective functioning would be related significantly, with greater childhood maltreatment experiences, greater depressive symptoms, and lower levels of reflective functioning being related to more insecure patterns of mother-young child attachment. Further, it was hypothesized that fewer experiences of childhood maltreatment, fewer depressive symptoms, and higher levels of reflective functioning would be related to less insecure patterns of mother-young child attachment.

The second aim of the current study was to examine the potential mediating role that mothers' depressive symptoms may play between mothers' childhood maltreatment experiences and their patterns attachment with their young children. In other words, it was hypothesized that mothers' depressive symptoms would mediate the relationship between mothers' childhood maltreatment experiences and their patterns of attachment with their young children (see Figure 1), such that fewer depressive symptoms would buffer the negative effects of mothers' childhood maltreatment experiences on mother-young child attachment and such that greater depressive symptoms would heighten the effects of mothers' childhood maltreatment experiences on current

mother-young child attachment. Further, it was hypothesized that the relationship between mothers' depressive symptoms and patterns of mother-young child attachment would be significantly stronger than the direct relationship between mothers' childhood maltreatment experiences and patterns of attachment with their young children.

The third aim of the current study was to examine the role that reflective functioning played in the relationship between mothers' childhood maltreatment experiences and patterns attachment with their young children and between mothers' depressive symptoms and patterns attachment with their young children. It was hypothesized that mothers' reflective functioning would mediate the relationship between mothers' childhood maltreatment experiences and patterns of attachment and between mothers' depressive symptoms and patterns of attachment (see Figure 1). In other words, higher levels of reflective functioning would buffer the negative effects of mothers' childhood maltreatment experiences and mothers' depressive symptoms on mother-young child attachment, and lower levels of reflective functioning would heighten the effects of mothers' childhood maltreatment experiences and mothers' depressive symptoms on current mother-young child attachment. Further, it was hypothesized that the relationship between mothers' reflective functioning and patterns of mother-young child attachment would be stronger than the relationship between mothers' childhood maltreatment experiences and patterns of mother-young child attachment or between mothers' depressive symptoms and patterns of mother-young child attachment.

The final aim of the current study was to examine the relationships among mothers' childhood maltreatment experiences, mothers' depressive symptoms, mothers' parenting variables (i.e., reflective functioning, parenting behaviors, and parenting attributions), and patterns of mother-young child attachment served as predictor variables (with each being entered

in its own block), and young children's internalizing and externalizing problems served as criterion variables. As such, the current study examined hierarchical regression analyses to determine the relative contributions of these variables to young children's internalizing and externalizing problems. Thus, mothers' childhood maltreatment experiences and ACEs were entered in Block 1, mothers' depressive symptoms were entered in Block 2, mothers' parenting variables (i.e., reflective functioning, negative/inconsistent parenting behaviors, punitive parenting behaviors, and perceived control over failure) were entered in Block 3, and mother-young child attachment (i.e., avoidant, anxious, helpless-disorganized, and frightened-disorganized patterns of attachment) was entered in Block 4 to examine the unique predictive value of these variables in predicting young children's internalizing and externalizing problems.

## CHAPTER TWO: METHODOLOGY

### Participants

A national sample of mothers was recruited through Amazon Mechanical Turk. Of the 1090 participants who opened the survey online, 146 mothers participated and were included in final analyses (see Figure 2 for CONSORT Flowchart). Eligibility criteria for the study included being a mother over the age of 18-years (so that they could consent for her own participation), having at least one young child ranging from 1½- to 5-years of age, and residing in the United States. Individuals were disqualified if multiple attempts were made to complete the surveys on Amazon Mechanical Turk. Furthermore, individuals who completed the surveys, but were found to be located from outside of the United States, were not included in the final sample. No individuals were excluded from participating as a result of their ethnicity or other demographic characteristics. Participants were disqualified only on the basis of incorrect answers on validity questions in the surveys (i.e., two participants), incomplete surveys (i.e., 91 participants), or for failing to meet eligibility criteria for participation (i.e., 851 participants). Invalid answers were defined as three or more incorrect answers on 13 validity questions. Each mother who met eligibility criteria and completed the study was compensated \$1.00 for their participation. The recommended sample size for a multiple regression analysis ( $p < .05$ ) with 11 predictor variables (the most complex analysis proposed for this study) and a statistical power of .80 is 123 participants in order to detect a medium ( $R = .36$ ) effect size (Cohen, 1992). Therefore, the current study's final sample is expected to have been sufficient for examining the hypotheses proposed for this study.

The final sample included 146 mothers who ranged in age from 21- to 52-years ( $M = 32.08$ -years,  $SD = 6.16$ -years). The study included a nationally representative sample, with the majority (76.7%) of mothers identifying as White or Caucasian and the remainder of mothers identifying as Latina (8.2%), Asian American (6.8%), Black or African American (6.2%), or Native American (2.1%). With regard to religious affiliation, mothers identified as being Christian (56.2%), Agnostic (5.5%), Atheist (4.1%), Other (Wiccan, Pagan, Hindu, Spiritual, etc.; 4.1%), and Muslim (2.7%); 27.4% of mothers declined to provide a religious affiliation. On a scale from 1 to 10 (with 10 being the most religious), mothers reported a moderate strength of religiousness ( $M = 4.63$ ,  $SD = 3.68$ ) on average. Most mothers reported currently being married (80.8%), whereas the remainder of mothers identified as being single (12.3%), divorced or separated (3.4%), remarried (1.4%), or declined to answer (2.1%). The majority of mothers (80.3%) reported living with their young child's other parent. On average, mothers had approximately two children ( $M = 2.03$ ,  $SD = 1.41$ ). In particular, 34.2% of mothers reported having one child, 41.1% reported having two children, 17.1% reported having three children, 5.5% reported having four children, 1.4% reported having five children, and 0.7% reported having ten or more children. Mothers reported having approximately four individuals living in their current household ( $M = 4.12$ ,  $SD = 1.28$ ), including themselves. With regard to the young children for whom mothers provided ratings, 64 were males (43.8%), and 82 were females (56.2%). These children had average age of 3.10-years ( $SD = 1.11$ -years).

This study included a well-educated sample, with mothers endorsing having received a post-doctoral degree (3.4%), graduate professional training (7.5%), a Bachelor's degree (42.5%), an Associate's degree (16.4%), having completed some college with no degree (16.4%), vocational training (2.1%), and a high school diploma or GED (11.6%). Participants also

reported high levels of education for their young child's other parent, albeit lower than mothers' own levels of education. Specifically, mothers endorsed their young child's other parent having received a Bachelor's degree (39%), having completed some college with no degree (8.9%), vocational training (16.4%), a high school diploma or GED (8.9%), having completed some high school (7.5%), and having completed less than a high school education (15.8%); 3.4% of mothers declined to provide education level for their young child's other parent.

Most mothers (68.5%) reported being employed. Of those mothers who indicated that they were currently unemployed, 28.1% reported being a homemaker, and 3.4% reported being a student. Notably, one mother reported being both employed and a current student, and another mother reported being both a homemaker and a student. Finally, mothers reported varying levels with regard to annual household income. In particular, mothers reported having an annual household income over \$70,000 (28.1%), between \$60,000 and \$70,000 (12.3%), between \$50,000 and \$60,000 (15.1%), between \$40,000 and \$50,000 (15.8%), between \$30,000 and \$40,000 (14.4%), between \$20,000 and \$30,000 (8.2%), and between \$10,000 and \$20,000 (3.4%); 2.7% of mothers declined to answer. See Table 1 for complete demographics data.

### Procedure

After approval from the University of Central Florida Institutional Review Board (IRB), advertisements were posted on Amazon Mechanical Turk for mothers to gain access to an online survey link if they were interested in participation. The research questionnaires were administered through an online survey accessed by following a provided link. Upon accessing the survey, participating mothers were first required to review a consent form and indicate their agreement for participation in the study (see *Appendix A*). Consent forms did not require any

identifying information (e.g., mothers' or young children's names) to be collected. Next, participating mothers were instructed to provide ratings on each of the measures described below. The order in which the measures were presented is as follows: Demographics Questionnaire, BDI, CTQ, ACEs, PAT, PRFQ, ECR, CHQ, APQ-PR, and CBCL. Finally, participating mothers viewed a debriefing screen following their completion of the study (see *Appendix B*). The debriefing screen explained the intent of the study and provided resources for psychological services, should participants be interested. After completion of the study, participating mothers were compensated \$1.00 for their participation.

The entire study took participants 37 minutes to complete on average. The primary investigator was available via email to answer any participants' questions or concerns regarding the questionnaires. All electronic data was taken down from the online data collection program and stored on a password protected computer belonging to the principal faculty investigator of the study. No personally identifying information was required as part of the study. Finally, all data were analyzed in a group format, with no data being examined individually.

### Measures

#### Demographics

Participating mothers completed a brief *Demographics Questionnaire* on information regarding themselves and their young children. The questionnaire inquired about age, race, ethnicity, occupation, education, household characteristics, and other general characteristics. See *Appendix C* for a sample of the Demographics Questionnaire.

### Mothers' Childhood Maltreatment Experiences

The *Childhood Trauma Questionnaire* (CTQ; Bernstein & Fink, 1998) was used to assess mothers' retrospective report of childhood maltreatment and other traumatic experiences. The CTQ is a self-report measure with 28-items rated on a five-point Likert-type scale, with possible answers ranging from 1 (*Never*) to 5 (*Very Often*). These items were used to derive a Total Scale Score. This measure also includes five subscales (Emotional Abuse, Sexual Abuse, Physical Abuse, Emotional Neglect, Physical Neglect) containing five questions per subscale. This measure has three items that form a Minimization-Denial subscale that measures extreme response bias as well. The CTQ has established good internal consistency, retest reliability, normative data, and validity (Scher, Stein, Asmundson, McCreary, & Forde, 2001). As reported by Bernstein and Fink (1998), Cronbach alphas for the Emotional Abuse ( $\alpha = .84$  to  $.89$ ), Sexual Abuse ( $\alpha = .92$  to  $.95$ ), Physical Abuse ( $\alpha = .81$  to  $.86$ ), Emotional Neglect ( $\alpha = .85$  to  $.91$ ), and Physical Neglect ( $\alpha = .61$  to  $.78$ ) subscales as well as the Total CTQ score ( $\alpha = .91$ ) all were adequate. For the purpose of this study, the Total CTQ score was examined. See *Appendix D* for a sample of the CTQ.

Additionally, the *Adverse Childhood Experience Questionnaire* (ACEs; Felitti et al., 1998) was used to assess mothers' childhood maltreatment and other traumatic experiences. The ACEs contains 17-items on seven domains of childhood adverse experiences (i.e., physical abuse, sexual abuse, psychological abuse, neglect, and childhood exposure to substance abuse, mental illness, domestic violence, and criminal behavior or incarceration). Participants were asked to indicate whether they were exposed to each item in a *Yes* or *No* format. Participants' *Yes* responses were added to yield a Total Exposure score ranging from 0 (*Unexposed*) to 7 (*Exposed*) across all domains of childhood adverse experiences. The ACEs questionnaire has



demonstrated good internal consistency ( $\alpha = .88$ ; Murphy et al., 2014). For the purpose of this study, the Total Exposure score was examined. See *Appendix E* for a sample of the ACEs.

### Mother-Young Child Attachment

The *Experience in Close Relationships scale* (ECR; Brennan, Clark, & Shaver, 1998) was used to assess mothers' patterns of attachment with their young children. The ECR consists of 36 items that are rated on a 7-point Likert-type scale ranging from 1 (*Disagree Strongly*) to 7 (*Agree Strongly*). This measure consists of two subscales (i.e., Model of Self and Model of Others), each composed of 18-items each. Higher scores on the Model of Self subscale exemplify patterns of anxious attachment, whereas higher scores on the Model of Others subscale exemplify patterns of avoidant attachment. Given that this scale was developed originally for measuring adult attachment, the measure was adapted for mother-young child attachment for the purpose of this study. For example, the item "I prefer not to show a partner how I feel deep down" was adapted to "My child prefers not to show me how he/she feels deep down." The ECR displayed good internal consistency ( $\alpha = .91$  for anxiety;  $\alpha = .94$  for avoidance) and good test-retest reliability ( $\alpha = .91$  for anxiety;  $\alpha = .90$  for avoidance) in previous studies (Brennan et al., 1998; Fraley, Waller, & Brennan, 2000). See *Appendix F* for a sample of the ECR.

Additionally, the *Caregiving Helplessness Questionnaire* (CHQ; George & Solomon, 2011) was used to further assess mothers' caregiving style and patterns of attachment with their young children. Specifically, the CHQ measures the degree to which mothers reported having a disorganized attachment and dysregulated caregiving style with their young child. This measure consists of 25 items that are rated on a 5-point Likert-type scale ranging from 1 (*Not Characteristic at All*) to 5 (*Very Characteristic*). The CHQ is comprised of three factors (i.e., Mother Helpless, Mother and Child Frightened, and Child Caregiving), with each factor

consisting of six items. Cronbach alphas for Mother Helpless ( $\alpha = .85$ ), Mother and Child Frightened ( $\alpha = .66$ ), and Child Caregiving ( $\alpha = .64$ ) all were adequate. The CHQ also includes seven filler items that do not load onto any of the three aforementioned factors. Given that the Mother Helpless scale and the Mother and Child Frightened scale were related significantly to patterns of disorganized attachment style (Solomon & George, 2011), these two subscales were used for the purpose of the study. See *Appendix G* for a sample of the CHQ.

#### Mothers' Depressive Symptoms

The *Beck Depression Inventory-II* (BDI; Beck, Steer, & Brown, 1996) was used to assess mothers' current depressive symptoms. The BDI contains 21 items that are rated using a 0 to 3 scale, with higher endorsements on this scale indicating an increasing severity of depressive symptoms. Items on the BDI align with DSM-IV symptoms of depression. The BDI displayed good reliability ( $\alpha = .92$ ; Beck, Steer, & Brown, 1996). For the purpose of this study, the BDI Total Score was examined. See *Appendix H* for a sample of the BDI.

#### Mothers' Reflective Functioning

The *Parental Reflective Functioning Questionnaire* (PRFQ; Luyten et al., 2009) was used to assess mothers' reflective functioning. The PRFQ contains 39 items that comprise of three subscales demonstrating High, Low, or Neither High nor Low reflective functioning in mothers. On this measure, the High-Low subscale includes higher scores on items reflecting higher levels of reflective functioning, whereas the Low-High subscale includes lower scores reflecting lower levels of reflective functioning. Lastly, the Middle subscale includes scores reflecting high levels of reflective functioning with lower levels on the outliers of the scale. The three subscales produce a Total Score, which was examined for the purpose of this study. See *Appendix I* for a sample of the PRFQ.

### Parenting Behaviors

The *Alabama Parenting Questionnaire-Preschool Revision* (APQ-PR; Clerkin, Halperin, Marks, & Policaro, 2007) was used to assess mothers' current parenting behaviors. The APQ-PR was a revision of the original Alabama Parenting Questionnaire (APQ; Frick, 1991) for use with parents of preschool-aged children (who were 5-years of age and younger). The APQ-PR contains 32 items that are rated on a Likert-type scale ranging from 1 (*Never*) to 5 (*Always*). This measure consists of three subscales of parenting behaviors, including Positive Parenting (i.e., parents' warmth, support, involvement, and positive reinforcement), Negative/Inconsistent Parenting (i.e., parents' poor monitoring/supervision and inconsistent discipline), and Punitive Parenting (i.e., parents' ignoring, yelling, and corporal punishment). Subscales of the APQ-PR have demonstrated good reliability (Positive Parenting:  $\alpha = .82$ ,  $r = .52$ ; Negative/Inconsistent Parenting:  $\alpha = .74$ ,  $r = .59$ ; Punitive Parenting:  $\alpha = .63$ ,  $r = .80$ ; Clerkin et al., 2007). For the purpose of this study, the Negative/Inconsistent and Punitive Parenting subscales were examined. See *Appendix J* for a sample of the APQ-PR.

### Parental Attributions

The *Parent Attribution Test* (PAT; Bugental, Johnston, New, & Silvester, 1998) was used to measure mothers' attributions regarding unsuccessful parent-child interactions due to controllable or uncontrollable variables. The PAT produces subscales measuring perceived control attributed for parents' own caregiving success (ACS) and caregiving failure (ACF) and to children for caregiving success (CCS) and caregiving failure (CCF). Low ACF and high CCF scores have been indicated as risk factors for abusive or harsh parenting practices (Bugental, 1998). The difference between the ACF and CCF scores comprises a measure of perceived control over failure (PCF). The PAT demonstrated a test-retest coefficient of .63 (Bugental,

2011). The PCF score was examined for the purpose of this study. See *Appendix K* for a sample of the PAT.

### Young Children's Outcomes

The *Child Behavior Checklist 1½- to 5-years* (CBCL; Achenbach & Rescorla, 2000) was used to assess mothers' report of their young children's internalizing and externalizing problems. Each item on the CBCL is rated on a 3-point Likert-type scale as being 0 (*Not at All True*), 1 (*Somewhat or Sometimes True*), or 2 (*Very True or Often True*) of their young child within the past two months. The CBCL demonstrates high reliability and validity ( $\alpha = .90-.91$  on Internalizing Problems scale;  $\alpha = .92-.94$  on Externalizing Problems; Achenbach & Rescorla, 2001). For the purpose of this study, the Internalizing Problems and Externalizing Problems scale scores were examined. See *Appendix L* for a sample of the CBCL.

### Data Analysis

Data analysis for this project was conducted using IBM SPSS. Initially, all data were screened for violations of missing data, normality, outliers, and linearity. Then, descriptive statistics, including means and standard deviations for each variable, were calculated, and mothers' scores for each variable were examined. Next, to examine the first aim of the current study, the relationships among mothers' childhood maltreatment, patterns of mother-young child attachment, mothers' depressive symptoms, mothers' reflective functioning, parenting behaviors, parenting attributions, and young children's internalizing and externalizing problems were examined using correlation analyses. Overall, correlations were used to examine hypotheses regarding relationships among the variables of interest.

Next, to examine the following aims of the study, multiple regression analyses were conducted to determine whether mothers' depressive symptoms or mother's reflective functioning mediated the relationship between mothers' childhood maltreatment experiences and their patterns of attachment with their young children. Multiple regression analyses also were conducted to determine whether mothers' reflective functioning mediated the relationship between mothers' depressive symptoms and their patterns of attachment with their young children. Baron and Kenny (1986) introduced a four-step mediation method that included several regression analyses.

First, two separate multiple regression analyses were conducted to determine whether mothers' depressive symptoms or mothers' reflective functioning mediated the relationship between mothers' childhood maltreatment experiences and patterns of mother-young child attachment. A simple regression analysis first examined the relationship between mothers' childhood maltreatment experiences and patterns of mother-young child attachment (path c). At this step, mothers' childhood maltreatment experiences had to predict their patterns of mother-young child attachment. Second, a simple regression analysis examined the relationship between mothers' childhood maltreatment experiences and mothers' depressive symptoms or mothers' reflective functioning (path a). At this step, mothers' childhood maltreatment experiences had to predict mothers' depressive symptoms or mothers' reflective functioning. Third, a simple regression analysis examined the relationship between mothers' depressive symptoms or mothers' reflective functioning and patterns of mother-young child attachment (path b) to show that the mediator, mothers' depressive symptoms or mothers' reflective functioning, was related potentially to the outcome variable, patterns of mother-young child attachment. Finally, a multiple regression analysis examined mothers' childhood maltreatment experiences and

depressive symptoms or reflective functioning as predictors of patterns of mother-young child attachment. The relationship between mothers' childhood maltreatment experiences and patterns of mother-young child attachment had to decrease to non-significance to demonstrate the mediational role of mothers' depressive symptoms or mothers' reflective functioning. If these analyses suggested a partial or full mediation, a Sobel test was conducted to provide further support.

Next, regression analyses were conducted to determine whether mothers' reflective functioning mediated the relationship between mothers' depressive symptoms and their patterns of mother-young child attachment. A simple regression analysis first examined the relationship between mothers' depressive symptoms and their patterns of mother-young child attachment to demonstrate a relationship between the two constructs (path c). At this step, mothers' depressive symptoms had to predict their patterns of mother-young child attachment. Second, a simple regression analysis examined the relationship between mothers' depressive symptoms and mothers' reflective functioning (path a). At this step, mothers' depressive symptoms had to predict mothers' reflective functioning. Third, a simple regression analysis examined the relationship between mothers' reflective functioning and patterns of mother-young child attachment (path b) to show that the mediator, mothers' reflective functioning, was related potentially to the outcome variable, patterns of mother-young child attachment. Finally, a multiple regression analysis examined mothers' depressive symptoms and mothers' reflective functioning as predictors of mothers' patterns of attachment with their young children. The relationship between mothers' depressive symptoms and their patterns of mother-young child attachment had to decrease to non-significance to demonstrate the mediational role of mothers'

reflective functioning. If these analyses suggested a partial or full mediation, a Sobel test was conducted to provide further support.

In addition to the proposed mediation analyses, hierarchical regression analyses were used to determine which variables may be significant predictors of young children's internalizing and externalizing problems. Here, mothers' childhood maltreatment experiences, mothers' depressive symptoms, mothers' parenting variables (i.e., reflective functioning, parenting behaviors, and parenting attributions), and patterns of mother-young child attachment served as predictor variables (with each being entered in its own block), with young children's internalizing and externalizing problems serving as the criterion variables. The current study anticipates that these proposed analyses would better explain the relationships among mothers' childhood maltreatment experiences, depressive symptoms, reflective functioning, patterns of attachment with their young children, parenting behaviors, attributions, and young children's internalizing and externalizing problems.

## CHAPTER THREE: RESULTS

### Descriptive Statistics

Initially, all data were screened for violations of missing data, normality, outliers, and linearity. Next, descriptive statistics, including means and standard deviations for each variable, were examined. See Table 2 for ranges, means, and standard deviations. First, with regard to experiences of childhood maltreatment on the CTQ, the sample reported overall low-to-moderate scores of total childhood maltreatment experiences ( $M = 43.44$ ,  $SD = 20.88$ ; as total scores were able to range from 25 to 125). On the CTQ, each subscale score ranged from 5 (indicating no history of abuse or neglect) to 25 (indicating very extreme history of abuse and neglect). Bernstein and Fink (1998) identified the following as low-to-moderate cutoff scores for each subscale on the CTQ: 9 or higher for emotional abuse, 8 or higher for physical abuse, 6 or higher for sexual abuse, 10 or higher for emotional neglect, and 8 or higher for physical neglect. Relative to the range of possible subscale scores on the CTQ and the low-to-moderate cutoff identified by Bernstein and Fink (1998), mothers in the current sample endorsed overall low-to-moderate scores for physical abuse ( $M = 7.95$ ,  $SD = 4.33$ ), emotional abuse ( $M = 10.13$ ,  $SD = 5.85$ ), sexual abuse ( $M = 7.60$ ,  $SD = 5.03$ ), physical neglect ( $M = 8.05$ ,  $SD = 4.04$ ), and emotional neglect ( $M = 9.71$ ,  $SD = 5.39$ ).

Additionally, mothers reported overall low levels of total adverse childhood experiences ( $M = 2.10$ ,  $SD = 2.41$ ) on the ACEs questionnaire. (Total scores on the ACEs questionnaire could range from 0 to 10.) A subset of 39 mothers (26.7% of the total sample) reported high levels of exposure to adverse childhood experiences (i.e., four or more types of exposure).



Next, descriptive statistics were calculated for patterns of mother-young child attachment. Total scores on the ECR for both avoidant and anxious attachment were able to range from 1 to 7. In examining patterns of insecure patterns of mother-young child attachment, mothers reported overall low levels of avoidant ( $M = 1.93$ ,  $SD = 0.95$ ) and anxious ( $M = 3.05$ ,  $SD = 0.98$ ) patterns of attachment with their young children. With regard to measuring patterns of disorganized mother-young child attachment, the CHQ scores were able to range from 6 to 30. Overall, mothers reported low levels of helpless-disorganized (i.e. ‘Mother Helpless’;  $M = 10.47$ ,  $SD = 5.52$ ) and frightened-disorganized (i.e., ‘Mother and Child Frightened’;  $M = 10.48$ ,  $SD = 4.63$ ) patterns of disorganized attachment with their young children.

With regard to mothers’ depressive symptoms, total scores on the BDI were examined. Beck and colleagues (1996) identified the following range of scores on the BDI: 0 to 13 for minimal symptoms, 14 to 19 for mild symptoms, 20 to 28 for moderate symptoms, and 29 to 63 for severe symptoms. On average, mothers reported scores in the low range of the BDI ( $M = 9.62$ ,  $SD = 11.80$ ). Relative to the range of possible scores of depressive symptoms on the BDI, 74.7% of mothers fell within the minimal range, 5.4% fell within the mild range, 8.3% fell within the moderate range, and 11.6% fell within the severe range of depressive symptoms.

Additionally, mothers’ parenting variables (i.e., reflective functioning, parenting behaviors, and parenting attributions) were examined. First, total scores on the PRFQ were able to range from 1 to 7. On average, mothers self-reported moderate levels of total parental reflective functioning ( $M = 3.80$ ,  $SD = 0.52$ ). With regard to parenting behaviors, total possible scores on the APQ-PR could range from 8 to 40 for negative or inconsistent parenting behaviors and 5 to 25 for punitive parenting behaviors. On average, mothers reported moderate levels of negative or inconsistent parenting behaviors ( $M = 18.92$ ,  $SD = 6.24$ ) and low levels of punitive

parenting behaviors ( $M = 9.01$ ,  $SD = 3.83$ ). With regard to parenting attributions, mothers' PCF (perceived control over failure) scores were computed by subtracting CCF (controllable and uncontrollable factors of the child) from ACF (controllable and uncontrollable factors by the adult). On average, mothers rated themselves as having levels of total perceived control over failure ( $M = 0.49$ ,  $SD = 0.88$ ) that reflected higher ACF in comparison to CCF scores.

Finally, descriptive statistics for young children's outcomes were examined. As designated by Achenbach & Rescorla (2000), scores between 65 and 69 fall within the Borderline range, and scores of 70 or higher fall within the Clinical range on the CBCL. On average, mothers endorsed Nonclinical levels of internalizing problems ( $M = 51.06$ ,  $SD = 13.42$ ) and externalizing problems ( $M = 40.42$ ,  $SD = 10.14$ ) for their young children. According to mothers' endorsements, 41 young children (28.1% of the total sample) fell within the Borderline or Clinical range for internalizing problems, and 10 young children (6.8% of the total sample) fell within the Borderline or Clinical range for externalizing problems on the CBCL.

### Preliminary Analyses

#### Multicollinearity

Multicollinearity was assessed to determine whether a strong correlation existed among two or more predictor variables that may be cause for biased regression analyses (Bowerman & O'Connell, 1990; Field, 2013). Multicollinearity diagnostic analyses revealed that the predictor variables of interest did not exhibit multicollinearity. Specifically, the Variance Inflation Factor (VIF) for each predictor variable was less than 10 (i.e., as scores ranged from 1.08 to 3.39). Further, the predictor variables showed relatively high tolerance level proportions (i.e., scores

ranged from .30 to .92), indicating that all variables of interest were suitable for use in further analyses (Field, 2013; Menard, 1995).

### Correlational Analyses

Correlational analyses were conducted to examine the relationships among mothers' childhood maltreatment experiences, patterns of mother-young child attachment, mothers' depressive symptoms, mothers' reflective functioning, parenting behaviors, parenting attributions, and young children's outcomes (i.e., internalizing and externalizing problems). These correlations provided evidence for the hypotheses regarding the relationships among the variables of interest in the current study. See Table 3 for correlational analyses.

Mothers' childhood maltreatment experiences and patterns of mother-young child attachment (on the ECR and CHQ) were found to be correlated positively and significantly. In particular, significant relationships were found between mothers' total childhood maltreatment score on the CTQ and avoidant ( $r = .42, p < .001$ ), anxious ( $r = .32, p < .001$ ), helpless-disorganized ( $r = .40, p < .001$ ), and frightened-disorganized ( $r = .41, p < .001$ ) patterns of mother-young child attachment. Specifically, there were significant positive relationships between specific types of maltreatment (i.e., physical neglect, emotional abuse, physical abuse, and sexual abuse) and avoidant, anxious, helpless-disorganized, and frightened-disorganized patterns of attachment. Further, there were significant relationships between mothers' total ACEs score and avoidant ( $r = .23, p < .006$ ), anxious ( $r = .23, p < .006$ ), helpless-disorganized ( $r = .29, p < .001$ ), and frightened-disorganized ( $r = .27, p < .001$ ) patterns of attachment. Overall, these findings indicated that greater levels of mothers' childhood maltreatment experiences were

related significantly and positively to greater levels of avoidant, anxious, and disorganized attachment patterns with their young children.

Mothers' childhood maltreatment experiences were found to be related positively and significantly to their depressive symptoms. Significant relationships were found between total childhood maltreatment (on the CTQ) and total depressive symptoms on the BDI ( $r = .61, p < .001$ ) as well as between total ACEs and total depressive symptoms ( $r = .48, p < .001$ ). These findings indicated that greater levels of mothers' childhood maltreatment experiences were related to a greater number of total depressive symptoms. No significant relationship was found between total childhood maltreatment (on the CTQ) and total parental reflective functioning ( $r = .13, p < .11$ ) or between total ACEs and total parental reflective functioning ( $r = .14, p < .08$ ). These findings indicated that mothers' childhood maltreatment experiences were not related to their total level of reflective functioning (although these findings may be considered marginally significant). Mothers' childhood maltreatment experiences (on the CTQ) and ACEs were related positively and significantly to young children's internalizing problems ( $r = .40, p < .001$ , and  $r = .40, p < .001$ , respectively) and externalizing problems ( $r = .44, p < .001$ , and  $r = .40, p < .001$ , respectively).

Insecure patterns of mother-young child attachment were found to be related positively and significantly with mothers' depressive symptoms on the BDI. Significant relationships were noted between avoidant ( $r = .46, p < .001$ ), anxious ( $r = .42, p < .001$ ), helpless-disorganized ( $r = .69, p < .001$ ), and frightened-disorganized ( $r = .57, p < .001$ ) patterns of mother-young child attachment and mothers' total depressive symptoms. These findings indicated that greater levels of avoidant, anxious, and disorganized patterns of mother-young child attachment were related to mothers' depressive symptoms.

With regard to insecure patterns of mother-young child attachment and mothers' total reflective functioning (on the PRFQ), several significant and positive correlations were discovered. Significant relationships were found between avoidant ( $r = .40, p < .001$ ), anxious ( $r = .42, p < .001$ ), helpless-disorganized ( $r = .47, p < .001$ ), and frightened-disorganized ( $r = .44, p < .001$ ) patterns of mother-young child attachment and mothers' reflective functioning. In contrast with the study's original hypotheses, these findings indicated that greater patterns of avoidant, anxious, and disorganized mother-young child attachment were related to higher, rather than lower, levels of reflective functioning in mothers. To better understand these counterintuitive findings, a curvilinear auxiliary hypothesis was considered. In particular, it was hypothesized that there may be a certain optimal level of reflective functioning for predicting mothers' patterns of attachment with their young children. Specifically, it was considered that high reflective functioning may help mothers' ability to securely attach to their young children only to a certain extent but may impair mothers' ability to securely attach after exceeding a certain point of reflective functioning (Yerkes & Dodson, 1908). To test this hypothesis, curvilinear regression analyses for reflective functioning and patterns of mother-young child attachment were assessed. Results indicated that the quadratic regression between reflective functioning and avoidant attachment was significant ( $R^2 = .19, p < .001$ ) as well as significantly better than that of the linear regression model ( $R^2 = .16, p < .001$ ). Similarly, the quadratic regression between reflective functioning and anxious attachment was significant ( $R^2 = .21, p < .001$ ) as well as significantly better than that of the linear regression model ( $R^2 = .18, p < .001$ ). Further, the quadratic regression between reflective functioning and helpless-disorganized attachment was significant ( $R^2 = .29, p < .001$ ) as well as significantly better than that of the linear regression model ( $R^2 = .22, p < .001$ ). Finally, the quadratic regression between reflective

functioning and frightened-disorganized attachment was significant ( $R^2 = .22, p < .001$ ) as well as significantly better than that of the linear regression model ( $R^2 = .19, p < .001$ ). Thus, this curvilinear auxiliary hypothesis was supported. See Figures 3 through 6 for scatter plots for these curvilinear regression analyses.

With regard to insecure patterns of mother-young child attachment and young children's outcomes (on the CBCL), there were significant positive relationships between patterns of avoidant attachment and internalizing problems ( $r = .43, p < .001$ ) and externalizing problems ( $r = .52, p < .001$ ) and patterns of anxious attachment and internalizing problems ( $r = .52, p < .001$ ) and externalizing problems ( $r = .55, p < .001$ ) in young children. Patterns of helpless-disorganized attachment and internalizing problems ( $r = .57, p < .001$ ) and externalizing problems ( $r = .64, p < .001$ ) as well as patterns of frightened-disorganized attachment and internalizing problems ( $r = .58, p < .001$ ) and externalizing problems ( $r = .65, p < .001$ ) in young children were related significantly and positively as well.

With regard to mothers' depressive symptoms (on the BDI) and reflective functioning (on the PRFQ), a significant relationship was found between total depressive symptoms and total levels of reflective functioning ( $r = .27, p < .001$ ). In contrast to the current study's original hypothesis, this finding indicated that a greater number of depressive symptoms was related to greater levels of total reflective functioning. It may be theorized that mothers with greater depressive symptoms exhibited higher levels of internal reflections toward themselves and their own emotional states and behaviors. Mothers' depressive symptoms also were related positively and significantly to both internalizing problems ( $r = .61, p < .001$ ) and externalizing problems ( $r = .66, p < .001$ ) in young children, as measured on the CBCL. In contrast with original hypotheses, there were significant positive, rather than negative, relationships between mothers'

total levels of reflective functioning and internalizing problems ( $r = .38, p < .001$ ) and externalizing problems ( $r = .37, p < .001$ ) in young children. This counterintuitive finding indicated that greater levels of reflective functioning were related to more internalizing and externalizing problems in young children.

Finally, relationships between parenting variables (i.e., parenting behaviors and parenting attributions) and young children's outcomes were examined. With respect to parenting behaviors and young children's outcomes, negative or inconsistent parenting behaviors were related significantly to young children's internalizing problems ( $r = .49, p < .001$ ) and externalizing problems ( $r = .51, p < .001$ ). Similarly, punitive parenting behaviors and internalizing problems ( $r = .54, p < .001$ ) and externalizing problems ( $r = .61, p < .001$ ) in young children were related significantly and positively. Lastly, mothers' attributions of perceived control over failure had a significant and negative relationship with both internalizing problems ( $r = -.20, p < .01$ ) and externalizing problems ( $r = -.18, p < .03$ ) in young children. These findings suggested that, as was expected, all variables of interest were related significantly in some fashion to young children's outcomes.

### Mediational Analyses

Mediational analyses were conducted to examine further the predictive relationships between mothers' childhood maltreatment experiences, depressive symptoms, reflective functioning, and patterns of mother-young child attachment. Refer to the earlier description of Baron and Kenny's (1986) analyses. See Figures 7 through 14 and Tables 4 through 11 for these regression analyses.

### First Set of Mediation Analyses: Mothers' Childhood Maltreatment Experiences

Predicting Mother-Young Child Attachment. Mothers' childhood maltreatment experiences (on the CTQ) predicted significantly all patterns of mother-young child attachment examined in this study. In particular, mothers' experiences of childhood maltreatment predicted significantly patterns of avoidant attachment with their young children,  $F(1, 144) = 31.21, p < .001, R^2 = .18$ . Mothers' experiences of childhood maltreatment also predicted significantly anxious attachment with their young children,  $F(1, 144) = 16.04, p < .001, R^2 = .10$ . Further, mothers' experiences of childhood maltreatment predicted significantly disorganized mother-attachment, as determined by helpless-disorganized,  $F(1, 144) = 27.63, p < .001, R^2 = .16$ , and frightened-disorganized,  $F(1, 144) = 29.27, p < .001, R^2 = .17$ , patterns of attachment with their young children.

Mothers' Childhood Maltreatment Experiences Predicting Depressive Symptoms and Reflective Functioning. Mothers' experiences of childhood maltreatment experiences (on the CTQ) predicted significantly their depressive symptoms,  $F(1, 144) = 85.91, p < .001, R^2 = .37$ . In contrast to the study's original hypotheses, mothers' experiences of childhood maltreatment did not predict significantly total levels of reflective functioning,  $F(1, 144) = 2.56, p < .11, R^2 = .02$ . As such, the mediational role of reflective functioning in the relationship between mothers' childhood maltreatment experiences and mother-young child attachment was not examined further.

Depressive Symptoms Predicting Mother-Young Child Attachment. Mothers' depressive symptoms predicted significantly all patterns of mother-young child attachment examined in this study. In particular, mothers' depressive symptoms predicted significantly patterns of avoidant attachment with their young children,  $F(1, 144) = 37.90, p < .001, R^2 = .21$ . Mothers' depressive



symptoms also predicted significantly anxious attachment with their young children,  $F(1, 144) = 30.00, p < .001, R^2 = .17$ . Further, mothers' depressive symptoms predicted significantly disorganized mother-attachment, as determined by helpless-disorganized,  $F(1, 144) = 133.83, p < .001, R^2 = .48$ , and frightened-disorganized,  $F(1, 144) = 67.96, p < .001, R^2 = .32$ , patterns of attachment with their young children.

Mothers' Childhood Maltreatment Experiences and Depressive Symptoms Predicting Mother-Young Child Avoidant Attachment. Given the significant paths from the previous series of regressions, the mediational role of mothers' depressive symptoms was examined in the relationship between mothers' childhood maltreatment experiences and patterns of mother-young child avoidant attachment. Collectively, mothers' childhood maltreatment experiences and depressive symptoms predicted significantly avoidant attachment with their young children,  $F(2, 143) = 22.71, p < .001, R^2 = .24$ . When entered first, mothers' childhood maltreatment experiences alone predicted significantly avoidant attachment with their young children ( $p < .001$ ), explaining 18% of the variance. When mothers' depressive symptoms were added to the equation, childhood maltreatment decreased in significance ( $p < .01$ ), but depressive symptoms served as a significant predictor ( $p < .001$ ). As such, mothers' experiences of childhood maltreatment and depressive symptoms both served as individual predictors of avoidant attachment with their young children. Although mothers' depressive symptoms provided unique incremental variance in predicting avoidant attachment, the relationship between mothers' childhood experiences and avoidant attachment with their young children was mediated only partially by mothers' depressive symptoms. The mediational value of mothers' depressive symptoms was supported with a significant Sobel Test ( $z = 3.21, p < .001$ ). See Figure 7.

Mothers' Childhood Maltreatment Experiences and Depressive Symptoms Predicting Mother-Young Child Anxious Attachment. Next, the mediational role of mothers' depressive symptoms was examined in the relationship between mothers' childhood maltreatment experiences and patterns of mother-young child anxious attachment. Collectively, mothers' childhood maltreatment experiences and depressive symptoms predicted significantly anxious attachment with their young children,  $F(2, 143) = 15.55, p < .001, R^2 = .18$ . When entered first, mothers' childhood maltreatment experiences alone predicted significantly anxious attachment with their young children ( $p < .001$ ), explaining approximately 10% of the variance. When mothers' depressive symptoms were added to the equation, mothers' childhood maltreatment experiences were no longer a significant predictor of anxious attachment ( $p < .30$ ), but depressive symptoms served as a significant predictor ( $p < .001$ ). As such, the relationship between mothers' childhood maltreatment experiences and anxious attachment with their young children was mediated significantly by mothers' depressive symptoms. The mediational value of mothers' depressive symptoms was confirmed with a significant Sobel Test ( $z = 3.42, p = .0006$ ). See Figure 8.

Mothers' Childhood Maltreatment Experiences and Depressive Symptoms Predicting Mother-Young Child Helpless-Disorganized Attachment. The mediational role of mothers' depressive symptoms also was examined in the relationship between mothers' childhood maltreatment experiences and patterns of mother-young child helpless-disorganized attachment. Collectively, mothers' childhood maltreatment experiences and depressive symptoms predicted significantly helpless-disorganized attachment,  $F(2, 143) = 66.67, p < .001, R^2 = .48$ . When entered first, mothers' childhood maltreatment experiences alone predicted significantly helpless-disorganized attachment ( $p < .001$ ), explaining approximately 16% of the variance.

Once mothers' depressive symptoms were entered into the equation, mothers' childhood maltreatment experiences were no longer a significant predictor of helpless-disorganized attachment ( $p < .63$ ), but depressive symptoms served as a significant predictor ( $p < .001$ ). As such, the relationship between mothers' childhood maltreatment experiences and helpless-disorganized attachment with their young children was mediated significantly by mothers' depressive symptoms. The mediational value of mothers' depressive symptoms was confirmed with a significant Sobel Test ( $z = 6.60, p < .0001$ ). See Figure 9.

Mothers' Childhood Maltreatment Experiences and Depressive Symptoms Predicting Mother-Young Child Frightened-Disorganized Attachment. Finally, the mediational role of mothers' depressive symptoms was examined in the relationship between mothers' childhood maltreatment experiences and patterns of mother-young child frightened-disorganized attachment. Collectively, mothers' childhood maltreatment experiences and depressive symptoms predicted significantly frightened-disorganized attachment,  $F(2, 143) = 34.80, p < .001, R^2 = .33$ . When entered first, mothers' childhood maltreatment experiences alone predicted significantly frightened-disorganized attachment ( $p < .001$ ), explaining approximately 17% of the variance. When mothers' depressive symptoms were entered into the equation, mothers' childhood maltreatment experiences were no longer a significant predictor of frightened-disorganized attachment ( $p < .23$ ), but depressive symptoms served as a significant predictor ( $p < .001$ ). As such, the relationship between mothers' childhood maltreatment experiences and frightened-disorganized attachment with their young children was mediated significantly by mothers' depressive symptoms. The mediational value of mothers' depressive symptoms was confirmed with a significant Sobel Test ( $z = 4.90, p < .0001$ ). See Figure 10.

Second Set of Mediation Analyses: Depressive Symptoms Predicting Reflective Functioning. Mothers' depressive symptoms predicted significantly total levels of reflective functioning,  $F(1, 144) = 11.01, p < .001, R^2 = .07$ .

Mothers' Reflective Functioning Predicting Mother-Young Child Attachment. Mothers' reflective functioning predicted significantly all patterns of mother-young child attachment examined in this study. In particular, mothers' total levels of reflective functioning predicted significantly avoidant attachment with their young children,  $F(1, 144) = 27.75, p < .001, R^2 = .16$ . Mothers' total reflective functioning also predicted significantly anxious attachment with their young children,  $F(1, 144) = 30.44, p < .001, R^2 = .18$ . Further, mothers' reflective functioning predicted significantly disorganized mother-attachment, as determined by patterns of helpless-disorganized,  $F(1, 144) = 40.69, p < .001, R^2 = .22$ , and frightened-disorganized attachment,  $F(1, 144) = 33.78, p < .001, R^2 = .19$ , patterns of mother-young child attachment.

Mothers' Depressive Symptoms and Reflective Functioning Predicting Mother-Young Child Avoidant Attachment. Given the significant paths from the previous series of regressions, the mediational role of reflective functioning was examined in the relationship between mothers' depressive symptoms and patterns of mother-young child avoidant attachment. Collectively, mothers' depressive symptoms and reflective functioning predicted significantly avoidant attachment,  $F(2, 143) = 29.62, p < .001, R^2 = .29$ . When entered first, mothers' depressive symptoms alone predicted significantly avoidant attachment with their young children ( $p < .001$ ), explaining 21% of the variance. Upon mothers' reflective functioning being added to the equation, depressive symptoms remained significant ( $p < .001$ ), and reflective functioning served as a significant predictor ( $p < .001$ ). As such, mothers' depressive symptoms and reflective functioning both served as individual predictors of avoidant attachment with their young

children. Although mothers' reflective functioning provided unique incremental variance in predicting avoidant attachment, the relationship between mothers' depressive symptoms and avoidant attachment with their young children was mediated only partially by mothers' reflective functioning. The mediational value of reflective functioning was confirmed with a significant Sobel Test ( $z = 2.54, p < .011$ ). See Figure 11.

Maternal Depressive Symptoms and Reflective Functioning Predicting Mother-Young Anxious Attachment. Next, the mediational role of reflective functioning was examined in the relationship between mothers' depressive symptoms and patterns of mother-young child anxious attachment. Collectively, mothers' depressive symptoms and reflective functioning predicted significantly anxious attachment,  $F(2, 143) = 26.97, p < .001, R^2 = .27$ . When entered first, mothers' depressive symptoms alone predicted significantly anxious attachment ( $p < .001$ ), explaining approximately 17% of the variance. Upon mothers' reflective functioning being added to the equation, depressive symptoms remained significant ( $p < .001$ ), and reflective functioning served as a significant predictor ( $p < .001$ ). As such, mothers' depressive symptoms and reflective functioning both served as individual predictors of anxious attachment with their young children. Although mothers' reflective functioning provided unique incremental variance in predicting anxious attachment, the relationship between mothers' depressive symptoms and anxious attachment with their young children was mediated only partially by mothers' reflective functioning. The mediational value of reflective functioning was confirmed with a significant Sobel Test ( $z = 2.62, p = .009$ ). See Figure 12.

Maternal Depressive Symptoms and Reflective Functioning Predicting Mother-Young Child Helpless-Disorganized Attachment. The mediational role of reflective functioning was also examined in the relationship between mothers' depressive symptoms and patterns of mother-

young child helpless-disorganized attachment. Collectively, mothers' depressive symptoms and reflective functioning predicted significantly helpless-disorganized attachment,  $F(2, 143) = 94.30, p < .001, R^2 = .57$ . First, mothers' depressive symptoms alone predicted significantly helpless-disorganized attachment ( $p < .001$ ), explaining approximately 48% of the variance. Upon mothers' reflective functioning being added to the equation, depressive symptoms remained significant ( $p < .001$ ), and reflective functioning served as a significant predictor ( $p < .001$ ). As such, mothers' depressive symptoms and reflective functioning both served as individual predictors of helpless-disorganized attachment with their young children. Although mothers' reflective functioning provided unique incremental variance in predicting helpless-disorganized attachment, the relationship between mothers' depressive symptoms and helpless-disorganized attachment with their young children was mediated only partially by mothers' reflective functioning. The mediational value of mothers' reflective functioning was confirmed with a significant Sobel Test ( $z = 2.79, p = .005$ ). See Figure 13.

Maternal Depressive Symptoms and Reflective Functioning Predicting Mother-Young Child Frightened-Disorganized Attachment. Finally, the mediational role of reflective functioning was examined in the relationship between mothers' depressive symptoms and patterns of mother-young child frightened-disorganized attachment. Collectively, mothers' depressive symptoms and reflective functioning predicted significantly frightened-disorganized attachment,  $F(2, 143) = 49.29, p < .001, R^2 = .41$ . When entered first, mothers' depressive symptoms alone predicted significantly frightened-disorganized attachment ( $p < .001$ ), explaining approximately 32% of the variance. Upon mothers' reflective functioning being added to the equation, depressive symptoms remained significant ( $p < .001$ ), and reflective functioning served as a significant predictor ( $p < .001$ ). As such, mothers' depressive symptoms

and reflective functioning both served as individual predictors of frightened-disorganized attachment with their young children. Although mothers' reflective functioning provided unique incremental variance in predicting frightened-disorganized attachment, the relationship between mothers' depressive symptoms and frightened-disorganized attachment with their young children was only partially mediated by mothers' reflective functioning. The mediational value of mothers' reflective functioning was confirmed with a significant Sobel Test ( $z = 2.65, p = .008$ ). See Figure 14.

### Hierarchical Regression Analyses

Given the significant relationships between the variables of interest, hierarchical regression analyses were conducted to determine significant predictors of young children's internalizing and externalizing problems. Mothers' childhood maltreatment experiences, depressive symptoms, reflective functioning, mother-child attachment, and parenting characteristics (i.e., parenting behaviors and parenting attributions) served as predictor variables (with each being entered in its own block), with young children's internalizing and externalizing problems serving as the outcome variables. Specifically, mothers' childhood maltreatment was entered into Block 1, mothers' depressive symptoms were entered into Block 2, mothers' reflective functioning was entered into Block 3, mother-child attachment (i.e., avoidant, anxious, helpless-disorganized, and frightened-disorganized patterns of attachment) was entered into Block 4, and mothers' parenting behaviors (i.e., negative/inconsistent and punitive parenting behaviors) and parenting attributions (i.e., PCF) were entered into Block 5 to examine the unique predictive value of these variables in predicting young children's outcomes. See Tables 8 and 9 for hierarchical regression analyses.

With regard to internalizing problems, mothers' childhood maltreatment experiences and ACEs significantly predicted their young children's internalizing behavior problems,  $F(2, 143) = 15.49, p < .001, R^2 = .18$ , when entered into Block 1. When mothers' depressive symptoms and reflective functioning were entered into Block 2, the regression equation remained significant,  $F(4, 141) = 26.86, p < .001, R^2 = .43$ . In particular, both mothers' depressive symptoms ( $p < .001$ ) and reflective functioning ( $p = .001$ ) served as significant individual predictors of young children's internalizing problems in Block 2. When mother-child patterns of attachment were entered into Block 3, the regression equation remained significant,  $F(8, 137) = 17.52, p < .001, R^2 = .51$ . In Block 3, reflective functioning no longer served as a significant predictor, whereas mothers' depressive symptoms remained a significant predictor ( $p < .001$ ) and mothers' ACEs ( $p = .02$ ) and mother-child patterns of anxious attachment ( $p = .03$ ) additionally served as significant predictors of young children's internalizing behavior problems. Finally, when mothers' parenting characteristics (i.e., negative/inconsistent and punitive parenting behaviors and PCF) were entered into Block 4, the regression equation remained significant,  $F(11, 134) = 13.37, p < .001, R^2 = .52$ . In particular, mothers' depressive symptoms ( $p < .001$ ) and mothers' ACEs ( $p = .02$ ) remained significant predictors, whereas mother-child patterns of anxious attachment no longer served as a significant predictor of young children's internalizing problems.

With regard to externalizing problems, mothers' childhood maltreatment experiences and ACEs significantly predicted their young children's externalizing behavior problems,  $F(2, 143) = 17.75, p < .001, R^2 = .20$ , when entered into Block 1. Mother's childhood maltreatment experiences served as a significant individual predictor ( $p < .007$ ) of young children's externalizing problems in Block 1. When mothers' depressive symptoms and reflective



functioning were entered into Block 2, the regression equation remained significant,  $F(4, 141) = 33.40, p < .001, R^2 = .49$ . In Block 2, mothers' childhood maltreatment experiences no longer served as a significant individual predictor, whereas both mothers' depressive symptoms ( $p < .001$ ) and reflective functioning ( $p = .002$ ) served as significant individual predictors of young children's externalizing problems. When mother-child patterns of attachment were entered into Block 3, the regression equation remained significant,  $F(8, 137) = 24.43, p < .001, R^2 = .59$ . In Block 3, reflective functioning no longer served as a significant predictor, whereas mothers' depressive symptoms remained a significant predictor ( $p < .001$ ) and mothers' ACEs ( $p = .03$ ) and mother-child patterns of frightened-disorganized attachment ( $p = .01$ ) additionally served as significant predictors of young children's externalizing behavior problems. Finally, when mothers' parenting characteristics (i.e., negative/inconsistent and punitive parenting behaviors and PCF) were entered into Block 4, the regression equation remained significant,  $F(11, 134) = 18.80, p < .001, R^2 = .61$ . In Block 4, mother-child patterns of frightened-disorganized attachment no longer served as a significant predictor, whereas mothers' depressive symptoms ( $p < .001$ ) and mothers' ACEs ( $p = .03$ ) remained significant predictors and punitive parenting behaviors ( $p = .02$ ) additionally served as a significant predictor of young children's externalizing problems.

## **CHAPTER FOUR: DISCUSSION**

This study examined the relationships among mothers' experiences of childhood maltreatment, patterns of mother-young child attachment, mothers' depressive symptoms, and mothers' reflective functioning. As earlier discussed, previous research established that several of the constructs examined in this study were related. Most notably, the detrimental effects of traumatic childhood experiences on individuals' functioning has been documented extensively (Felitti et al., 1998). In particular, experiences of childhood maltreatment place women at an especially heightened risk for difficulties in mother-young child attachment (Main & Solomon, 1990; Seng et al., 2013; van IJzendoorn, Goldberg, Kroonenberg, & Frenkel, 1992). Although existing research has focused at length on the outcomes of traumatic childhood experiences, evidence has been lacking with regard to the pathways which lead to such adverse outcomes, particularly for the children of mothers with traumatic childhood experiences. This gap in the literature begets the question: what is the process by which the relationship between mothers' childhood maltreatment and attachment with their own children exists? Thus, this study introduced mothers' depressive symptoms and reflective functioning as potential mediators in explaining the relationship between mothers' experiences of childhood maltreatment and their patterns of insecure attachment with their young children.

Along with risk for insecure patterns of attachment, childhood maltreatment experiences significantly increase the risk for psychopathology, such as symptoms of depression (Brown et al., 1999). Depression may be particularly problematic in the context of parenting, as mothers' depressive symptoms have shown to be damaging for parenting young children (Goodman, 2007) and the mother-young child attachment (Hipwell et al., 2000; Martins & Gaffan, 2000; van

IJzendoorn, Goldberg, Kroonenberg, & Frenkel, 1992). Further, recent findings indicated that the relationship between mothers' history of childhood maltreatment and mother-infant bonding at six weeks postpartum was mediated by mothers' major depressive symptoms (Seng et al., 2013). Given evidence of the collective effects of mothers' childhood maltreatment and depressive symptoms on mother-young child attachment, the current study investigated mothers' depressive symptoms as a mediator in the connection between mothers' childhood maltreatment and patterns of mother-young child insecure attachment.

Moreover, it was imperative to additionally examine novel constructs, such as reflective functioning, to help better explain the relationship between childhood maltreatment, mother-young child attachment, and depressive symptoms. Fonagy, Steele, Steele, Moran, and Higgitt (1991) conceptualized reflective functioning as the ability to 'mentalize' states of mind of the self and others, which helps to better understand one's own behavior as well as the behavior of others (e.g., one's children). The limited literature to date has identified that experiences of childhood maltreatment may impact negatively reflective functioning, thereby increasing risk of insecure attachment between mothers and their children (Fonagy & Target, 1997). On the other hand, high levels of reflective functioning in mothers with childhood maltreatment histories may act as a buffer for increasing secure attachment between parents and their infants (Fonagy, Steele, & Steele, 1991; Slade et al., 2005). In addition, reflective functioning has been theorized as acting as a buffer against psychopathological difficulties in individuals who experienced childhood maltreatment (Borelli, Compare, Snively, & Decio, 2014). Research has yet, however, to demonstrate the effect of reflective functioning specifically on mothers' depressive symptoms. As such, the current study uniquely added to the literature in studying these constructs (i.e., childhood maltreatment, mothers' depressive symptoms, reflective functioning) together in the

prediction of mother-young child insecure attachment outcomes. Specifically, patterns of attachment in this study included avoidant attachment (i.e., consistent with the Type A classification), anxious attachment (i.e., consistent with the Type C classification), and helpless-disorganized and frightened-disorganized (i.e., both consistent with the Type D classification). It should be noted that the four attachment variables examined in this study were all independent from one another. Finally, parenting constructs (i.e., parenting behaviors and parenting attributions) and young children's internalizing and externalizing behavior problems were studied within the context of the aforementioned main constructs.

The first aim of the current study was to examine the correlational relationships among all variables of interest in the study. As was expected, mothers' experiences of childhood maltreatment (on the CTQ) and ACEs were found to be related positively and significantly to all patterns of mother-young child attachment examined. Consistent with previous research (Main & Solomon, 1990; Seng et al., 2013; van IJzendoorn, Goldberg, Kroonenberg, & Frenkel, 1992), these findings indicated that mothers with greater childhood maltreatment experiences were found to exhibit more insecure patterns of attachment with their young children. Mothers' childhood maltreatment and ACEs also were related positively and significantly to mothers' depressive symptoms. These findings corroborated previous evidence that individuals who experienced childhood maltreatment also exhibited more depressive symptoms (Brown et al., 1999). As hypothesized, a positive and significant relationship was discovered between mothers' depressive symptoms and patterns of mother-young child attachment, such that mothers with greater depressive symptoms also exhibited more avoidant, anxious, and disorganized patterns of attachment with their young children. These results supported van IJzendoorn and colleagues' (1992) findings that mothers with mental illness were classified on the Strange Situation as

having significantly greater insecure attachment classifications than mothers without symptoms of mental illness. With particular regard to mothers' depressive symptoms and disorganized patterns of mother-young child attachment, this study's results were in direct support of previous findings of both disorganized attachment subscales (i.e., mother helpless-disorganized and mother and child frightened-disorganized) on the CHQ both significantly and positively correlating with mother's depressive symptoms on the BDI (Solomon & George, 2011).

In contrast with this study's hypothesis, mothers' childhood maltreatment experiences and ACEs were not related significantly to reflective functioning. These findings indicated that, contradictory to previous evidence of such a relationship (Fonagy & Target, 1997; Pajulo et al., 2012), greater levels of childhood maltreatment experienced by mothers was not related to mothers' overall levels of reflective functioning in this sample. The overall low-to-moderate levels of childhood maltreatment experiences and moderate levels of total reflective functioning may have contributed to a failure to capture the connection between childhood maltreatment and reflective functioning in the current sample. Future research may consider assessing for reflective functioning exclusively in a sample with higher levels of experienced childhood maltreatment so that the relationship between these variables can be investigated further.

Given findings that high levels of reflective functioning should contribute toward increased security in the mother-child relationship (Fonagy, Steele, & Steele, 1991), it was hypothesized that reflective functioning would be related negatively to patterns of mother-young child insecure attachment. Although significant relationships were discovered for avoidant, anxious, helpless-disorganized, and frightened-disorganized patterns of attachment, the directionality of these relationships was contrary to the study's original hypotheses. In particular, these findings suggested that higher, rather than lower, levels of maternal reflective functioning

were related significantly to greater patterns of avoidant, anxious, and disorganized attachment. One possible explanation for this counterintuitive result is that mothers' levels of reflective functioning may only help to increase security in mother-young child attachment to a certain extent; but, may weaken mothers' ability to securely attach after reaching a certain point of reflective functioning. To test this hypothesis, curvilinear regression analyses were assessed for reflective functioning and patterns of mother-young child attachment. These analyses demonstrated that, as hypothesized post hoc, quadratic regressions explained the relationships between reflective functioning and patterns of avoidant, anxious, helpless-disorganized, and frightened-disorganized attachment significantly better than the linear regression models. These findings indicated uniquely that the connection between reflective functioning and mother-young child attachment may likely be more complex than originally theorized (Fonagy, Steele, & Steele, 1991; Fonagy, Steele, Steele, Moran, & Higgitt, 1991) and thus, may be best understood in a nonlinear fashion. Correspondingly, Fonagy, Gergely, and Target's (2007) concluded that overall, "the lack of consistency in findings between observational measures of attachment and mentalization suggest that the causal pathway is unlikely to be direct; rather, secure attachment and mentalization may have shared facilitating influence in aspects of parenting" (p. 41). This assertion, along with this study's findings, purport that there is still much to be learned with regard to the complexity of the relationship between reflective functioning and mother-young child attachment.

In assessing mothers' depressive symptoms and reflective functioning, a significant and positive relationship was found, indicating that mothers with greater depressive symptoms exhibited greater levels of overall reflective functioning. This finding was inconsistent with the original hypothesis that mothers' depressive symptoms and reflective functioning would be

related negatively, such that greater depressive symptoms would be related to lower levels of reflective functioning. The current study's findings were inconsistent also with the theoretical rationale that symptoms of depression interfere with mothers' abilities to pick up their children's emotional cues and to respond adaptively to them (Cox, Puckering, Pound, & Mills, 1987; Goodman, 2007; Shaw et al., 2006). Moreover, prior studies also theorized that high reflective functioning may act as a buffer against depressive symptoms in parents who had experienced childhood maltreatment (Borelli, Compare, Snavely, & Decio, 2014). It should be noteworthy that mothers in the current sample reported overall moderate levels of reflective functioning, with the highest score on the PRFQ falling at 4.92 (whereas the scores ranged from 1 to 7). As such, it may be the case that the reported levels of reflective functioning in the current sample may not have been high enough to act as a buffer for mothers' depressive symptoms. Another possible explanation may be that, given the connection between depression and maladaptive cognitions (Goodman, 2007) as well as a myriad of deficits in cognitive domains (i.e., psychomotor speed, attention, visual learning, memory, and executive functioning; Lee, Hermens, Porter, & Redoblado-Hodge, 2012), mothers with greater depressive symptoms may exhibit higher levels of internal reflections toward themselves and their own emotional states alone, rather than the capacity to reflect on the mental states of their children. Certainly, there were additional inconsistencies in the literature examining the relationship between depressive symptoms and reflective functioning. For example, previous studies examining the constructs found no significant connections between mothers' depressive symptoms and reflective functioning (Pajulo et al., 2012; Schechter, 2003). Given the variable findings throughout the literature and those discovered by the current study, it can be concluded that the relationship

between mothers' depressive symptoms and reflective functioning deserves further study in populations with and without histories of childhood maltreatment.

Finally, relationships between all predictor variables and young children's outcomes were examined. Mothers' childhood maltreatment (on the CTQ), ACEs, and depressive symptoms were related positively and significantly to young children's internalizing and externalizing problems. In contrast with original hypotheses, there were significant positive, rather than negative, relationships between mothers' total levels of reflective functioning and internalizing and externalizing problems in young children. This counterintuitive finding indicated that greater levels of reflective functioning were related to more internalizing and externalizing problems with young children. As previously mentioned, mothers in the current sample reported overall moderate levels of reflective functioning. As such, it may be that the current study failed to capture levels of reflective functioning high enough to buffer the negative internalizing and externalizing problems exhibited by their young children.

There were significant positive relationships between patterns of avoidant, anxious, helpless-disorganized, and frightened-disorganized attachment with internalizing and externalizing problems in young children. With respect to parenting behaviors and young children's outcomes, negative or inconsistent and punitive parenting behaviors were related significantly and positively to internalizing and externalizing problems. Lastly, mothers' parenting attributions, specifically perceived control over failure, had a significant and negative relationship with both internalizing and externalizing problems in young children. These findings suggested that, as was expected, all variables of interest were related significantly in some fashion to young children's outcomes.



The second aim of the current study was to examine the potential mediating role of mothers' depressive symptoms in explaining the relationship between mothers' childhood maltreatment experiences and patterns of mother-young child attachment. Consistent with previous findings (Main & Solomon, 1990), mothers' experiences of childhood maltreatment predicted significantly mothers' patterns of insecure attachment with their young children. This study contributed to the existing literature by uniquely investigating four distinct patterns of insecure attachment in the context of mothers' experiences of childhood maltreatment. In particular, mothers' childhood maltreatment experiences, as reported on the CTQ, predicted significantly patterns of avoidant, anxious, helpless-disorganized, and frightened-disorganized attachment with young children. As was expected based on countless previous findings in the existing literature (Brown et al., 1999; Webster-Stratton & Hammond, 1988; Widom, DuMont, & Czaja, 2007), mothers' experiences of childhood maltreatment also predicted significantly depressive symptoms. Additionally, in line with previous research on the connection between mothers' depressive symptoms and mother-young child attachment difficulties (Hipwell et al., 2000; Martins & Gaffan, 2000; van IJzendoorn, Goldberg, Kroonenberg, & Frenkel, 1992), mother's depressive symptoms predicted significantly patterns of avoidant, anxious, helpless-disorganized, and frightened-disorganized attachment with young children.

Upon examining the mediational role of mothers' depressive symptoms, it was found that this study's hypothesis was supported. Specifically, mothers' depressive symptoms were found to mediate partially the relationship between mothers' childhood maltreatment experiences and patterns of mother-young child avoidant attachment, explaining approximately 24% of the variance in the relationship. Mothers' depressive symptoms were found to mediate fully the relationship between mothers' childhood maltreatment experiences and patterns of mother-young

child anxious attachment, explaining approximately 18% of the variance in the relationship. Similarly, mothers' depressive symptoms mediated fully the relationship between mothers' childhood maltreatment experiences and patterns of mother-young child helpless-disorganized attachment, explaining approximately 48% of the variance in the relationship. Finally, mothers' depressive symptoms mediated fully the relationship between mothers' childhood maltreatment experiences and patterns of mother-young child frightened-disorganized attachment, explaining approximately 33% of the variance in the relationship. In other words, including mothers' depressive symptoms in the prediction of mother-young child insecure attachment explained a significantly larger amount of variance than the experience of childhood maltreatment itself.

These data suggested that mothers' maltreatment experiences in childhood may not be as directly damaging to the future mother-young child relationship, as the psychological consequences that stem from such childhood experiences. Felitti and colleagues (1998) likewise indicated that, rather than ACEs directly contributing to negative psychological, social, and health outcomes, there are scientific gaps that must be discovered as leading to these outcomes. Certainly, especially in trauma-exposed mothers, depressive symptoms have been demonstrated here as a mechanism of action contributing to insecurity with their children. These results corresponded with prior findings that mothers' psychological symptoms, rather than mothers' maltreatment histories themselves, posed the greatest risk for mother-child bonding (Muzik et al., 2013). Interestingly, it was found that patterns of disorganized attachment, in particular, were predicted greatly by depressive symptoms in mothers who had experienced childhood maltreatment. Correspondingly, disorganized attachment, as measured by Mother Helpless and Mother and Child Frightened subscales on the CHQ, were found previously to be specifically related to mothers' depressive symptoms on the BDI (Solomon & George, 2011). As

helplessness has been considered historically a major symptom of depression (Seligman, 1972), mothers with higher levels of depression also likely feel helpless in the parental role (Solomon & George, 2011). These results may be particularly salient, as children with disorganized/disoriented (Type D) attachment typically held working models of their primary attachment figure as being rejecting or inconsistent and, thus, were more likely to be frightened of their caregiver (Main & Solomon, 1986). Moreover, disorganized/disoriented attachment was associated with the most maladaptive psychosocial outcomes in children in comparison to other classifications of insecure attachment (Mash & Wolfe, 2016). These findings demonstrated the importance for interventions to target symptoms of depression in mothers, especially as they may relate to or be reinforced by trauma-related difficulties. Women who experienced childhood maltreatment already exhibit a significantly heightened risk for depression (Webster-Stratton & Hammond, 1988), which predicts subsequently future depression (Rudolph et al., 2009). Thus, early detection of depressive symptoms in mothers may prevent the likelihood that such symptoms affect adversely the parent-child relationship (Muzik et al., 2013). Overall, these findings further stress that maternal depressive symptoms must be recognized as not only a threat to the mothers' health but also as a threat to her young children's sense of security (Scheeringa & Zeanah, 1995).

The third aim of the current study was to examine the potential mediational role of reflective functioning in explaining the relationship between mothers' childhood maltreatment experiences and patterns of attachment with their young children. Contradictory to this study's hypothesis and previous findings (Pajulo et al., 2012), however, mothers' childhood maltreatment experiences, as reported on the CTQ, failed to predict reflective functioning. As such, the mediational role of reflective functioning could not be examined further in the context

of childhood maltreatment and mother-young child attachment. As previously mentioned, the overall low-to-moderate levels of childhood maltreatment and moderate levels of total reflective functioning reported in the current sample may have contributed to a failure to capture a significant connection between the two constructs of interest. It may be the case that the effect between childhood maltreatment and reflective functioning is dependent on higher levels of childhood maltreatment experiences. Thus, future research may consider assessing for reflective functioning in a sample with higher levels of childhood maltreatment experiences so that these relationships can be examined further.

Moreover, there are other considerations to be taken into account for this contradictory finding. For instance, this study utilized a self-reported measure consisting of a Likert-type scale (i.e., the PRFQ) to assess mothers' levels of reflective functioning. Hence, there may likely be discrepancies between mothers' reported reflective functioning and their true levels of reflective functioning. Although some participants likely respond realistically, research documented the tendency for participants to exhibit positive or negative self-bias when evaluating themselves (John & Robins, 1994). Utilization of self-reported measures (such as the PRFQ), although fitting for collecting information from large samples, should be noted as a well-documented limitation of quantitative research.

Further, Slade (2005) specified that 'mentalization' requires metacognitive capacity as it is both an affective *and* cognitive concept. The capacity to be reflective regarding children's emotions and behaviors requires substantial cognitive strengths (Capstick, 2008), which may prove to be difficult for mothers unequipped to handle such high cognitive loads. Mothers who experienced childhood maltreatment may experience particular difficulty in demonstrating insight into their own reflective capacity, with regard to their own and their children's thoughts,

feelings, and behaviors. This connection may be especially striking considering that mentalization originates from early childhood representations, or working models, meant to help individuals make sense of the world (Fonagy, Steele, Steele, Moran, & Higgitt, 1991). Thus, development of parental reflective functioning may depend greatly on the effect that childhood difficulties may have had on the early ability to develop mentalization (Fonagy, Gergely, & Target, 2007). Maltreated children, in fact, showed a number of difficulties that could impair development of mentalization relative to children without such experiences. For example, children who experienced maltreatment responded with hostility, rather than empathy, to others' distress (Main & George, 1985) and spoke less regarding their internal states and emotions than children who did not experience maltreatment (Beeghly & Cicchetti, 1994). Therefore, a future direction for the study of reflective functioning may be in discovering more reliable and valid ways to capture the effects of the complex cognitive construct, especially in trauma-exposed individuals' who may display specific difficulties in reflective cognitive and affective capacity for their own and others' mental states.

The fourth aim of the current study was to examine the potential mediational role of reflective functioning in explaining the relationship between mothers' depressive symptoms and patterns of attachment with their young children. In line with previous findings (Hipwell et al., 2000; Martins & Gaffan, 2000; Muzik et al., 2013; van IJzendoorn, Goldberg, Kroonenberg, & Frenkel, 1992), mothers' depressive symptoms predicted significantly mothers' patterns of insecure attachment with their young children. Specifically, mothers' depressive symptoms predicted significantly patterns of avoidant, anxious, helpless-disorganized, and frightened-disorganized attachment with young children. As was theorized by Borelli and colleagues (2014), mothers' depressive symptoms also predicted significantly reflective functioning. As

aforementioned, however, these two constructs were related in a direction that was contrary to this study's hypothesis (that is, they were positively, rather than negatively, related).

Additionally, consistent with previous research on the complex connection between reflective functioning and mother-young child attachment security (Fonagy Gergely, & Target, 2007), mother's reflective functioning predicted significantly patterns of avoidant, anxious, helpless-disorganized, and frightened-disorganized attachment with young children. As previously noted, the relationships between reflective functioning and patterns of mother-young child attachment were found to be better explained in a curvilinear, rather than linear, fashion.

Upon examining the mediational role of mothers' reflective functioning, it was found that this study's hypothesis was supported. Specifically, mothers' reflective functioning was found to mediate partially the relationship between mothers' depressive symptoms and patterns of mother-young child avoidant attachment, explaining approximately 29% of the variance in the relationship. Mothers' reflective functioning was found to mediate partially the relationship between mothers' depressive symptoms and patterns of mother-young child anxious attachment, explaining approximately 27% of the variance in the relationship. Next, mothers' reflective functioning mediated fully the relationship between mothers' depressive symptoms and patterns of mother-young child helpless-disorganized attachment, explaining approximately 57% of the variance in the relationship. Finally, mothers' depressive symptoms mediated partially the relationship between mothers' depressive symptoms and patterns of mother-young child frightened-disorganized attachment, explaining approximately 41% of the variance in the relationship. In other words, including mothers' reflective functioning in the prediction of mother-young child insecure attachment explained a significantly larger amount of variance than mothers' depressive symptoms alone. These data suggested that reflective functioning and

depressive symptoms work together in explaining the mother-young child attachment relationship. Moreover, a more complex and nonlinear relationship may exist between reflective functioning and depressive symptoms as well as insecure attachment. In particular, up until a certain level, high levels of reflective functioning may buffer any negative effects of depressive symptoms or insecure attachment; however, at a certain point, levels of reflective functioning may impair mothers' abilities to maintain a secure attachment with their young children. This pattern may be especially true for women who are struggling concurrently with depressive symptoms and, as such, exhibit greater difficulty in emotionally connecting with their young children.

The final aim of the current study was to examine the individual predictive validity of mothers' childhood maltreatment experiences, mothers' depressive symptoms, mothers' reflective functioning, patterns of mother-young child attachment, parenting behaviors, and parenting attributions, on young children's internalizing and externalizing problems. With regard to young children's internalizing problems, mothers' depressive symptoms and mothers' ACEs were found to be unique predictors. These findings were consistent with evidence that mothers' depressive symptoms were related to their report of internalizing problems in their young children (Campbell, Matestic, von Stauffenberg, Mohan, & Kirchner, 2007; Field, 1992). Further, these findings also fell in line with evidence that mothers' adverse childhood experiences are related to internalizing problems in children (Thompson, 2007), although interestingly, this was also in contradiction of mothers' total childhood maltreatment experiences, as measured on the CTQ, failing to predict young children's internalizing problems. With regard to externalizing problems, similar to the predictive findings on internalizing problems, mothers' depressive symptoms and mothers' ACEs were discovered as significant

predictors. These data supported previous literature suggesting that mothers' depressive symptoms were related to their report of externalizing problems in their young children (Campbell et al., 2007). Moreover, these findings corroborate evidence of mothers' adverse childhood experiences predicting externalizing problems in children (Thompson, 2007), although interestingly this finding was also in contradiction of mothers' total childhood maltreatment experiences on the CTQ failing to predict young children's externalizing problems. Additionally, in contrast with predictive findings on internalizing problems, punitive parenting behaviors served as a significant predictor of young children's externalizing problems. This finding fell in line with previous research noting that mothers' corporal punishment was related specifically to externalizing behaviors and risk for disruptive behavior disorders (Shelton, Frick, & Wootton, 1996). Taken together, these findings confirm the importance of parents' positive parenting behaviors, including warmth and responsiveness, in facilitating adaptive psychosocial outcomes in young children (Belsky, 1984).

Finally, there were some limitations of the current study that should be taken into account. First, these data were all collected from Amazon Mechanical Turk, a crowdsourcing Internet marketplace. Through this data collection method, the current study obtained a nationally representative sample, albeit, lacking in diversity. Specifically, the vast majority of mothers identified as being Caucasian, reported being married, were college-educated, and could be classified as having a middle-class socioeconomic status. Undoubtedly, these demographic characteristics may compromise external validity of these data to more diverse ethnic populations or to those of lower education or socioeconomic status. Additionally, the current sample could be considered a low-risk, rather than high-risk sample. Only 26.7% of the total sample ( $n = 39$  mothers) reported exposure to four or more categories of adverse childhood



experiences (although this frequency of adverse childhood experiences would be consistent with those found in other samples) on the ACEs. Considering previous studies demonstrated significant findings from much lower percentages of exposure (i.e. 6% exposure; Felitti et al., 1998), the levels of exposure to childhood trauma were considered to be adequate for examining the variables of interest in the current study. As has been suggested for national rates of childhood maltreatment (Straus et al., 1998), however, it is probable that the rates of exposure to childhood maltreatment experiences reported in the current study are an underestimation of true rates of exposure. Mothers with traumatic childhood experiences may underreport such experiences if they continue to exhibit feelings of guilt, shame, or anger, especially as these feelings may relate to their own parenting (Lieberman & Van Horn, 2011).

As previously mentioned, self-reported quantitative measures were utilized to study the variables of interest in this study. Although the researchers included invalidating questions within the overall survey and several of the measures included validity scales, there is still the possibility that mothers may have exhibited positive or negative self-bias (John & Robins, 1994) in providing their responses. Self-report may be regarded as a major limitation; however, countless studies utilized similar self-report measures in measuring the variables of interest in this study. Regardless of the low-risk sample in this study and inevitable possibility of underreporting or bias, the current study was able to display significant relationships among the mothers' childhood maltreatment experiences, patterns of mother-young child attachment, mothers' depressive symptoms, and reflective functioning. Additionally, research indicated existence of both positive and negative bias with regard to the order of presentation for study questions (Perreault, 1975). As such, it should be noted that the order of the measures in the current study likely may have influenced participants' answers. Specifically, given that the BDI,

CTQ, and ACEs were presented prior to the parenting and attachment measures (i.e., PAT, PRFQ, ECR, CHQ, and APQ-PR) and the measure of young children's functioning (i.e., CBCL), it is important to consider the possibility of a priming effect on the latter questionnaires. It may be that, upon reflecting on their own depressive symptoms and previous childhood trauma, some mothers may have answered differently regarding their parenting, their relationship with their young children, and their young children's internalizing and externalizing problems.

To address some of the limitations in the current study, some recommendations should be taken into consideration for future study. Based on the failure for the current study to capture the effect of theoretically related concepts, there may be significant utility for future research to focus on high-risk samples of mothers with regard to assessing the relationships among childhood maltreatment experiences, patterns of mother-young child attachment, depressive symptoms, and reflective functioning. For example, the overall low-to-moderate levels of childhood maltreatment and moderate levels of total reflective functioning reported in the current study may contribute to a failure to capture a significant effect (as would be expected) between childhood maltreatment and reflective functioning in the current sample. Moreover, given the counterintuitive findings between mothers' depressive symptoms and reflective functioning, it may be theorized that the reported levels of reflective functioning in the current sample may not have been high enough to act as a buffer for mothers' depressive symptoms. As such, future research may consider assessing for reflective functioning in a sample with higher levels of experienced childhood maltreatment and depressive symptoms. It may be particularly beneficial for future research to include comparisons between a community sample of parents and foster parents or those parents who are child welfare-involved. In addition, given the curvilinear connection discovered between reflective functioning and patterns of mother-young child

attachment, it may be proposed that future research investigate the complex relationships between reflective functioning and mother-young child outcomes in linear as well as nonlinear fashions. Further, research indicated that substance-involved women displayed especially low reflective abilities (Suchman, DeCoste, Castiglioni, Legow, & Mayes, 2008). Given that the current study did not ask participants regarding substance-involvement, it can be questioned whether substance use played any role in the levels of reflective functioning reported within the current sample. It may be recommended that future research include measurement of substance-involvement in the context mothers' childhood maltreatment experiences and reflective functioning as well as depressive symptoms and patterns of attachment with their young children. Additionally, research indicated that adolescent mothers were overrepresented as having avoidant attachment with their young children (van IJzendoorn, Goldberg, Kroonenberg, & Frenkel, 1992), suggesting that this group may be another population of interest with regard to future research on the variables of interest.

To sum, the current study contributed to the existing literature in studying constructs of interest (i.e., mothers' childhood maltreatment, depressive symptoms, and reflective functioning) in the prediction of four distinct patterns of insecure attachment. To date, evidence has been lacking with regard to the pathways that lead to poor outcomes for young children. This gap in the literature provided the impetus for the current study's main question: what is the process by which the relationship between mothers' childhood maltreatment and attachment with their own children exists? Thus, this study added uniquely to the literature in examining mothers' depressive symptoms and reflective functioning as mediators in the relationship between mothers' experiences of childhood maltreatment and patterns of avoidant, anxious, and disorganized mother-young child attachment.

In particular, this study found that mothers' experiences of childhood maltreatment, depressive symptoms, and reflective functioning predicted significantly patterns of avoidant, anxious, helpless-disorganized, and frightened-disorganized attachment with young children. Most notably, mothers' depressive symptoms were demonstrated to be a mechanism of action contributing to insecure attachment patterns with their young children. These data suggested that mothers' depressive symptoms were predictive above and beyond their experiences of childhood maltreatment itself of insecure patterns of attachment with young children. Disorganized attachment, of particular interest, was predicted greatly by depressive symptoms in mothers who had experienced childhood maltreatment. Additionally, data suggested that mothers' reflective functioning and depressive symptoms likely work together in explaining the mother-young child attachment relationship.

Given that children are most likely to be maltreated at a younger age and more likely than not, to be perpetrated by a parental figure (U.S. Department of Health and Human Services, 2013), it may be concluded that mothers in the current sample who experienced high levels childhood maltreatment also exhibited significant difficulties with their own attachment systems with their primary caregivers (Bowlby, 1982). Consequently, this insecure attachment may contribute to greater difficulty with emotion regulation (Cassidy, 1994) and, thus, the development of negative psychological outcomes, such as depression. Taken together, these findings provided support for the intergenerational transmission of attachment (Kaufman, & Zigler, 1989), indicating that working models remain consistent across generations (Bowlby, 1969, 1980). Moreover, given the intergenerational transmission of trauma and attachment as well as the cognitive affective consequences of childhood maltreatment on developing mentalization, it may be theorized that there also is an intergenerational component involved in

the concept of reflective functioning. These conclusions beget the following question: what can be done to help break this intergenerational cycle of maltreatment, attachment, and possibly reflective functioning? Unquestionably, first and foremost, it is vital that research continues to focus on educating and disseminating information regarding the system of difficulties that stem from childhood maltreatment experiences. Moreover, these data have significant implications for trauma-informed parenting interventions. It may be concluded that trauma-informed parenting interventions meant to facilitate secure emotional connections between mothers and young children may produce more meaningful treatment effects, especially in mothers with experiences of childhood trauma themselves. The findings of the current study demonstrated the importance for interventions to target symptoms of depression in mothers, especially as they may relate to or be reinforced by trauma-related difficulties. Moreover, strengthening mother-young child attachment may promote emotion regulation and translate toward healthy psychosocial development in young children.

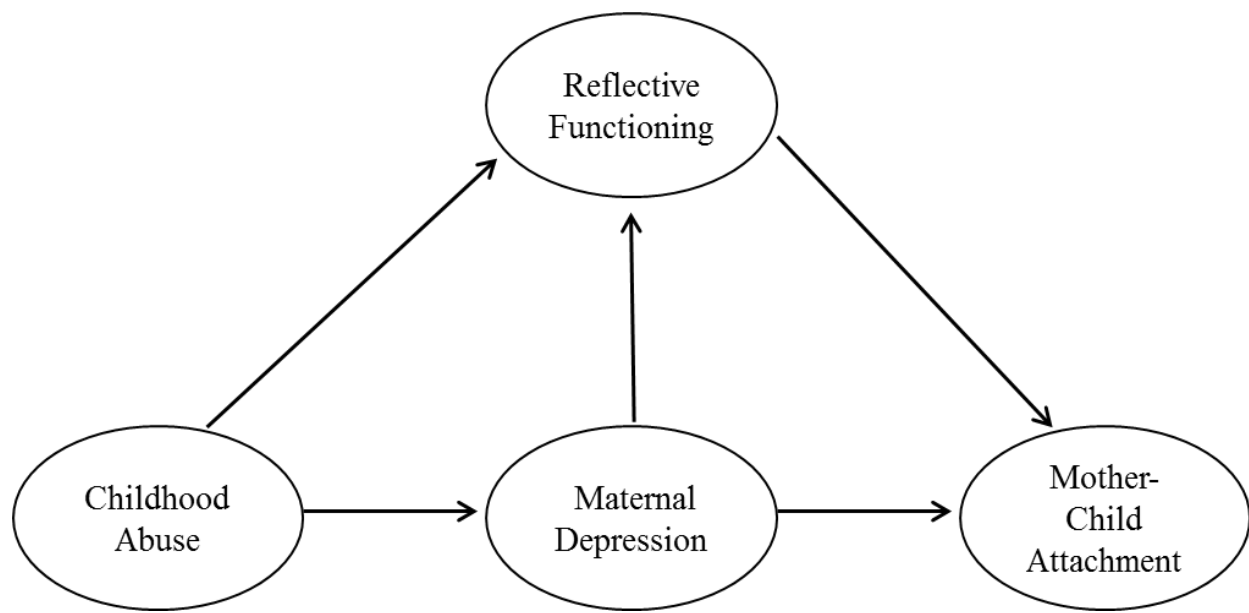


Figure 1. **Proposed Mediation Model**

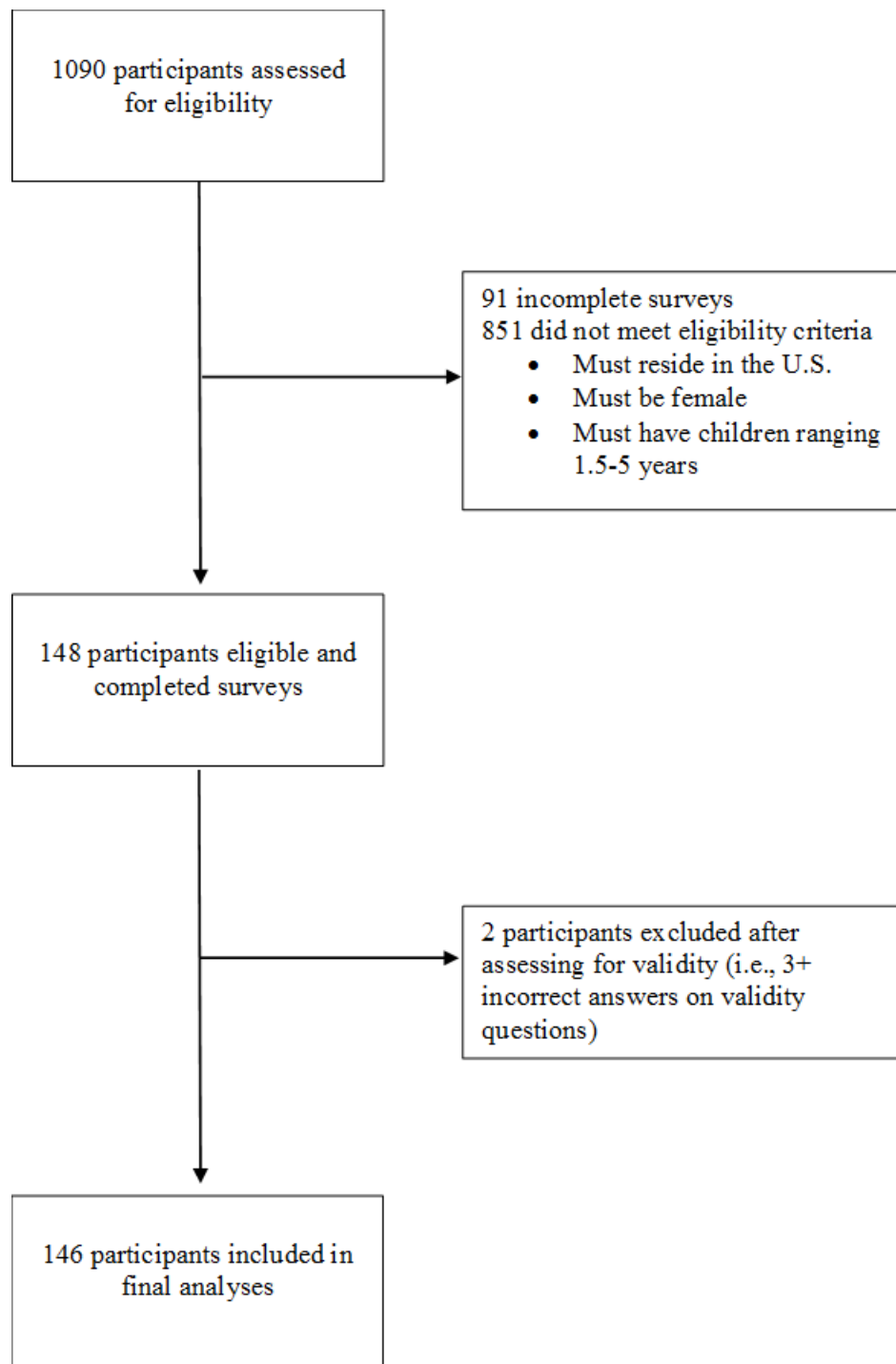
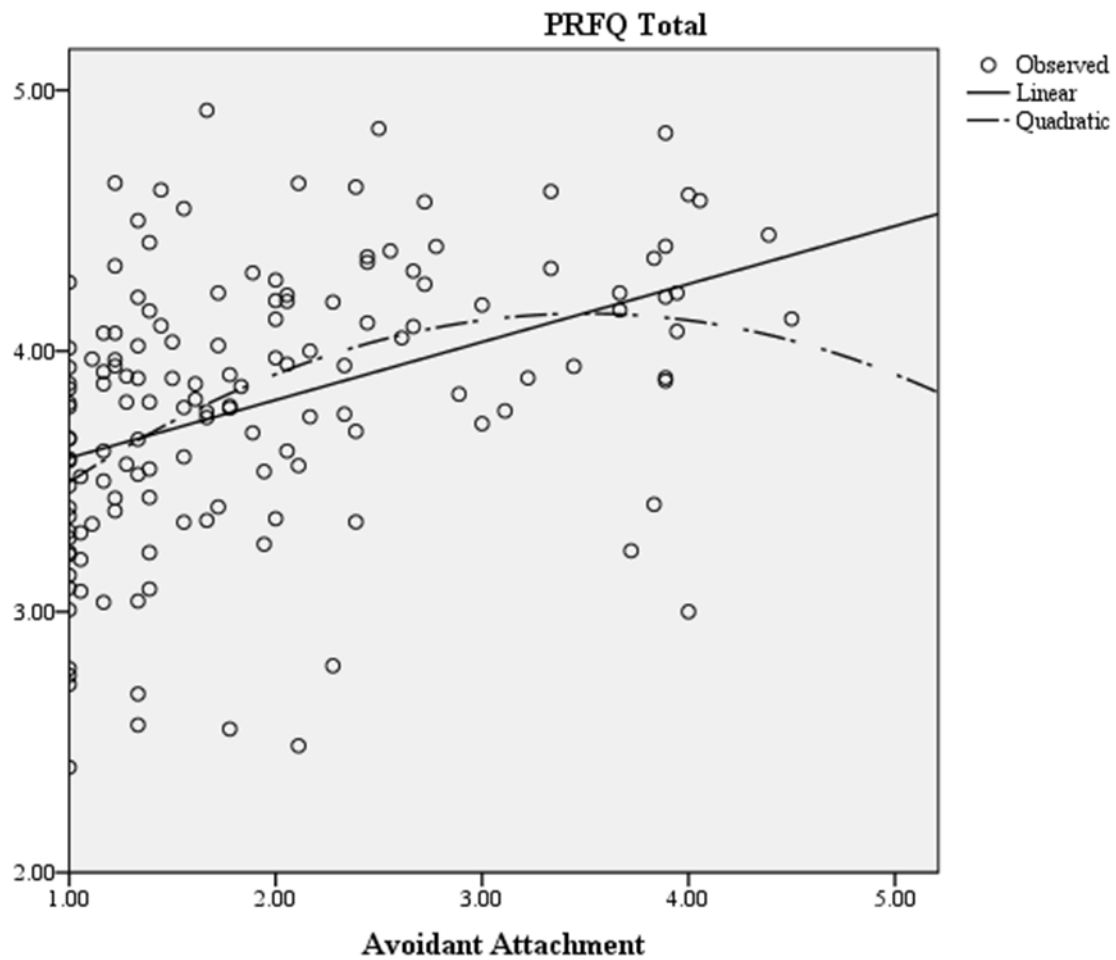


Figure 2. **CONSORT Flowchart**



**Figure 3. Scatter Plot of Curvilinear Relationship Between Mothers' Reflective Functioning and Avoidant Attachment**



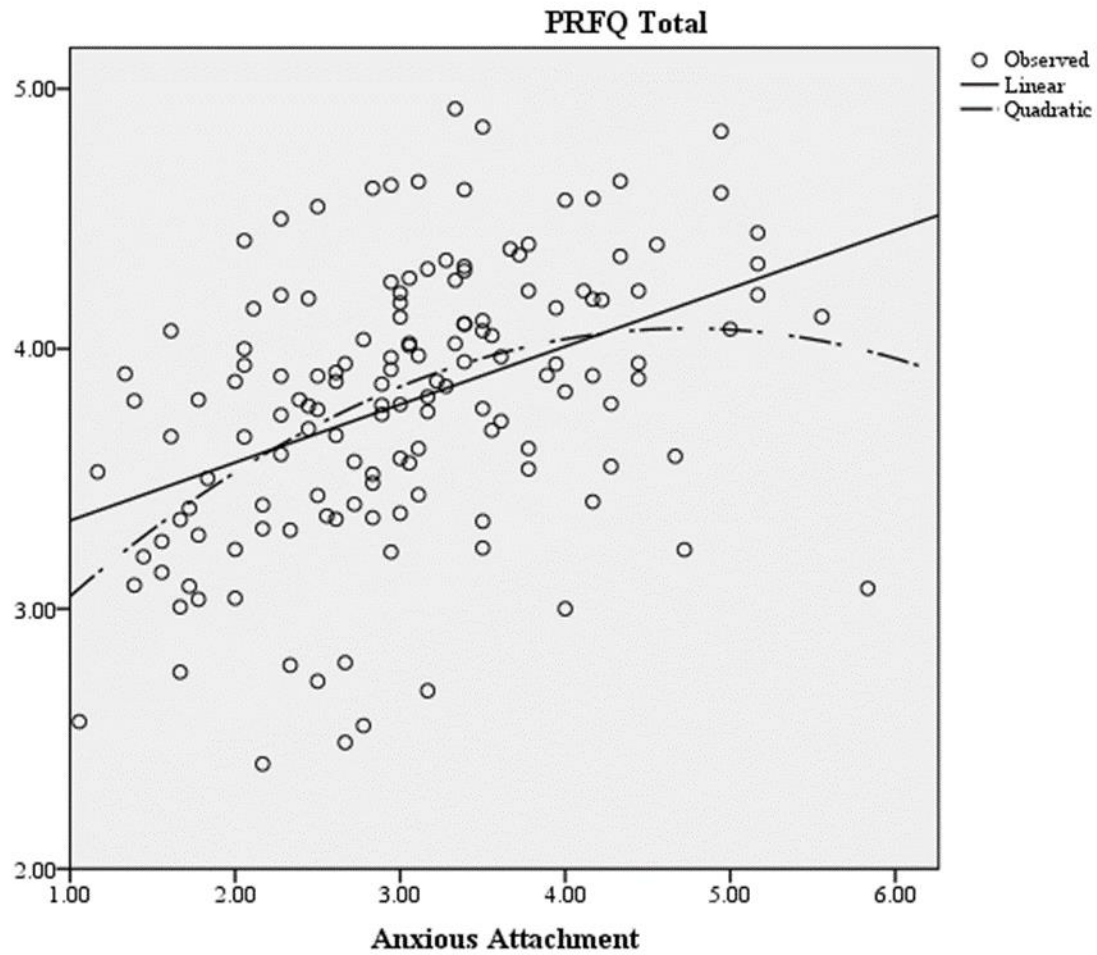
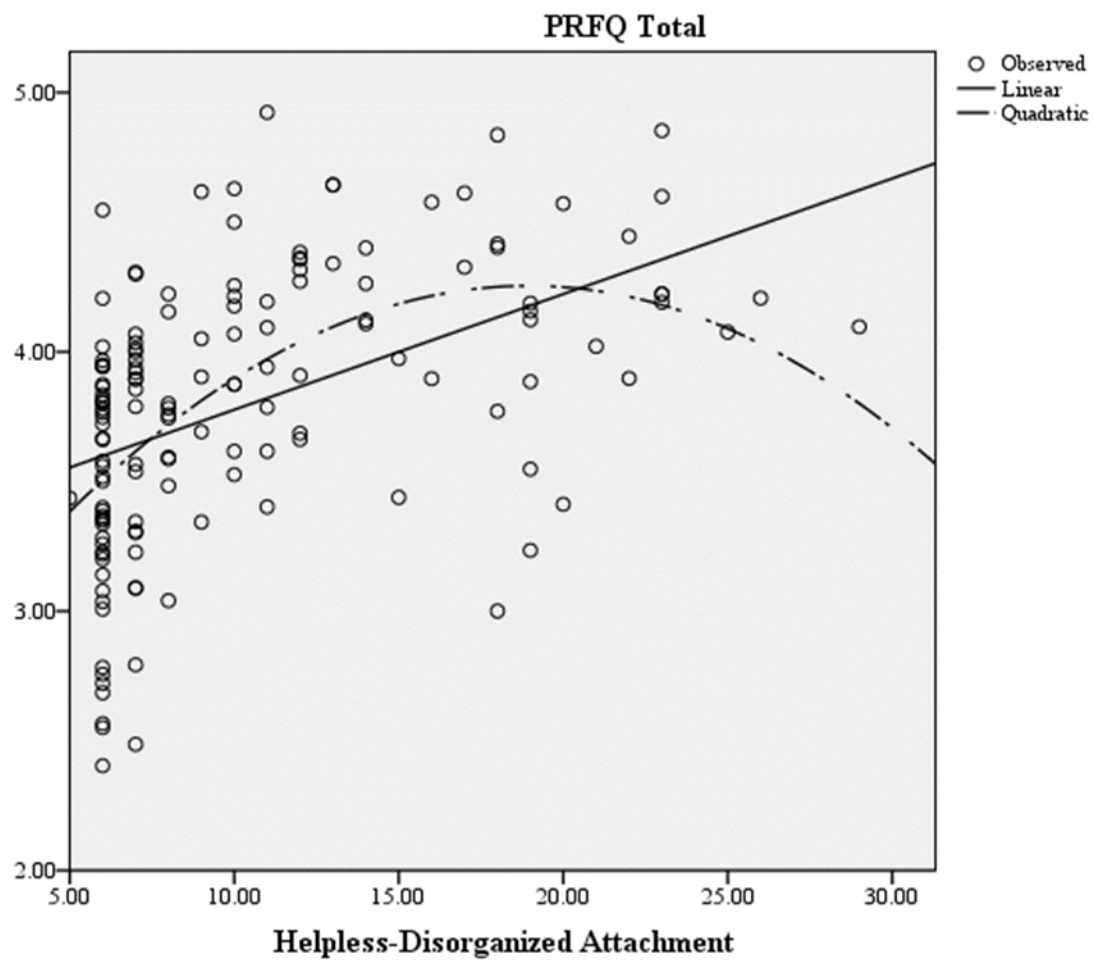
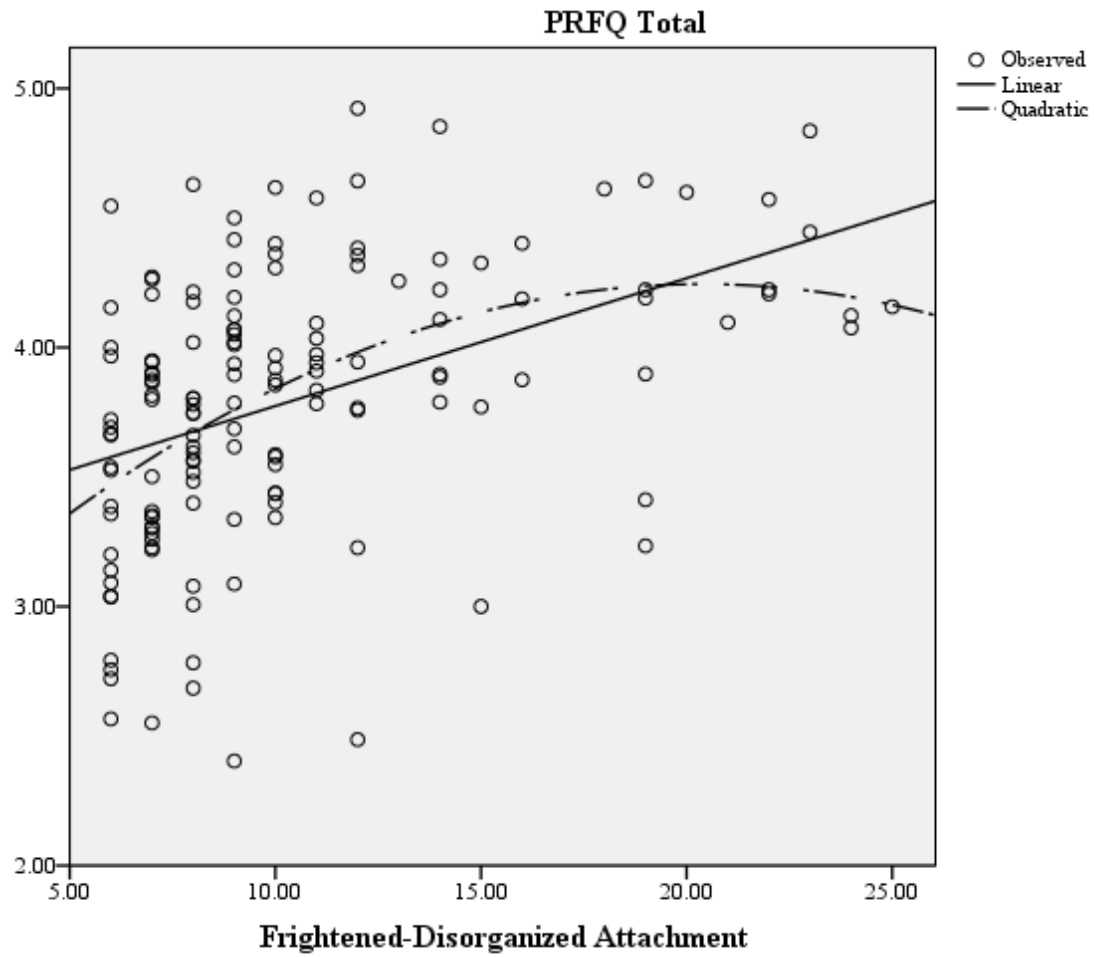


Figure 4. Scatter Plot of Curvilinear Relationship Between Mothers' Reflective Functioning and Anxious Attachment



**Figure 5. Scatter Plot of Curvilinear Relationship Between Mothers' Reflective Functioning and Helpless-Disorganized Attachment**



**Figure 6. Scatter Plot of Curvilinear Relationship Between Mothers' Reflective Functioning and Frightened-Disorganized Attachment**

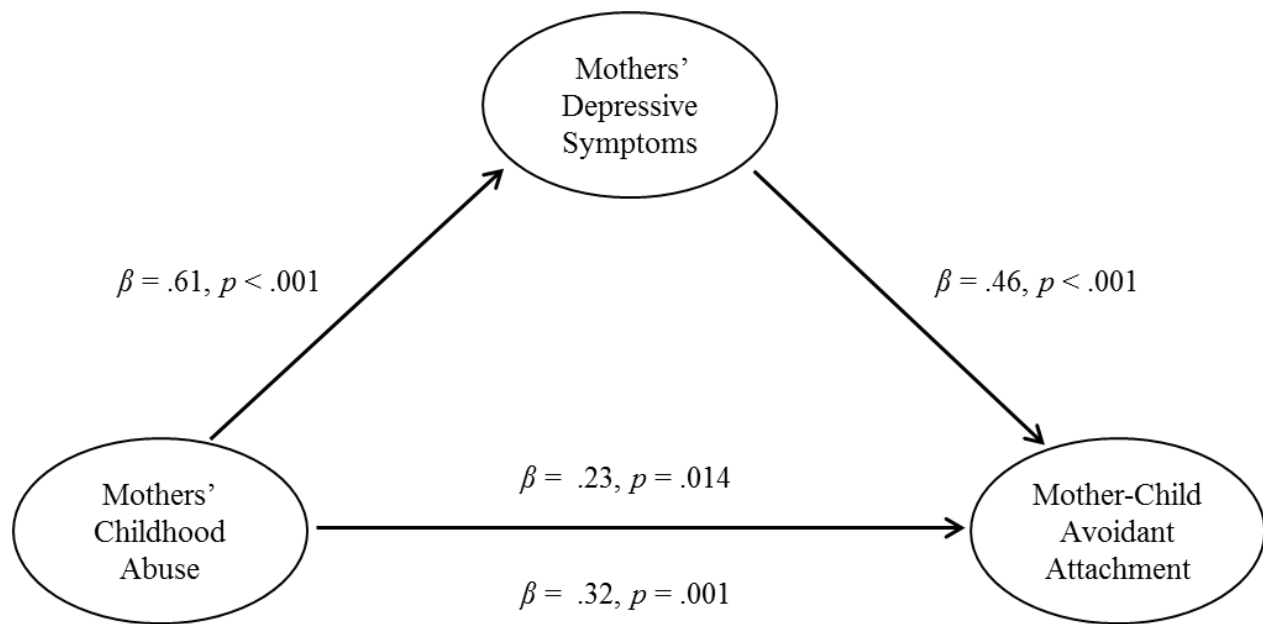


Figure 7. **Depressive Symptoms Mediating the Relationship Between Childhood Maltreatment and Avoidant Attachment**

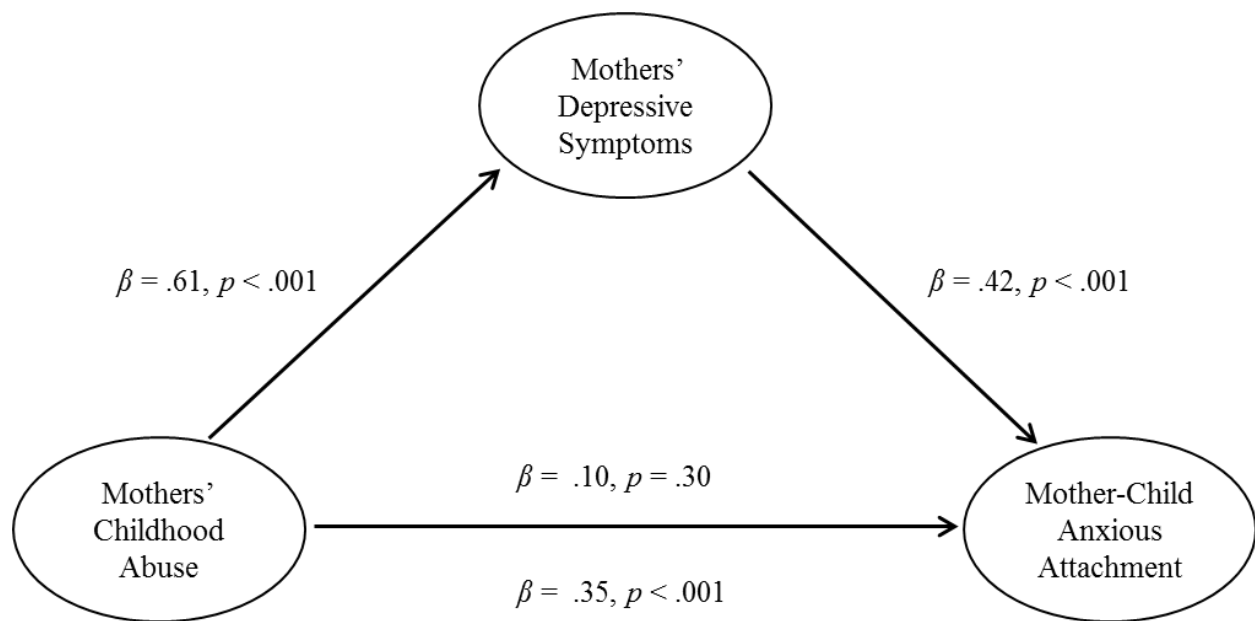


Figure 8. **Depressive Symptoms Mediating the Relationship Between Childhood Maltreatment and Anxious Attachment**

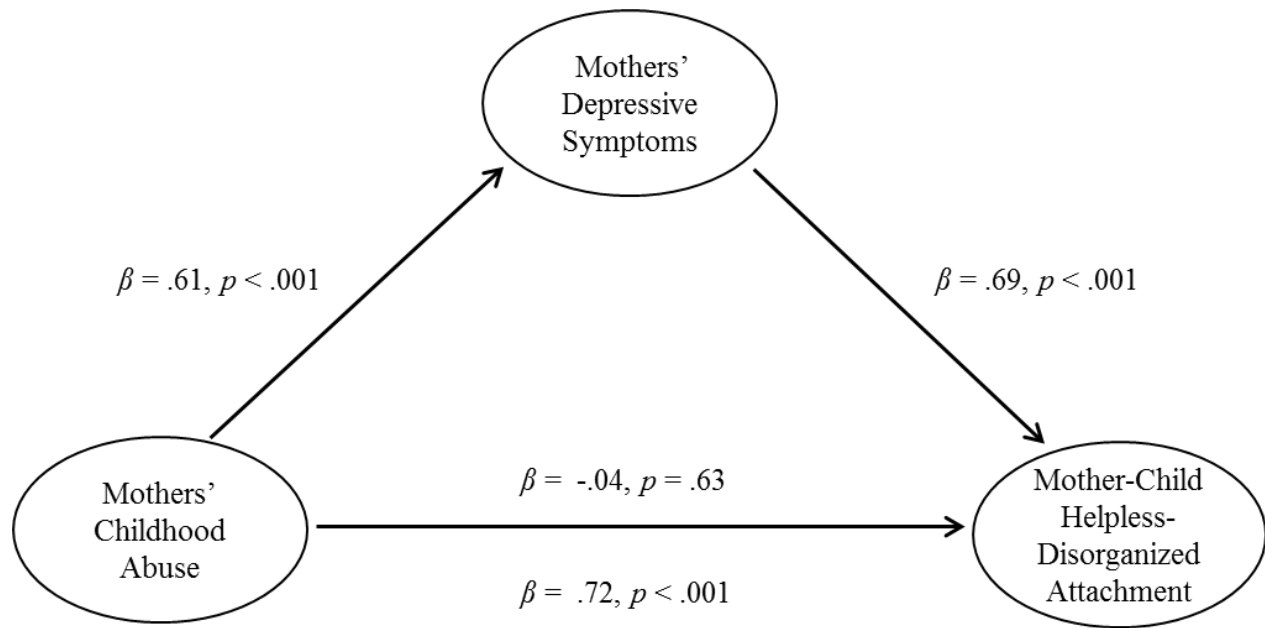


Figure 9. **Depressive Symptoms Mediating the Relationship Between Childhood Maltreatment and Helpless-Disorganized Attachment**

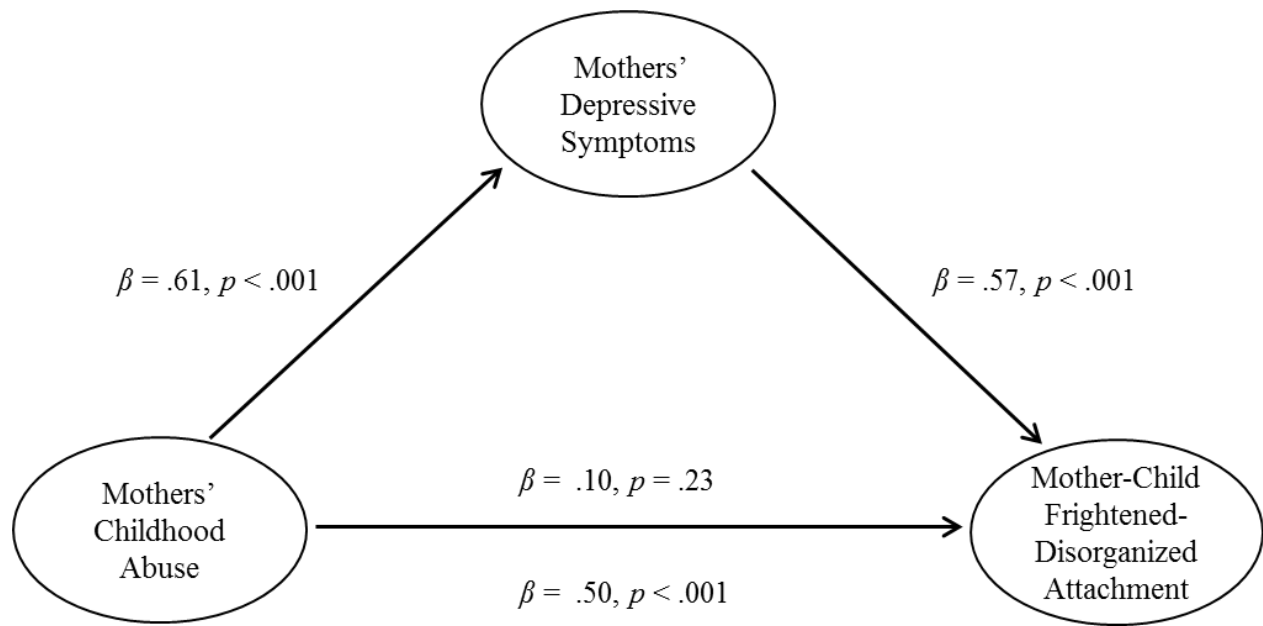


Figure 10. **Depressive Symptoms Mediating the Relationship Between Childhood Maltreatment and Frightened-Disorganized Attachment**

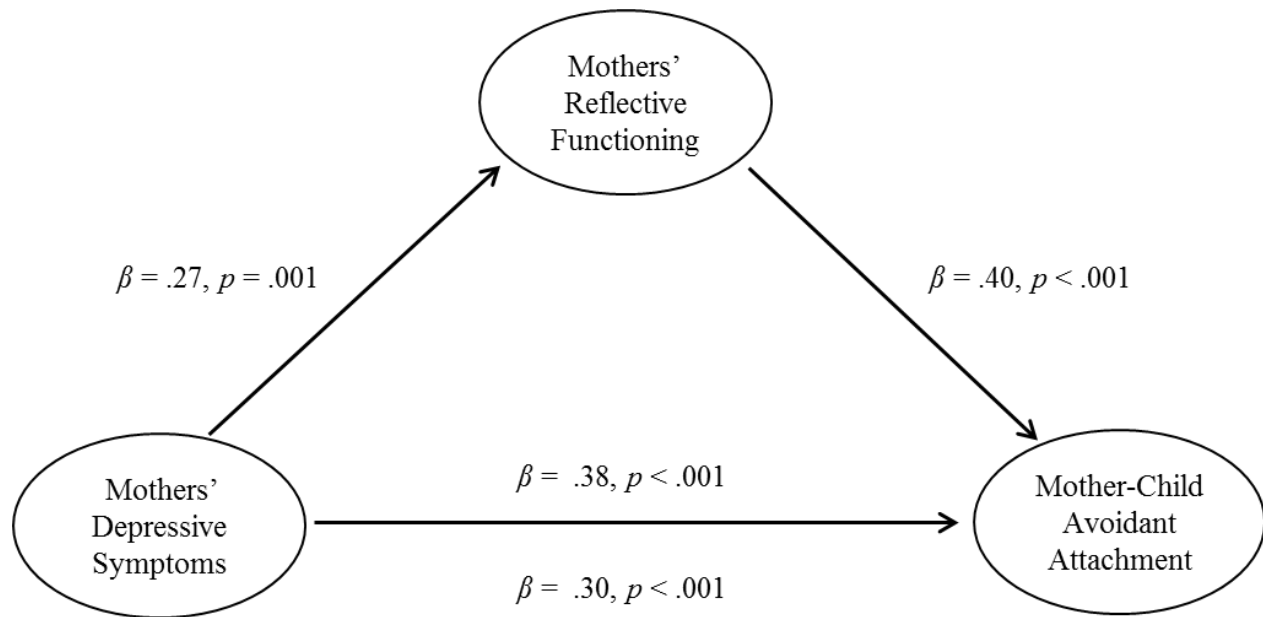


Figure 11. **Reflective Functioning Mediating the Relationship Between Depressive Symptoms and Avoidant Attachment**



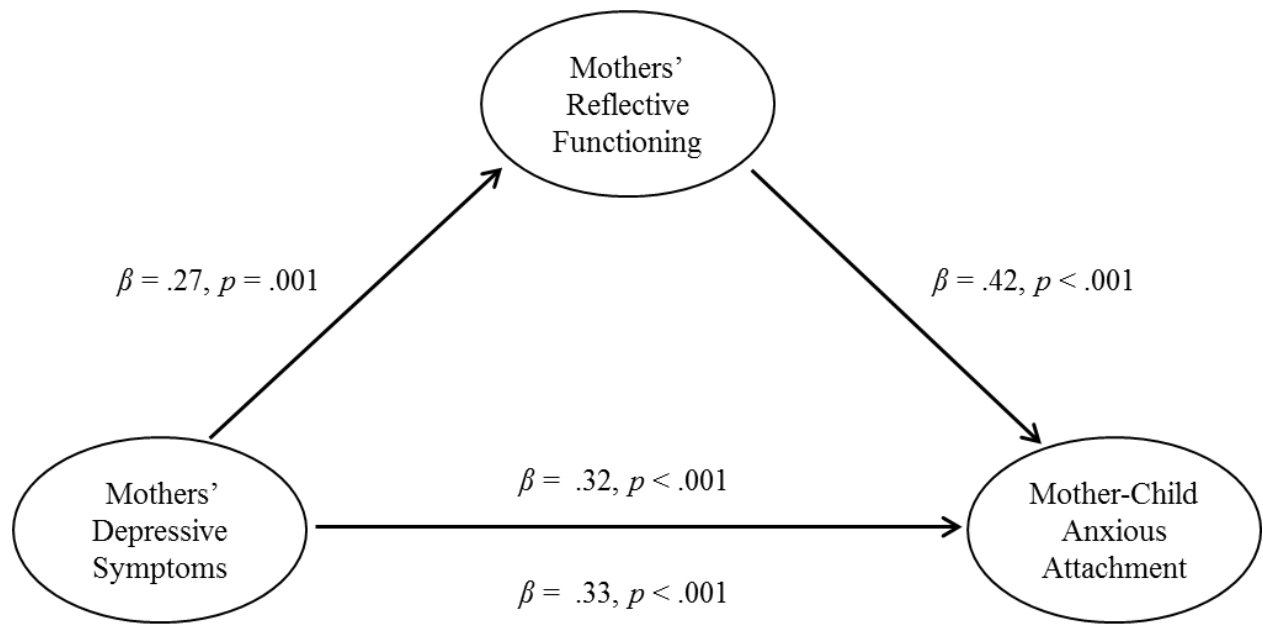


Figure 12. **Reflective Functioning Mediating the Relationship Between Depressive Symptoms and Anxious Attachment**

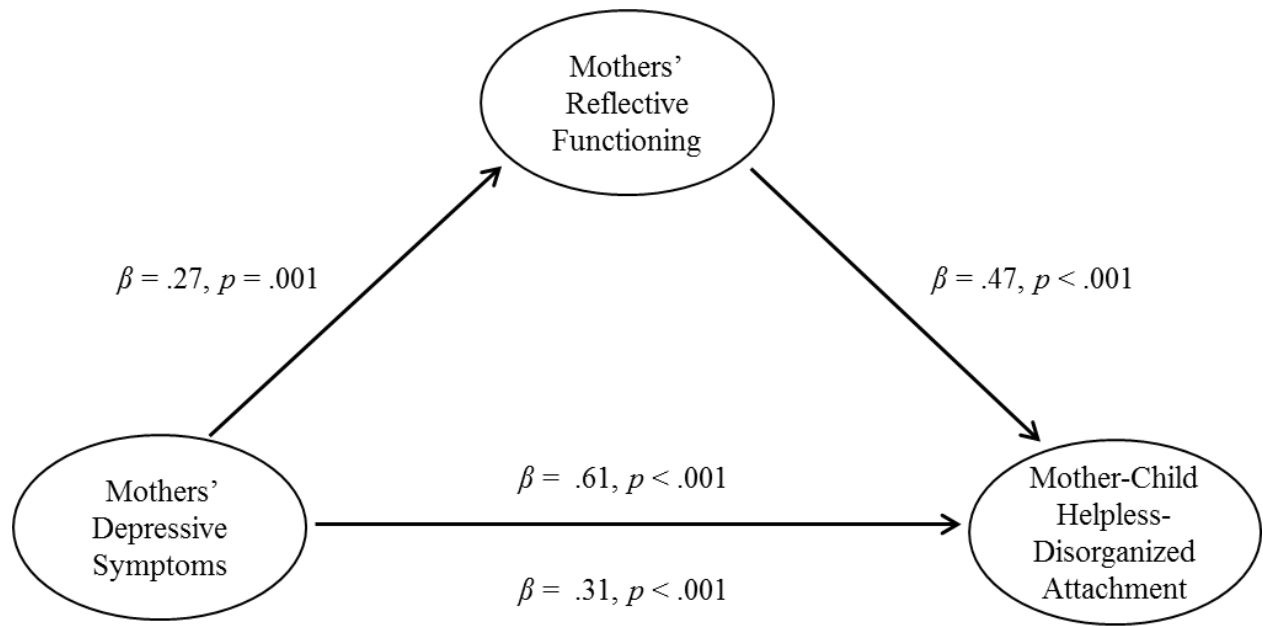


Figure 13. **Reflective Functioning Mediating the Relationship Between Depressive Symptoms and Helpless-Disorganized Attachment**

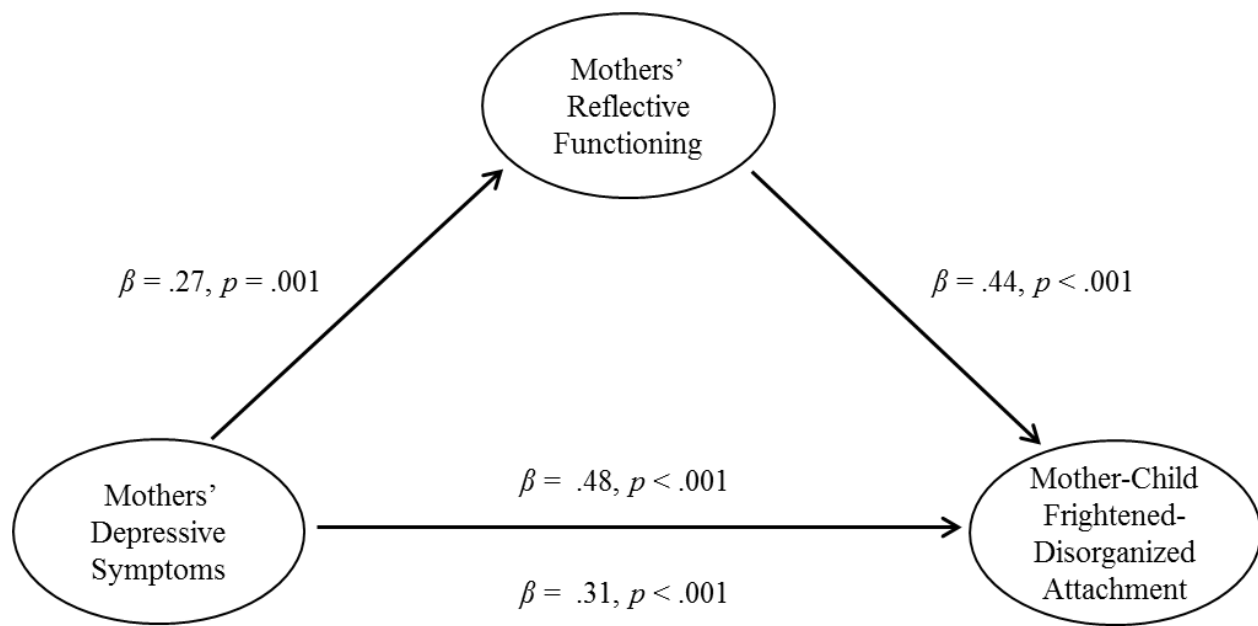


Figure 14. **Reflective Functioning Mediating the Relationship Between Depressive Symptoms and Frightened-Disorganized Attachment**

Table 1. **Participant Demographic Information**

<b>Variables</b>	<b>(N=146)</b>
<b>Mother's Age</b>	
<i>M (SD)</i>	32.08 (6.16)
<b>Child's Age (Years)</b>	
<i>M (SD)</i>	3.10 (1.11)
<b>Child Gender</b>	
Female	56.2%
<b>Number of Children</b>	
<i>M (SD)</i>	2.03 (1.41)
<b>Race/Ethnicity</b>	
White/Caucasian	76.7%
Latina	8.2%
Asian American	6.8%
Black/African American	6.2%
Native American	2.1%
<b>Religious Affiliation</b>	
Christian	56.2%
Agnostic	5.5%
Atheist	4.1%
Other (Wiccan, Pagan, Hindu, Spiritual, etc.)	4.1%
Muslim	2.7%
<b>Marital Status</b>	
Married	80.8%
Single	12.3%
Divorced/Separated	3.4%
Remarried	1.4%
N/A	2.1%
<b>Education Level</b>	
High School Diploma	11.6%
Vocational Training	2.1%
Some College	16.4%
Associate's Degree	16.4%
Bachelor's Degree	42.5%
Graduate/Professional Training	7.5%
Post-Doctoral Degree	3.4%
<b>Employment Status</b>	
Employed	68.5%
<b>Socioeconomic Status</b>	
\$10,000-\$20,000	3.4%
\$20,000-\$30,000	8.2%
\$30,000-\$40,000	14.4%
\$40,000-\$50,000	15.8%
\$50,000-\$60,000	15.1%
\$60,000-\$70,000	12.3%
>\$70,000	28.1%
N/A	2.7%

Table 2. **Descriptive Statistics for Variables of Interest**

<b>Variables</b> (Available Range)	<i>M</i>	<i>SD</i>	Actual
<b>Mothers' Childhood Maltreatment Experiences</b>			
Total Childhood Maltreatment Experiences (25-125)	43.44	20.88	25-112
Emotional Abuse (5-25)	10.13	5.85	5-25
Physical Abuse (5-25)	7.95	4.33	5-23
Sexual Abuse (5-25)	7.60	5.03	5-25
Physical Neglect (5-25)	8.05	4.04	5-22
Emotional Neglect (5-25)	9.71	5.39	5-25
<b>Mothers' Adverse Childhood Experiences (ACEs)</b>			
Total ACEs (0-10)	2.10	2.41	0-10
<b>Mother-Young Child Attachment</b>			
Avoidant Attachment (1.00-7.00)	1.93	0.95	1-4.50
Anxious Attachment (1.00-7.00)	3.05	0.98	1.06-5.83
Helpless-Disorganized Attachment (6-30)	10.47	5.52	5-29
Frightened-Disorganized Attachment (6-30)	10.48	4.63	6-25
<b>Mother's Depressive Symptoms</b>			
Total Depressive Symptoms (0-63)	9.62	11.80	0-49
<b>Mothers' Reflective Functioning</b>			
Total Reflective Functioning (1-7)	3.80	0.52	2.40-4.92
<b>Mother's Parenting Behaviors</b>			
Negative/Inconsistent Parenting (8-40)	18.92	6.24	9-38
Punitive Parenting (5-25)	9.01	3.83	5-21
<b>Mothers' Parenting Attributions</b>			
Perceived Control over Failure	0.49	0.88	-1.50-3.17
<b>Young Children's Outcomes</b>			
Total Score ( $\leq 50$ -100)	46.14	13.90	28-86
Internalizing Problems ( $\leq 50$ -100)	51.06	13.42	29-82
Externalizing Problems ( $\leq 50$ -100)	40.42	10.14	28-73

**Table 3. Correlations Among Mothers' Childhood Maltreatment Experiences, Mother-Young Child Attachment, Depressive Symptoms, Reflective Functioning, Parenting Behaviors and Attributions, and Young Children's Outcomes**

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Childhood Maltreatment (CTQ)	-												
2. Total ACEs	.80***	-											
3. Avoidant Attachment	.42***	.23**	-										
4. Anxious Attachment	.32***	.23**	.62***	-									
5. Helpless Attachment	.40***	.29***	.66***	.57***	-								
6. Frightened Attachment	.41***	.27***	.69***	.69***	.81***	-							
7. Mothers' Depressive Symptoms	.61***	.48***	.46***	.42***	.69***	.57***	-						
8. Mothers' Reflective Functioning	.13	.14	.40***	.42***	.47***	.44***	.27***	-					
9. Negative/Inconsistent Parenting Behaviors	.26**	.16	.51***	.63***	.64***	.66***	.41***	.34***	-				
10. Punitive Parenting Behaviors	.41***	.28***	.57***	.53***	.62***	.70***	.53***	.29***	.63***	-			
11. Perceived Control over Failure	-.02	-.01	-.24**	-.36***	-.28***	-.30***	-.11	-.35***	-.25**	-.25**	-		
12. Child Internalizing Problems	.41***	.40***	.43***	.52***	.57***	.58***	.61***	.38***	.49***	.54***	-.20*	-	
13. Child Externalizing Problems	.44***	.40***	.52***	.55***	.64***	.65***	.66***	.37***	.51***	.61***	-.18*	.89***	-

*Note.* \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p \leq .001$

Table 4. **Mediational Regression Analyses for Avoidant Attachment**

<b>Regression/Variables</b>	<b><math>\beta</math></b>	<b><math>t</math></b>	<b><math>p</math></b>
<i>Mediator: Mothers' Depressive Symptoms</i>			
Childhood Maltreatment Experiences and Avoidant Attachment: $F(1, 144) = 31.21, p < .001, R^2 = .18$			
Childhood Maltreatment Experiences	.42	5.59	.000***
Childhood Maltreatment Experiences and Depressive Symptoms: $F(1, 144) = 85.91, p < .001, R^2 = .37$			
Childhood Maltreatment Experiences	.61	9.27	.000***
Depressive Symptoms and Avoidant Attachment: $F(1, 144) = 37.90, p < .001, R^2 = .21$			
Depressive Symptoms	.46	6.16	.000***
Childhood Maltreatment Experiences, Depressive Symptoms, and Avoidant Attachment: $F(2, 143) = 22.71, p < .001, R^2 = .24$			
Childhood Maltreatment Experiences	.23	2.48	.014*
Depressive Symptoms	.32	3.44	.001***
<i>Note.</i> * $p < .05$ , ** $p < .01$ , *** $p \leq .001$			

Table 5. **Mediational Regression Analyses for Anxious Attachment**

<b>Regression/Variables</b>	<b><math>\beta</math></b>	<b><math>t</math></b>	<b><math>p</math></b>
<i>Mediator: Mothers' Depressive Symptoms</i>			
Childhood Maltreatment Experiences and Anxious Attachment: $F(1, 144) = 16.04, p < .001, R^2 = .10$			
Childhood Maltreatment Experiences	.32	4.01	.000***
Childhood Maltreatment Experiences and Depressive Symptoms: $F(1, 144) = 85.91, p < .001, R^2 = .37$			
Childhood Maltreatment Experiences	.61	9.27	.000***
Depressive Symptoms and Anxious Attachment: $F(1, 144) = 30.00, p < .001, R^2 = .17$			
Depressive Symptoms	.42	5.48	.000***
Childhood Maltreatment Experiences, Depressive Symptoms, and Anxious Attachment: $F(2, 143) = 15.55, p < .001, R^2 = .18$			
Childhood Maltreatment Experiences	.10	1.05	.30
Depressive Symptoms	.35	3.70	.000***

*Note.* \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p \leq .001$



Table 6. **Mediational Regression Analyses for Helpless-Disorganized Attachment**

Regression/Variables	$\beta$	$t$	$p$
<i>Mediator: Mothers' Depressive Symptoms</i>			
Childhood Maltreatment Experiences and Helpless-Disorganized Attachment: $F(1, 144) = 27.63, p < .001, R^2 = .16$			
Childhood Maltreatment Experiences	.40	5.27	.000***
Childhood Maltreatment Experiences and Depressive Symptoms: $F(1, 144) = 85.91, p < .001, R^2 = .37$			
Childhood Maltreatment Experiences	.61	9.27	.000***
Depressive Symptoms and Helpless-Disorganized Attachment: $F(1, 144) = 133.83, p < .001, R^2 = .48$			
Depressive Symptoms	.69	11.57	.000***
Childhood Maltreatment Experiences, Depressive Symptoms, and Helpless-Disorganized Attachment: $F(2, 143) = 66.67, p < .001, R^2 = .48$			
Childhood Maltreatment Experiences	-.04	-.48	.63
Depressive Symptoms	.72	9.43	.000***
<i>Note.</i> * $p < .05$ , ** $p < .01$ , *** $p \leq .001$			

Table 7. **Mediational Regression Analyses for Frightened-Disorganized Attachment**

Regression/Variables	$\beta$	$t$	$p$
<i>Mediator: Mothers' Depressive Symptoms</i>			
Childhood Maltreatment Experiences and Frightened-Disorganized Attachment: $F(1, 144) = 29.27, p < .001, R^2 = .17$			
Childhood Maltreatment Experiences	.41	5.41	.000***
Childhood Maltreatment Experiences and Depressive Symptoms: $F(1, 144) = 85.91, p < .001, R^2 = .37$			
Childhood Maltreatment Experiences	.61	9.27	.000***
Depressive Symptoms and Frightened-Disorganized Attachment: $F(1, 144) = 67.96, p < .001, R^2 = .32$			
Depressive Symptoms	.57	8.24	.000***
Childhood Maltreatment Experiences, Depressive Symptoms, and Frightened-Disorganized Attachment: $F(2, 143) = 34.80, p < .001, R^2 = .33$			
Childhood Maltreatment Experiences	.10	1.20	.23
Depressive Symptoms	.50	5.80	.000***
<i>Note.</i> * $p < .05$ , ** $p < .01$ , *** $p \leq .001$			

Table 8. **Mediational Regression Analyses for Avoidant Attachment**

<b>Regression/Variables</b>	<b><math>\beta</math></b>	<b><math>t</math></b>	<b><math>p</math></b>
<i>Mediator: Mothers' Reflective Functioning</i>			
Depressive Symptoms and Avoidant Attachment: $F(1, 144) = 37.90, p < .001, R^2 = .21$			
Depressive Symptoms	.46	6.16	.000***
Depressive Symptoms and Reflective Functioning: $F(1, 144) = 11.01, p < .001, R^2 = .07$			
Depressive Symptoms	.27	3.32	.001***
Reflective Functioning and Avoidant Attachment: $F(1, 144) = 27.75, p < .001, R^2 = .16$			
Reflective Functioning	.40	5.27	.000***
Depressive Symptoms, Reflective Functioning, and Avoidant Attachment: $F(2, 143) = 29.62, p < .001, R^2 = .29$			
Depressive Symptoms	.38	5.16	.000***
Reflective Functioning	.30	4.14	.000***

*Note.* \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p \leq .001$

Table 9. **Mediational Regression Analyses for Anxious Attachment**

<b>Regression/Variables</b>	<b><math>\beta</math></b>	<b><math>t</math></b>	<b><math>p</math></b>
<i>Mediator: Mothers' Reflective Functioning</i>			
Depressive Symptoms and Anxious Attachment: $F(1, 144) = 29.99, p < .001, R^2 = .17$			
Depressive Symptoms	.42	5.48	.000***
Depressive Symptoms and Reflective Functioning: $F(1, 144) = 11.01, p < .001, R^2 = .07$			
Depressive Symptoms	.27	3.32	.001***
Reflective Functioning and Anxious Attachment: $F(1, 144) = 30.44, p < .001, R^2 = .18$			
Reflective Functioning	.42	5.52	.000***
Depressive Symptoms, Reflective Functioning, and Anxious Attachment: $F(2, 143) = 26.97, p < .001, R^2 = .27$			
Depressive Symptoms	.33	4.42	.000***
Reflective Functioning	.33	4.47	.000***
<i>Note.</i> * $p < .05$ , ** $p < .01$ , *** $p \leq .001$			

Table 10. **Mediational Regression Analyses for Helpless-Disorganized Attachment**

<b>Regression/Variables</b>	<b><math>\beta</math></b>	<b><math>t</math></b>	<b><math>p</math></b>
<i>Mediator: Mothers' Reflective Functioning</i>			
Depressive Symptoms and Helpless-Disorganized Attachment: $F(1, 144) = 133.83, p < .001, R^2 = .48$			
Depressive Symptoms	.69	11.57	.000***
Depressive Symptoms and Reflective Functioning: $F(1, 144) = 11.01, p < .001, R^2 = .07$			
Depressive Symptoms	.27	3.32	.001***
Reflective Functioning and Helpless-Disorganized Attachment: $F(1, 144) = 40.69, p < .001, R^2 = .22$			
Reflective Functioning	.47	6.38	.000***
Depressive Symptoms, Reflective Functioning, and Helpless-Disorganized Attachment: $F(2, 143) = 94.30, p < .001, R^2 = .57$			
Depressive Symptoms	.61	10.75	.000***
Reflective Functioning	.31	5.37	.000***

*Note.* \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p \leq .001$

Table 11. **Mediational Regression Analyses for Frightened-Disorganized Attachment**

<b>Regression/Variables</b>	<b><math>\beta</math></b>	<b><math>t</math></b>	<b><math>p</math></b>
<i>Mediator: Mothers' Reflective Functioning</i>			
Depressive Symptoms and Frightened-Disorganized Attachment: $F(1, 144) = 67.96, p < .001, R^2 = .32$			
Depressive Symptoms	.57	8.24	.000***
Depressive Symptoms and Reflective Functioning: $F(1, 144) = 11.01, p < .001, R^2 = .07$			
Depressive Symptoms	.27	3.32	.001***
Reflective Functioning and Frightened-Disorganized Attachment: $F(1, 144) = 33.78, p < .001, R^2 = .19$			
Reflective Functioning	.44	5.81	.000***
Depressive Symptoms, Reflective Functioning, and Frightened-Disorganized Attachment: $F(2, 143) = 49.29, p < .001, R^2 = .41$			
Depressive Symptoms	.48	7.26	.000***
Reflective Functioning	.31	4.60	.000***

*Note.* \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p \leq .001$

Table 12. **Hierarchical Regression Analyses for Young Children's Internalizing Problems**

<b>Variables</b>	<b><i>B</i></b>	<b><i>SE B</i></b>	<b><i>β</i></b>
Block 1. $F(2, 143) = 17.47, p < .001^{***}, R^2 = .18$			
Childhood Maltreatment Experiences (CTQ)	.15	.08	.24
ACEs	1.14	.70	.21
Block 2. $F(3, 142) = 38.53, p < .001^{***}, R^2 = .39$			
Childhood Maltreatment Experiences (CTQ)	-.08	.08	-.12
ACEs	1.19	.61	.21
Depressive Symptoms (BDI)	.65	.10	.57***
Block 3. $F(7, 138) = 26.63, p < .001^{***}, R^2 = .50$			
Childhood Maltreatment Experiences (CTQ)	-.10	.07	-.16
ACEs	1.35	.56	.24*
Depressive Symptoms (BDI)	.43	.10	.37***
Reflective Functioning	3.74	1.73	.15*
Negative/Inconsistent Parenting Behaviors	.35	.17	.16*
Punitive Parenting Behaviors	.67	.30	.19*
Perceived Control over Failure	-.36	1.00	-.02
Block 4. $F(11, 134) = 18.80, p < .001^{***}, R^2 = .52$			
Childhood Maltreatment Experiences (CTQ)	-.11	.08	-.17
ACEs	1.34	.57	.24*
Depressive Symptoms (BDI)	.41	.11	.36***
Reflective Functioning	3.03	1.84	.12
Negative/Inconsistent Parenting Behaviors	.18	.20	.08
Punitive Parenting Behaviors	.53	.32	.15
Perceived Control over Failure	.10	1.02	.01
Avoidant Attachment	-.87	1.33	-.06
Anxious Attachment	2.10	1.28	.15
Helpless-Disorganized Attachment	-.09	.31	-.04
Frightened-Disorganized Attachment	.41	.36	.14

Note. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

Table 13. Hierarchical Regression Analyses for Young Children's Externalizing Problems

Variables	<i>B</i>	<i>SE B</i>	$\beta$
Block 1. $F(2, 143) = 15.49, p < .001^{***}, R^2 = .20$			
Childhood Maltreatment Experiences (CTQ)	.17	.06	.34**
ACEs	.53	.52	.13
Block 2. $F(3, 142) = 29.59, p < .001^{***}, R^2 = .45$			
Childhood Maltreatment Experiences (CTQ)	-.03	.06	-.05
ACEs	.57	.43	.14
Depressive Symptoms (BDI)	.54	.07	.63***
Block 3. $F(7, 138) = 19.98, p < .001^{***}, R^2 = .58$			
Childhood Maltreatment Experiences (CTQ)	-.06	.05	-.11
ACEs	.72	.39	.17
Depressive Symptoms (BDI)	.36	.07	.42***
Reflective Functioning	2.44	1.21	.13*
Negative/Inconsistent Parenting Behaviors	.21	.12	.13
Punitive Parenting Behaviors	.73	.21	.27***
Perceived Control over Failure	.06	.70	.01
Block 4. $F(11, 134) = 13.37, p < .001^{***}, R^2 = .61$			
Childhood Maltreatment Experiences (CTQ)	-.09	.05	-.18
ACEs	.86	.39	.21*
Depressive Symptoms (BDI)	.33	.08	.39***
Reflective Functioning	1.32	1.26	.07
Negative/Inconsistent Parenting Behaviors	.03	.14	.02
Punitive Parenting Behaviors	.50	.22	.19*
Perceived Control over Failure	.46	.70	.04
Avoidant Attachment	.51	.91	.05
Anxious Attachment	1.32	.88	.13
Helpless-Disorganized Attachment	-.06	.21	-.03
Frightened-Disorganized Attachment	.43	.25	.19

Note. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$



**APPENDIX A:  
CONSENT FORM**

***Examining Interactions among Mothers' Childhood Experiences and Patterns of Attachment  
with their Young Children***  
**Informed Consent**

**Principal Student Investigator:** Maria Khan, B.A.

**Faculty Advisor:** Kimberly Renk, Ph.D.

**Investigational Site:** University of Central Florida, Department of Psychology

**Introduction:** Researchers at the University of Central Florida (UCF) study many topics. To do this we need the help of people who agree to take part in a research study. You are being invited to take part in a research study which will include about 130 mothers nationally. You have been asked to take part in this research study because you are a mother with children between 1½- and 5-years of age. You, as the parent, must be 18-years of age or older to be included in the research study.

The person doing this research is Maria Khan, B.A., a graduate student in the Clinical Psychology doctoral program at the University of Central Florida. Because the researcher is a graduate student, she is being guided by Kimberly Renk, Ph.D., a licensed clinical psychologist and UCF faculty advisor in the Department of Psychology. Several undergraduate students who are currently serving as research assistants under Dr. Renk's supervision also will be providing support for this study.

**What you should know about a research study:**

- Someone will explain this research study to you.
- A research study is something you volunteer for.
- Whether or not you take part is up to you.
- You should take part in this study only because you want to.
- You can choose not to take part in the research study.
- You can agree to take part now and later change your mind.
- Whatever you decide it will not be held against you.
- Feel free to ask all the questions you want before you decide.

**Purpose of the research study:** The purpose of this study is to better understand how parents' own childhood experiences may be related to their attachment relationship with their young children. Previous research showed that mothers' childhood experiences among other maternal characteristics, were associated with mother-child patterns of attachment, parenting behaviors, and young children's outcomes. However, more work is needed to better identify points of intervention that could potentially assist in the implementation of different evidence-based parenting programs meant to foster secure mother-child attachment and ensure successful outcomes for young children.

**What you will be asked to do in the study:** As part of this study, you will be asked to complete ten brief questionnaires that will take approximately one hour of your time. Alternatively, you will be able to complete a hard copy if you are unable to access the study online. Your responses as part of this study will be used to examine the relationships among mothers' childhood

experiences, maternal characteristics, mother-child attachment, parenting behaviors, and young children's outcomes.

**Location:** Research for this project will be conducted in one of two methods in a location of your choice. You may choose to fill out the questionnaires either on a secure online survey site or by hard copy to be returned via postal mail. If you complete the hard copy of questionnaires, you will be returning these questionnaires to the principal investigators upon completion via a postage paid envelope included in the packet.

**Time required:** We expect that you will participate in this research study for approximately 1 hour.

**Risks:** Although there are no anticipated risks from participating in this research study, it should be noted that some of the questionnaires that you will complete may bring up negative or unpleasant experiences from your childhood. Should you have such a reaction, please notify the investigators working with you so that any concerns that you have can be addressed. In addition, you should consider obtaining counseling assistance or psychological treatment if such help is needed as a result of participation in the study. For help obtaining such services near you, you may wish to consult your insurance provider or contact your general practitioner for a referral. In addition, you may visit the American Psychological Association website at <http://locator.apa.org/> to find a psychologist near you. If you are located in the Central Florida area, you may wish to contact the UCF Psychology Clinic at 407-823-4348.

**Benefits:** By participating in the research study described here, you will be adding to the information available to help families who are seeking parenting services for themselves. Another possible benefit of participating in the study is that you may learn more about yourself. For example, completing the questionnaire packet may increase your own awareness of your childhood experiences, your child's and your own emotional and behavioral characteristics, and your parenting behaviors.

**Compensation or payment:** Participants recruited through Facebook, Craigslist, and various online parenting communities will not receive payment. Participants who are recruited through Amazon Mechanical Turk will be provided a small monetary compensation (i.e., \$1.00). Please note that the data participants provide when participating through Amazon Mechanical Turk may be collected and used by Amazon as per its privacy agreement. This agreement shall be interpreted according to United States law.

**Confidentiality:** We will limit your personal data collected in this study to people who have a need to review this information. This only includes basic demographic information. No names and identifying information will be collected. We cannot promise complete secrecy. Organizations that may inspect and copy your information include the IRB and other representatives of UCF. You can be assured that we will not be able to link your identity to your responses, however, as we will not be asking you for your name as part of this consent process. Upon completion of the online surveys, your responses will be linked with an identification number only. The principal investigators will then transfer your survey responses from the secure

online server to an SPSS database that only the investigators will be able to access via a password protected computer. Your online survey responses then will be deleted from the secure online server. Thus, your responses will be entirely anonymous. If you elect to complete a paper packet, your completed packet will be stored in a locked filing cabinet in a locked psychology laboratory in the Psychology Building at the University of Central Florida. Only research team members will handle your surveys. The completed packets will be entered into a database using a research identification number only.

**Anonymous research:** This study is anonymous. That means that no one, not even members of the research team, will know that the information you gave came from you.

**Study contact for questions about the study or to report a problem:** If you have questions, concerns, or complaints, or think the research has hurt you, talk to Maria Khan, B.A., Graduate Student, Clinical Psychology Doctoral Program, Department of Psychology at (248) 417-5011 or by email at [mariakhan@knights.ucf.edu](mailto:mariakhan@knights.ucf.edu) or Kimberly Renk, Ph.D., Department of Psychology at (407) 823-2218 or by email at [Kimberly.Renk@ucf.edu](mailto:Kimberly.Renk@ucf.edu).

**IRB contact about your rights in the study or to report a complaint:** Research at the University of Central Florida involving human participants is carried out under the oversight of the Institutional Review Board (UCF IRB). This research has been reviewed and approved by the IRB. For information about the rights of people who take part in research, please contact: Institutional Review Board, University of Central Florida, Office of Research & Commercialization, 12201 Research Parkway, Suite 501, Orlando, FL 32826-3246 or by telephone at (407) 823-2901. You may also talk to them for any of the following:

- Your questions, concerns, or complaints are not being answered by the research team.
- You cannot reach the research team.
- You want to talk to someone besides the research team.
- You want to get information or provide input about this research.

**Withdrawing from the study:** There are no adverse consequences for choosing to withdraw from your participation in the study. The person in charge of the research study or the sponsor can remove you from the research study without your approval if you are not 18-years of age (allowing you to consent for yourself) or if your information is not complete.

**APPENDIX B:  
DEBRIEFING FORM**

Dear Participant;

During this study, you were asked to complete ten brief questionnaires regarding childhood experiences, maternal characteristics, mother-child patterns of attachment, parenting behaviors, and young children's behaviors. The purpose of the study was to better understand how parents' own childhood experiences may be related to their attachment relationship with their young children. We hope that this study will help us to better identify points of intervention that could potentially assist in the implementation of different evidence-based parenting programs meant to foster secure mother-child attachment and ensure successful outcomes for young children.

If you have any concerns about your participation or the data you provided in light of this disclosure, please discuss this with us. We will be happy to provide any information we can to help answer questions you have about this study.

The responses in this study are de-identified and cannot be linked to you.

**Study contact for questions about the study or to report a problem:** If you have questions, concerns, or complaints, or think the research has hurt you, talk to Maria Khan, B.A., Graduate Student, Clinical Psychology Doctoral Program, Department of Psychology at (248) 417-5011 or by email at [mariakhan@knights.ucf.edu](mailto:mariakhan@knights.ucf.edu) or Kimberly Renk, Ph.D., Department of Psychology at (407) 823-2218 or by email at [Kimberly.Renk@ucf.edu](mailto:Kimberly.Renk@ucf.edu).

**IRB contact about your rights in the study or to report a complaint:** Research at the University of Central Florida involving human participants is carried out under the oversight of the Institutional Review Board (UCF IRB). This research has been reviewed and approved by the IRB. For information about the rights of people who take part in research, please contact: Institutional Review Board, University of Central Florida, Office of Research & Commercialization, 12201 Research Parkway, Suite 501, Orlando, FL 32826-3246 or by telephone at (407) 823-2901. You may also talk to them for any of the following:

- Your questions, concerns, or complaints are not being answered by the research team.
- You cannot reach the research team.
- You want to talk to someone besides the research team.
- You want to get information or provide input about this research.

If you have experienced distress as a result of your participation in this study, please notify the investigators working with you so that any concerns that you have can be addressed. In addition, you should consider obtaining counseling assistance or psychological treatment if such help is needed as a result of participation in the study. For help obtaining such services near you, you may wish to consult your insurance provider or contact your general practitioner for a referral. In addition, you may visit the American Psychological Association website at <http://locator.apa.org/> to find a psychologist near you. If you are located in the Central Florida area, you may wish to contact the UCF Psychology Clinic at 407-823-4348.

Please again accept our appreciation for your participation in this study.

**APPENDIX C:  
DEMOGRAPHICS QUESTIONNAIRE**

## DEMOGRAPHICS QUESTIONNAIRE

1. Your Age: \_\_\_\_\_
2. Your Ethnicity: Caucasian    Hispanic    African-American  
Asian-American    Native-American    Other \_\_\_\_\_
3. What, if any, is your religious affiliation? \_\_\_\_\_  
  
On a scale of 1-10 (1 = not strong at all; 10 = very strong) how strong of a religious affiliation would you say you have? \_\_\_\_\_
4. Your Marital Status: Married    Divorced    Separated    Widowed    Single  
Remarried (If so, how many previous marriages \_\_\_\_\_)
5. Does your child's other parent live with you?        Yes    No
6. Please list the age and gender of your child(ren) and whether or not they live with you.

Age	Gender	Live with you?
_____	M   F	Y    N
_____	M   F	Y    N
_____	M   F	Y    N
_____	M   F	Y    N
7. Do you live with any extended family members or friends?        Y    N
8. If yes, who? \_\_\_\_\_
9. How many people (including yourself) live in your current household? \_\_\_\_\_
10. Your level of education:

Post Doctorate	Vocational Training
Graduate Professional Training	High School Diploma
College Degree (bachelors)	Some High School



Some College

Less than High School

11. Your occupation: \_\_\_\_\_

12. Child's other parent's level of education:

Post Doctorate

Vocational Training

Graduate Professional Training

High School Diploma

College Degree (bachelors)

Some High School

Some College

Less than High School

13. Your child's other parent's occupation: \_\_\_\_\_

14. Estimated Yearly household income (please circle one):

Less than \$10,000

\$40,000 - \$50,000

\$10,000 - \$20,000

\$50,000 - \$60,000

\$20,000 - \$30,000

\$60,000 - \$70,000

\$30,000 - \$40,000

More than \$70,000

**APPENDIX D:**  
**CHILDHOOD TRAUMA QUESTIONNAIRE**

### Childhood Trauma Questionnaire

(Bernstein and Fink, 1998)

Please rate the frequency of each item during your childhood on a scale of 1 (Never) to 5 (Very Often) by completing the following sentence:

***When I grew up...***

- |  |   |   |   |   |   |
|--|---|---|---|---|---|
| 1. I didn't have enough to eat.  | 1 | 2 | 3 | 4 | 5 |
| 2. I knew that there was someone to take care of me and protect me.                                  | 1 | 2 | 3 | 4 | 5 |
| 3. People in your family called me things like "stupid," "lazy," or "ugly."                          | 1 | 2 | 3 | 4 | 5 |
| 4. My parents were too drunk or high to take care of the family.                                     | 1 | 2 | 3 | 4 | 5 |
| 5. There was someone in my family who helped me feel that I was important or special.                | 1 | 2 | 3 | 4 | 5 |
| 6. I had to wear dirty clothes.  | 1 | 2 | 3 | 4 | 5 |
| 7. I felt loved.   | 1 | 2 | 3 | 4 | 5 |
| 8. I thought that my parents wished I had never been born.   | 1 | 2 | 3 | 4 | 5 |
| 9. I got hit so hard by someone in my family that I had to see a doctor or go to the hospital.       | 1 | 2 | 3 | 4 | 5 |
| 10. There was nothing I wanted to change about my family.  | 1 | 2 | 3 | 4 | 5 |
| 11. People in my family hit me so hard that it left me with bruises or marks.                        | 1 | 2 | 3 | 4 | 5 |
| 12. I was punished with a belt, a board, a cord, or some other hard object.                          | 1 | 2 | 3 | 4 | 5 |
| 13. People in my family looked out for each other.   | 1 | 2 | 3 | 4 | 5 |
| 14. People in my family said hurtful or insulting things to me.                                      | 1 | 2 | 3 | 4 | 5 |
| 15. I believe that I was physically abused.  | 1 | 2 | 3 | 4 | 5 |
| 16. I had the perfect childhood.   | 1 | 2 | 3 | 4 | 5 |
| 17. I got hit or beaten so badly that it was noticed by someone like a teacher, neighbor, or doctor. | 1 | 2 | 3 | 4 | 5 |
| 18. I felt that someone in my family hated me.   | 1 | 2 | 3 | 4 | 5 |
| 19. People in my family felt close to each other.  | 1 | 2 | 3 | 4 | 5 |
| 20. Someone tried to touch me in a sexual way, or tried to make me touch them.                       | 1 | 2 | 3 | 4 | 5 |
| 21. Someone threatened to hurt me or tell lies about me unless I did something sexual with them.     | 1 | 2 | 3 | 4 | 5 |
| 22. I had the best family in the world.  | 1 | 2 | 3 | 4 | 5 |
| 23. Someone tried to make me do sexual things or watch sexual things.                                | 1 | 2 | 3 | 4 | 5 |
| 24. Someone molested me.   | 1 | 2 | 3 | 4 | 5 |
| 25. I believe that I was emotionally abused.   | 1 | 2 | 3 | 4 | 5 |
| 26. There was someone to take me to the doctor if I needed it.                                       | 1 | 2 | 3 | 4 | 5 |
| 27. I believe that I was sexually abused.  | 1 | 2 | 3 | 4 | 5 |
| 28. My family was a source of strength and support.  | 1 | 2 | 3 | 4 | 5 |

**APPENDIX E:**  
**ADVERSE CHILDHOOD EXPERIENCE QUESTIONNAIRE**

## Adverse Childhood Experience (ACE) Questionnaire

### Finding your ACE Score ra hbr 10 24 06

While you were growing up, during your first 18 years of life:

1. Did a parent or other adult in the household **often** ...  
Swear at you, insult you, put you down, or humiliate you?  
**or**  
Act in a way that made you afraid that you might be physically hurt?  
Yes No If yes enter 1 \_\_\_\_\_
2. Did a parent or other adult in the household **often** ...  
Push, grab, slap, or throw something at you?  
**or**  
**Ever** hit you so hard that you had marks or were injured?  
Yes No If yes enter 1 \_\_\_\_\_
3. Did an adult or person at least 5 years older than you **ever**...  
Touch or fondle you or have you touch their body in a sexual way?  
**or**  
Try to or actually have oral, anal, or vaginal sex with you?  
Yes No If yes enter 1 \_\_\_\_\_
4. Did you **often** feel that ...  
No one in your family loved you or thought you were important or special?  
**or**  
Your family didn't look out for each other, feel close to each other, or support each other?  
Yes No If yes enter 1 \_\_\_\_\_
5. Did you **often** feel that ...  
You didn't have enough to eat, had to wear dirty clothes, and had no one to protect you?  
**or**  
Your parents were too drunk or high to take care of you or take you to the doctor if you needed it?  
Yes No If yes enter 1 \_\_\_\_\_
6. Were your parents **ever** separated or divorced?  
Yes No If yes enter 1 \_\_\_\_\_
7. Was your mother or stepmother:  
**Often** pushed, grabbed, slapped, or had something thrown at her?  
**or**  
**Sometimes or often** kicked, bitten, hit with a fist, or hit with something hard?  
**or**  
**Ever** repeatedly hit over at least a few minutes or threatened with a gun or knife?  
Yes No If yes enter 1 \_\_\_\_\_
8. Did you live with anyone who was a problem drinker or alcoholic or who used street drugs?  
Yes No If yes enter 1 \_\_\_\_\_
9. Was a household member depressed or mentally ill or did a household member attempt suicide?  
Yes No If yes enter 1 \_\_\_\_\_
10. Did a household member go to prison?  
Yes No If yes enter 1 \_\_\_\_\_

Now add up your "Yes" answers: \_\_\_\_\_ This is your ACE Score

**APPENDIX F:**  
**EXPERIENCES IN CLOSE RELATIONSHIPS SCALE**

Please read each sentence and circle the number to show how much you agree or disagree in regards to your relationship with your youth now or in the past six months.

1	2	3	4	5	6	7
Disagree Strongly		Neutral/Mixed			Agree Strongly	

1. My child prefers not to show me how he/she feels deep down.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

2. When my child is away from me, he/she feels anxious and afraid.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

3. My child is very comfortable being close to me.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

4. If my child can't get me to show interest in him/her, he/she gets upset or angry.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

5. My child finds it difficult to depend on me.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

6. My child worries about being away from me.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

7. My child needs a lot of reassurance that he/she is loved by me.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

8. My child worries that I don't care about him/her as much as he/she cares about me.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

9. My child worries about being abandoned by me.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

10. My child isn't comfortable opening up to me.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

11. Just when I start to get close to my child I find him/her pulling away from me.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

12. My child gets frustrated when I am not around as much as he/she would like.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

13. My child is comfortable sharing his/her private thoughts and feelings with me.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

14. My child gets uncomfortable when I want to be close to him/her.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

15. My child wishes that my feelings for him/her were as strong as his/her feelings for me.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

16. My child feels comfortable depending on me.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

17. My child feels really bad about him/herself when I disapprove of him/her.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

18. My child tries to avoid getting too close to me.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

19. My child worries a lot about his/her relationship with me.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

20. My child tells me just about everything.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

21. Often my child wants to be really close to me and this makes me feel like backing away.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

22. Whenever we get close, my child pulls back from me.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

23. My child resents it when I spend time away from him/her.

1	2	3	4	5	6	7
---	---	---	---	---	---	---



24. My child usually discusses his/her problems and concerns with me.

1                      2                      3                      4                      5                      6                      7

25. My child finds it relatively easy to get close to me.

1                      2                      3                      4                      5                      6                      7

26. Sometimes my child tries to force me to show that I care about him/her.

1                      2                      3                      4                      5                      6                      7

27. My child doesn't mind asking me for comfort, advice, or help.

1                      2                      3                      4                      5                      6                      7

28. My child's desire to be very close sometimes scares people away.

1                      2                      3                      4                      5                      6                      7

29. My child worries a fair amount about losing me.

1                      2                      3                      4                      5                      6                      7

30. My child turns to me for many things, including comfort and reassurance.

1                      2                      3                      4                      5                      6                      7

31. My child prefers not to be too close to me.

1                      2                      3                      4                      5                      6                      7

32. My child gets frustrated if I am not available when he/she needs me.

1                      2                      3                      4                      5                      6                      7

33. My child is comforted by turning to me in times of need.

1                      2                      3                      4                      5                      6                      7

34. My child feels that I don't want to get as close as he/she would like.

1                      2                      3                      4                      5                      6                      7

35. My child doesn't often worry about being abandoned.

1                      2                      3                      4                      5                      6                      7

36. My child gets nervous when I get very close to him/her.

1                      2                      3                      4                      5                      6                      7

**APPENDIX G:**  
**CAREGIVING HELPLESSNESS QUESTIONNAIRE**

Directions: This section of questions will explore how it feels to be a parent and, more specifically, how it feels when you and your child are together. The following statements describe how some parents feel about their relationships with their child. Read each statement carefully and circle the number that most clearly reflects your relationship with your child.

1	2	3	4	5
not characteristic at all		somewhat characteristic		very characteristic
1. When I am with my child, I often feel out of control.				1 2 3 4 5
2. My child is good at tending to and caring for others.				1 2 3 4 5
3. I am frightened of my child.				1 2 3 4 5
4. My child hits, kicks, or bites me.				1 2 3 4 5
5. I often feel that there is nothing I can do to discipline my child.				1 2 3 4 5
6. My child knows how to put other people at ease.				1 2 3 4 5
7. When I am with my child, I often feel that my child is out of control.				1 2 3 4 5
8. I feel that my child is a great actor/actress.				1 2 3 4 5
9. My child is very sensitive to the feelings and needs of others.				1 2 3 4 5
10. I feel that I am a failure as a mother.				1 2 3 4 5
11. My child likes to be a clown or family comedian.				1 2 3 4 5
12. I feel that I punish my child more harshly than I should.				1 2 3 4 5
13. My child becomes so upset or distressed that he can't be soothed.				1 2 3 4 5
14. My child loses it when he/she is separated from me.				1 2 3 4 5
15. Sometimes my child acts as if he/she is afraid of me.				1 2 3 4 5
16. I enjoy doing things with my child that make him or her happy.				1 2 3 4 5
17. My child is always trying to make others laugh.				1 2 3 4 5
18. I feel that my situation needs to be changed but am helpless to do anything about it.				1 2 3 4 5
19. I would describe myself as a reliable person.				1 2 3 4 5
20. I feel that my life is chaotic and out of control.				1 2 3 4 5
21. I am rarely bored when I am with my child.				1 2 3 4 5

- |   |           |
|---|-----------|
| 22. I am happy with myself just the way I am.   | 1 2 3 4 5 |
| 23. I rarely feel guilty about my actions.      | 1 2 3 4 5 |
| 24. I can easily express myself to others.      | 1 2 3 4 5 |
| 25. I frequently talk to others about my child. | 1 2 3 4 5 |

**APPENDIX H:**  
**BECK DEPRESSION INVENTORY**



Date: \_\_\_\_\_

Name: \_\_\_\_\_ Marital Status: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

Occupation: \_\_\_\_\_ Education: \_\_\_\_\_

**Instructions:** This questionnaire consists of 21 groups of statements. Please read each group of statements carefully, and then pick out the **one statement** in each group that best describes the way you have been feeling during the **past two weeks, including today**. Circle the number beside the statement you have picked. If several statements in the group seem to apply equally well, circle the highest number for that group. Be sure that you do not choose more than one statement for any group, including Item 16 (Changes in Sleeping Pattern) or Item 18 (Changes in Appetite).

**1. Sadness**

- 0 I do not feel sad.
- 1 I feel sad much of the time.
- 2 I am sad all the time.
- 3 I am so sad or unhappy that I can't stand it.

**2. Pessimism**

- 0 I am not discouraged about my future.
- 1 I feel more discouraged about my future than I used to be.
- 2 I do not expect things to work out for me.
- 3 I feel my future is hopeless and will only get worse.

**3. Past Failure**

- 0 I do not feel like a failure.
- 1 I have failed more than I should have.
- 2 As I look back, I see a lot of failures.
- 3 I feel I am a total failure as a person.

**4. Loss of Pleasure**

- 0 I get as much pleasure as I ever did from the things I enjoy.
- 1 I don't enjoy things as much as I used to.
- 2 I get very little pleasure from the things I used to enjoy.
- 3 I can't get any pleasure from the things I used to enjoy.

**5. Guilty Feelings**

- 0 I don't feel particularly guilty.
- 1 I feel guilty over many things I have done or should have done.
- 2 I feel quite guilty most of the time.
- 3 I feel guilty all of the time.

**6. Punishment Feelings**

- 0 I don't feel I am being punished.
- 1 I feel I may be punished.
- 2 I expect to be punished.
- 3 I feel I am being punished.

**7. Self-Dislike**

- 0 I feel the same about myself as ever.
- 1 I have lost confidence in myself.
- 2 I am disappointed in myself.
- 3 I dislike myself.

**8. Self-Criticalness**

- 0 I don't criticize or blame myself more than usual.
- 1 I am more critical of myself than I used to be.
- 2 I criticize myself for all of my faults.
- 3 I blame myself for everything bad that happens.

**9. Suicidal Thoughts or Wishes**

- 0 I don't have any thoughts of killing myself.
- 1 I have thoughts of killing myself, but I would not carry them out.
- 2 I would like to kill myself.
- 3 I would kill myself if I had the chance.

**10. Crying**

- 0 I don't cry anymore than I used to.
- 1 I cry more than I used to.
- 2 I cry over every little thing.
- 3 I feel like crying, but I can't.

**APPENDIX I:**  
**PARENTAL REFLECTIVE FUNCTIONING QUESTIONNAIRE**

sted below are a number of statements concerning you and your child. Read each item and decide whether you agree or disagree and to what extent.

se the following rating scale, with 7 if you strongly agree; and 1 if you strongly disagree; the midpoint, if you are neutral or undecided, is 4.

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
----------------------	---	---	---	---	---	---	---	-------------------

1. My child and I can feel differently about the same thing. \_\_\_\_
2. When I get angry with my child, I always know the reason why. \_\_\_\_
3. I am often curious to find out how my child feels. \_\_\_\_
4. How I am feeling can affect how I understand my child's behaviour. \_\_\_\_
5. My child knows when I am having a bad day and does things to make it worse. \_\_\_\_
6. I like to think about the reasons behind the way my child behaves and feels. \_\_\_\_
7. I try to see situations through the eyes of my child. \_\_\_\_
8. I always know why my child acts the way he or she does. \_\_\_\_
9. My child sometimes gets sick to keep me from doing what I want to do. \_\_\_\_
10. I believe that how I think about my child will change over time. \_\_\_\_
11. My child can react to a situation very differently than I think he or she will. \_\_\_\_
12. I find it hard to actively participate in make believe play with my child. \_\_\_\_
13. At times, it takes several tries before I understand what my child needs or wants. \_\_\_\_
14. When my child is fussy he or she does that just to annoy me. \_\_\_\_
15. Now that I am a parent, I realize how my parents could have misunderstood my reactions when I was a child. \_\_\_\_
16. No matter how sick my child is, I can always tolerate him or her. \_\_\_\_
17. How I see my child changes as I change. \_\_\_\_
18. My behavior towards my child cannot be explained by how I was raised. \_\_\_\_
19. I can always predict what my child will do. \_\_\_\_
20. I wonder a lot about what my child is thinking and feeling. \_\_\_\_
21. Often, my child's behavior is too confusing to bother figuring out. \_\_\_\_
22. I can sometimes misunderstand the reactions of my child. \_\_\_\_
23. When my child is misbehaving it's a sign that he or she does not love me. \_\_\_\_
24. I believe that how my parents raised me affects how I raise my child. \_\_\_\_



25. My child cries around strangers to embarrass me. \_\_\_\_
26. I pay attention to what my child is feeling. \_\_\_\_
27. I can completely read my child's mind. \_\_\_\_
28. Understanding why my child behaves in a certain way helps me not to be upset with him or her. \_\_\_\_
29. I believe there is no point in trying to guess what my child feels. \_\_\_\_
30. I often think about how I felt when I was a child. \_\_\_\_
31. I try to understand the reasons why my child misbehaves. \_\_\_\_
32. I always know what my child wants. \_\_\_\_
33. I hate it when my child cries and/or talks to me when I am on the phone with someone. \_\_\_\_
34. The only time I'm certain my child loves me is when he or she is smiling at me. \_\_\_\_
35. I'm certain that my child knows that I love him or her. \_\_\_\_
36. The best way to know your child loves you is when he or she is well-behaved. \_\_\_\_
37. My child's temperament is what it is, and there is little that I can do about that. \_\_\_\_
38. I always know why I do what I do to my child. \_\_\_\_
39. At times I get confused about what my child is feeling. \_\_\_\_

**APPENDIX J:**  
**ALABAMA PARENTING QUESTIONNAIRE-PRESCHOOL REVISION**

*Alabama Parenting Questionnaire-Preschool Version (APQ-PR)*

*Please indicate how often you do/feel each of the following behaviors/feelings.*

*Scores range from 1 (never) to 5 (always).*

1. \_\_\_\_\_ You have a friendly talk with your child.
2. \_\_\_\_\_ You volunteer to help with special activities that your child is involved in.
3. \_\_\_\_\_ You play games or do other fun things with your child.
4. \_\_\_\_\_ You ask your child about his/her day in school.
5. \_\_\_\_\_ You help your child with his/her homework.
6. \_\_\_\_\_ You compliment your child when he/she does something well.
7. \_\_\_\_\_ You praise your child if he/she behaves well.
8. \_\_\_\_\_ You hug or kiss your child when he/she has done something well.
9. \_\_\_\_\_ You talk to your child about his/her friends.
10. \_\_\_\_\_ You tell your child that you like it when he/she helps around the house.
11. \_\_\_\_\_ You calmly explain to your child why his/her behavior was wrong when he/she misbehaves.
12. \_\_\_\_\_ You let your child know when he/she is doing a good job with something.
13. \_\_\_\_\_ You threaten to punish your child and then do not actually punish him/her.
14. \_\_\_\_\_ Your child talks you out of being punished after he/she has done something wrong.
15. \_\_\_\_\_ You feel that getting your child to obey you is more trouble than it's worth.
16. \_\_\_\_\_ You let your child out of a punishment early (e.g., lift restrictions earlier than you originally said).

17. \_\_\_\_\_ You get so busy that you forget where your child is and what he/she is doing.
18. \_\_\_\_\_ Your child is not punished when he/she has done something wrong.
19. \_\_\_\_\_ The punishment you give your child depends on your mood.
20. \_\_\_\_\_ You spank your child with your hand when he/she has done something wrong.
21. \_\_\_\_\_ You ignore your child when he/she is misbehaving.
22. \_\_\_\_\_ You slap your child when he/she has done something wrong.
23. \_\_\_\_\_ You hit your child with a belt, switch, or other object when he/she has done something wrong.
24. \_\_\_\_\_ You yell or scream at your child when he/she has done something wrong.
25. \_\_\_\_\_ You reward or give something extra to your child for obeying you or behaving well.
26. \_\_\_\_\_ You drive your child to a special activity.
27. \_\_\_\_\_ You attend PTA meetings, parent/teacher conferences, or other meetings at your child's school.
28. \_\_\_\_\_ You don't tell your child where you are going.
29. \_\_\_\_\_ Your child is at home without adult supervision.
30. \_\_\_\_\_ You take away privileges or money from your child as a punishment.
31. \_\_\_\_\_ You send your child to his/her room as a punishment.
32. \_\_\_\_\_ You use time out (make him/her sit or stand in corner) as a punishment.

**APPENDIX K:  
PARENT ATTRIBUTION TEST**

### Child Interaction Survey

In this questionnaire, we want to know how important you believe different factors might be as potential causes of successful and unsuccessful interaction with children. We are interested in discovering the way people think about children--there are no right or wrong answers.

Example: If you were teaching a child an outdoor game and he or she caught on very quickly, how important do you believe these possible causes would be?

- |  | Not at all<br>important | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Very<br>important |
|--|-------------------------|---|---|---|---|---|---|---|-------------------|
| a. how good he or she is in sports in general.   |                         | 1 | 2 | 3 | 4 | 5 | 6 | 7 |                   |
| (Place a circle around a number. Pick one of the bigger numbers if you think this factor is important, and a smaller number if you think it is not important). |                         |   |   |   |   |   |   |   |                   |
| b. how good a teacher you are.   |                         | 1 | 2 | 3 | 4 | 5 | 6 | 7 |                   |
| c. how easy the game is.   |                         | 1 | 2 | 3 | 4 | 5 | 6 | 7 |                   |

Answer the following questions by making ratings in the same way as shown above.

1. SUPPOSE YOU TOOK CARE OF A NEIGHBOR'S CHILD ONE AFTERNOON, AND THE TWO OF YOU HAD A REALLY GOOD TIME TOGETHER. HOW IMPORTANT DO YOU BELIEVE THE FOLLOWING FACTORS WOULD BE AS REASONS FOR SUCH AN EXPERIENCE?
 

a. whether or not this was a "good day" for the child, e.g., whether there was a TV show s/he particularly wanted to see (or some other special thing to do).	1	2	3	4	5	6	7
d. how lucky you were in just having everything work out well.	1	2	3	4	5	6	7
e. how much the child enjoys being with adults.	1	2	3	4	5	6	7
f. how pleasant a disposition the child had.	1	2	3	4	5	6	7
g. how well the neighbor had set things up for you in advance.	1	2	3	4	5	6	7
h. whether the child was rested.	1	2	3	4	5	6	7

The next question asks about BAD experiences with children. Reasons for good interactions are not necessarily the same as those for unsuccessful ones. So please think about this situation without regard for the way you answered the first question.

2. SUPPOSE YOU TOOK CARE OF A NEIGHBOR'S CHILD ONE AFTERNOON, AND THE TWO OF YOU DID NOT GET ALONG WELL. HOW IMPORTANT DO YOU BELIEVE THE FOLLOWING FACTORS WOULD BE AS POSSIBLE REASONS FOR SUCH AN EXPERIENCE?

	Not at all important				Very important		
1. how unpleasant a disposition a disposition the child had.	1	2	3	4	5	6	7
2. whether the child was tired or not feeling well.	1	2	3	4	5	6	7
3. whether or not you really enjoy children that much.	1	2	3	4	5	6	7
4. whether or not this was a bad day for the child, e.g., whether there was nothing good on TV, whether it was raining and he or she couldn't go outside.	1	2	3	4	5	6	7
5. whether you used the wrong approach for this child.	1	2	3	4	5	6	7
6. the extent to which the child was stubborn and resisted your efforts.	1	2	3	4	5	6	7
7. how you get along with children in general.	1	2	3	4	5	6	7
8. what kind of mood you were in that day.	1	2	3	4	5	6	7
9. how hungry the child was.	1	2	3	4	5	6	7
10. how little effort the child made to take an interest in what you said or did.	1	2	3	4	5	6	7
11. the extent to which you were not feeling	1	2	3	4	5	6	7

**APPENDIX L:  
CHILD BEHAVIOR CHECKLIST**



Please print. Be sure to answer all items.

# CHILD BEHAVIOR CHECKLIST FOR AGES 1½ - 5

For office use only  
ID # \_\_\_\_\_

CHILD'S FULL NAME	First _____ Middle _____ Last _____
CHILD'S GENDER <input type="checkbox"/> Boy <input type="checkbox"/> Girl	CHILD'S AGE _____
CHILD'S ETHNIC GROUP OR RACE _____	
TODAY'S DATE Mo. _____ Date _____ Yr. _____	CHILD'S BIRTHDATE Mo. _____ Date _____ Yr. _____

PARENTS' USUAL TYPE OF WORK, even if not working now. Please be specific—for example, auto mechanic, high school teacher, homemaker, laborer, lathe operator, shoe salesman, army sergeant.  
FATHER'S TYPE OF WORK: \_\_\_\_\_  
MOTHER'S TYPE OF WORK: \_\_\_\_\_

THIS FORM FILLED OUT BY: (print your full name)  
\_\_\_\_\_

Please fill out this form to reflect *your* view of the child's behavior even if other people might not agree. Feel free to write additional comments beside each item and in the space provided on page 2. **Be sure to answer all items.**

Your relationship to child:

☐ Mother ☐ Father ☐ Other (specify): \_\_\_\_\_

Below is a list of items that describe children. For each item that describes the child **now or within the past 2 months**, please circle the **2** if the item is **very true** or **often true** of the child. Circle the **1** if the item is **somewhat or sometimes true** of the child. If the item is **not true** of the child, circle the **0**. Please answer all items as well as you can, even if some do not seem to apply to the child.

0 = Not True (as far as you know)

1 = Somewhat or Sometimes True

2 = Very True or Often True

- |   |   |   |   |
|---|---|---|---|
| 0 | 1 | 2 | 1. Aches or pains (without medical cause; <b>do not</b> include stomach or headaches) |
| 0 | 1 | 2 | 2. Acts too young for age   |
| 0 | 1 | 2 | 3. Afraid to try new things   |
| 0 | 1 | 2 | 4. Avoids looking others in the eye   |
| 0 | 1 | 2 | 5. Can't concentrate, can't pay attention for long                                    |
| 0 | 1 | 2 | 6. Can't sit still, restless, or hyperactive  |
| 0 | 1 | 2 | 7. Can't stand having things out of place   |
| 0 | 1 | 2 | 8. Can't stand waiting; wants everything now  |
| 0 | 1 | 2 | 9. Chews on things that aren't edible   |
| 0 | 1 | 2 | 10. Clings to adults or too dependent   |
| 0 | 1 | 2 | 11. Constantly seeks help   |
| 0 | 1 | 2 | 12. Constipated, doesn't move bowels (when not sick)                                  |
| 0 | 1 | 2 | 13. Cries a lot   |
| 0 | 1 | 2 | 14. Cruel to animals  |
| 0 | 1 | 2 | 15. Defiant   |
| 0 | 1 | 2 | 16. Demands must be met immediately   |
| 0 | 1 | 2 | 17. Destroys his/her own things   |
| 0 | 1 | 2 | 18. Destroys things belonging to his/her family or other children                     |
| 0 | 1 | 2 | 19. Diarrhea or loose bowels (when not sick)  |
| 0 | 1 | 2 | 20. Disobedient   |
| 0 | 1 | 2 | 21. Disturbed by any change in routine  |
| 0 | 1 | 2 | 22. Doesn't want to sleep alone   |
| 0 | 1 | 2 | 23. Doesn't answer when people talk to him/her  |
| 0 | 1 | 2 | 24. Doesn't eat well (describe): _____  |
| 0 | 1 | 2 | 25. Doesn't get along with other children   |
| 0 | 1 | 2 | 26. Doesn't know how to have fun; acts like a little adult                            |
| 0 | 1 | 2 | 27. Doesn't seem to feel guilty after misbehaving                                     |
| 0 | 1 | 2 | 28. Doesn't want to go out of home  |
| 0 | 1 | 2 | 29. Easily frustrated   |

- |   |   |   |  |
|---|---|---|--|
| 0 | 1 | 2 | 30. Easily jealous   |
| 0 | 1 | 2 | 31. Eats or drinks things that are not food— <b>don't</b> include sweets (describe): _____ |
| 0 | 1 | 2 | 32. Fears certain animals, situations, or places (describe): _____                         |
| 0 | 1 | 2 | 33. Feelings are easily hurt   |
| 0 | 1 | 2 | 34. Gets hurt a lot, accident-prone  |
| 0 | 1 | 2 | 35. Gets in many fights  |
| 0 | 1 | 2 | 36. Gets into everything   |
| 0 | 1 | 2 | 37. Gets too upset when separated from parents   |
| 0 | 1 | 2 | 38. Has trouble getting to sleep   |
| 0 | 1 | 2 | 39. Headaches (without medical cause)  |
| 0 | 1 | 2 | 40. Hits others  |
| 0 | 1 | 2 | 41. Holds his/her breath   |
| 0 | 1 | 2 | 42. Hurts animals or people without meaning to   |
| 0 | 1 | 2 | 43. Looks unhappy without good reason  |
| 0 | 1 | 2 | 44. Angry moods  |
| 0 | 1 | 2 | 45. Nausea, feels sick (without medical cause)   |
| 0 | 1 | 2 | 46. Nervous movements or twitching (describe): _____                                       |
| 0 | 1 | 2 | 47. Nervous, highstrung, or tense  |
| 0 | 1 | 2 | 48. Nightmares   |
| 0 | 1 | 2 | 49. Overeating   |
| 0 | 1 | 2 | 50. Overtired  |
| 0 | 1 | 2 | 51. Shows panic for no good reason   |
| 0 | 1 | 2 | 52. Painful bowel movements (without medical cause)  |
| 0 | 1 | 2 | 53. Physically attacks people  |
| 0 | 1 | 2 | 54. Picks nose, skin, or other parts of body (describe): _____                             |

**Be sure you have answered all items. Then see other side.**

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ASEBA, University of Vermont, 1 S. Prospect St., Burlington, VT 05401-3456 Web: <http://Checklist.uvm.edu>

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7-28-00 Edition



**Please print your answers. Be sure to answer all items.**

**0 = Not True (as far as you know)**

**1 = Somewhat or Sometimes True**

**2 = Very True or Often True**

- 0 1 2 55. Plays with own sex parts too much
- 0 1 2 56. Poorly coordinated or clumsy
- 0 1 2 57. Problems with eyes (without medical cause)  
(describe): \_\_\_\_\_
- 0 1 2 58. Punishment doesn't change his/her behavior
- 0 1 2 59. Quickly shifts from one activity to another
- 0 1 2 60. Rashes or other skin problems (without  
medical cause)
- 0 1 2 61. Refuses to eat
- 0 1 2 62. Refuses to play active games
- 0 1 2 63. Repeatedly rocks head or body
- 0 1 2 64. Resists going to bed at night
- 0 1 2 65. Resists toilet training (describe): \_\_\_\_\_
- 0 1 2 66. Screams a lot
- 0 1 2 67. Seems unresponsive to affection
- 0 1 2 68. Self-conscious or easily embarrassed
- 0 1 2 69. Selfish or won't share
- 0 1 2 70. Shows little affection toward people
- 0 1 2 71. Shows little interest in things around him/her
- 0 1 2 72. Shows too little fear of getting hurt
- 0 1 2 73. Too shy or timid
- 0 1 2 74. Sleeps less than most children during day  
and/or night (describe): \_\_\_\_\_
- 0 1 2 75. Smears or plays with bowel movements
- 0 1 2 76. Speech problem (describe): \_\_\_\_\_
- 0 1 2 77. Stares into space or seems preoccupied
- 0 1 2 78. Stomachaches or cramps (without medical  
cause)

- 0 1 2 79. Rapid shifts between sadness and  
excitement
- 0 1 2 80. Strange behavior (describe): \_\_\_\_\_
- 0 1 2 81. Stubborn, sullen, or irritable
- 0 1 2 82. Sudden changes in mood or feelings
- 0 1 2 83. Sulks a lot
- 0 1 2 84. Talks or cries out in sleep
- 0 1 2 85. Temper tantrums or hot temper
- 0 1 2 86. Too concerned with neatness or cleanliness
- 0 1 2 87. Too fearful or anxious
- 0 1 2 88. Uncooperative
- 0 1 2 89. Underactive, slow moving, or lacks energy
- 0 1 2 90. Unhappy, sad, or depressed
- 0 1 2 91. Unusually loud
- 0 1 2 92. Upset by new people or situations  
(describe): \_\_\_\_\_
- 0 1 2 93. Vomiting, throwing up (without medical cause)
- 0 1 2 94. Wakes up often at night
- 0 1 2 95. Wanders away
- 0 1 2 96. Wants a lot of attention
- 0 1 2 97. Whining
- 0 1 2 98. Withdrawn, doesn't get involved with others
- 0 1 2 99. Worries
100. Please write in any problems the child has  
that were not listed above.
- 0 1 2 \_\_\_\_\_
- 0 1 2 \_\_\_\_\_
- 0 1 2 \_\_\_\_\_

***Please be sure you have answered all items.  
Underline any you are concerned about.***

Does the child have any illness or disability (either physical or mental)? ☐ No ☐ Yes—Please describe:

What concerns you most about the child?

Please describe the best things about the child:

**APPENDIX M:**  
**IRB HUMAN SUBJECTS APPROVAL**



University of Central Florida Institutional Review Board  
Office of Research & Commercialization  
12201 Research Parkway, Suite 501  
Orlando, Florida 32826-3246  
Telephone: 407-823-2901 or 407-882-2276  
[www.research.ucf.edu/compliance/irb.html](http://www.research.ucf.edu/compliance/irb.html)

### Approval of Exempt Human Research

From: UCF Institutional Review Board #1  
FWA00000351, IRB00001138

To: Maria Khan

Date: June 03, 2016

Dear Researcher:

On 06/03/2016, the IRB approved the following activity as human participant research that is exempt from regulation:

Type of Review: Exempt Determination  
Project Title: Examining Interactions among Mothers' Childhood Experiences  
and Patterns of Attachment with their Young Children  
Investigator: Maria Khan  
IRB Number: SBE-16-12311  
Funding Agency:  
Grant Title:  
Research ID: N/A

This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about whether these changes affect the exempt status of the human research, please contact the IRB. When you have completed your research, please submit a Study Closure request in iRIS so that IRB records will be accurate.

In the conduct of this research, you are responsible to follow the requirements of the [Investigator Manual](#).

On behalf of Sophia Dziegielewski, Ph.D., L.C.S.W., UCF IRB Chair, this letter is signed by:

A handwritten signature in black ink that reads "Joanne Muratori".

Signature applied by Joanne Muratori on 06/03/2016 02:49:21 PM EDT

IRB Manager

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